



THE DATASHEET OF LX5584ALQ-TR



Analog and Interface Product Selector Guide

Thermal Management • Motor Driver • Power Management
Interface and Networking Peripherals • Linear and Mixed Signal
CO and Smoke Detector ICs



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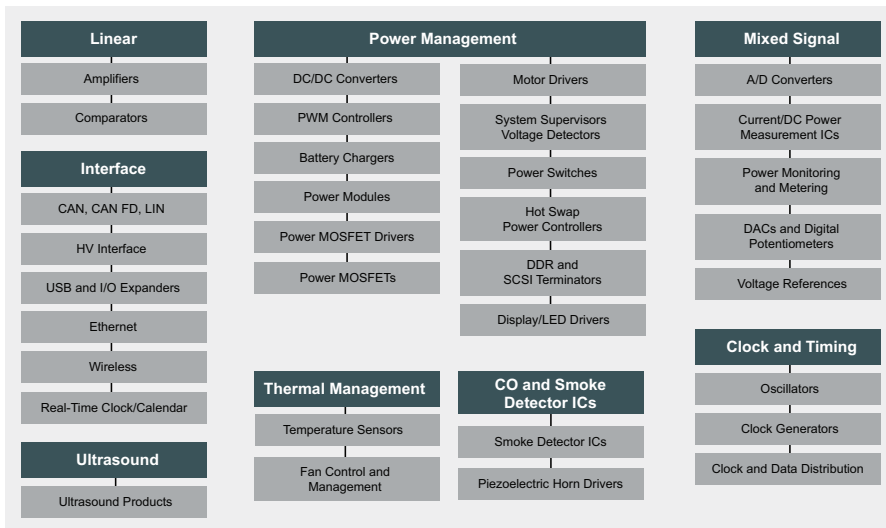
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Microchip's Standalone Analog and Interface Portfolio



THERMAL MANAGEMENT

THERMAL MANAGEMENT: Multichannel Temperature Sensors

Part #	Typical Accuracy (°C)	Maximum Accuracy @ 25°C (°C)	Maximum Temperature Range (°C)	V _{CC} Range (V)	Maximum Supply Current (μA)	Features
Logic Output Temperature Sensors						
TC6501	±0.5	±3	–55 to +125	+2.7 to +5.5	40	Cross to MAX6501, open-drain
TC6502	±0.5	±3	–55 to +125	+2.7 to +5.5	40	Cross to MAX6502, push-pull
TC6503	±0.5	±3	–55 to +125	+2.7 to +5.5	40	Cross to MAX6503, open-drain
TC6504	±0.5	±3	–55 to +125	+2.7 to +5.5	40	Cross to MAX6504, push-pull
TC620	±1	±3	–40 to +125	+4.5 to +18	400	Two resistor-programmable trip points
TC621	Note 1	Note 1	–40 to +85	+4.5 to +18	400	Requires external thermistor, resistor-programmable trip points
TC622	±1	±5	–40 to +125	+4.5 to +18	600	Dual output, TO-220 for heat sink mounting, resistor-programmable trip points
TC623	±1	±3	–40 to +125	+2.7 to +4.5	250	Two resistor-programmable trip points
TC624	±1	±5	–40 to +125	+2.7 to +4.5	300	Dual output, resistor-programmable trip points
MCP9501	±1	±4	–40 to +125	+2.7 to +5.5	40	Active-High, Push-Pull Output, Rising Temperature Switch
MCP9502	±1	±4	–40 to +125	+2.7 to +5.5	40	Active-Low, Open Drain Output, Rising Temperature Switch
MCP9503	±1	±4	–40 to +125	+2.7 to +5.5	40	Active-High, Push-Pull Output, Falling Temperature Switch
MCP9504	±1	±4	–40 to +125	+2.7 to +5.5	40	Active-Low, Open Drain Output, Falling Temperature Switch
MCP9509	±0.5	NS	–40 to +125	+2.7 to +5.5	50	Resistor-programmable temperature switch
MCP9510	±0.5	NS	–40 to +125	+2.7 to +5.5	80	Resistor-programmable temperature switch
Voltage Output Temperature Sensors						
MCP9700	±1	±4	–40 to +125	+2.3 to +5.5	12	Linear Active Thermistor® IC, Temperature slope: 10 mV/°C
MCP9701	±1	±4	–40 to +125	+3.1 to +5.5	12	Linear Active Thermistor IC, Temperature slope: 19.53 mV/°C, cross to MAX6612
MCP9700A	±1	±2	–40 to +125	+2.3 to +5.5	12	Linear Active Thermistor IC, Temperature slope: 10 mV/°C
MCP9701A	±1	±2	–40 to +125	+3.1 to +5.5	12	Linear Active Thermistor IC, Temperature slope: 19.53 mV/°C, cross to MAX6612
TC1046	±0.5	±2	–40 to +125	+2.7 to +4.4	60	High precision temperature-to-voltage converter, 6.25 mV/°C
TC1047	±0.5	±2	–40 to +125	+2.7 to +4.4	60	High precision temperature-to-voltage converter, 10 mV/°C
TC1047A	±0.5	±2	–40 to +125	+2.5 to +5.5	60	High precision temperature-to-voltage converter, 10 mV/°C
Serial Output Temperature Sensors						
MCP9800	±0.5	±1	–55 to +125	+2.7 to +5.5	400	SMBus/I ² C compatible interface, 0.0625°C to 0.5°C adj. resolution, Power-saving one-shot temperature measurement
MCP9801	±0.5	±1	–55 to +125	+2.7 to +5.5	400	SMBus/I ² C compatible interface, 0.0625°C to 0.5°C adj. resolution, Power-saving one-shot temperature measurement, multi-drop capability
MCP9802	±0.5	±1	–55 to +125	+2.7 to +5.5	400	SMBus/I ² C compatible interface with time out, 0.0625°C to 0.5°C adj. resolution, Power-saving one-shot temperature measurement
MCP9803	±0.5	±1	–55 to +125	+2.7 to +5.5	400	SMBus/I ² C compatible interface with time out, 0.0625°C to 0.5°C adj. resolution, Power-saving one-shot temperature measurement, Multi-drop capability
MCP9804	±0.25	±1	–40 to +125	+2.7 to +5.5	400	User programmable temperature limits with alert output, 1°C temp. accuracy from –40°C to +125°C
MCP9805	±0.5	±1 ⁽²⁾	–20 to +125	+3.0 to +3.6	400	JEDEC-compatible register set, SMBus/I ² C compatible interface, Programmable, Shut-down modes and EVENT output
MCP9808	±0.25	±0.5	–40 to +125	+2.7 to +5.5	400	0.5°C temperature accuracy from –10°C to +100°C
MCP9843	±0.5	±1 ⁽²⁾	–20 to +125	+3.0 to +3.6	500	Compliant to JEDEC TSE3000B3 specification
MCP98243	±1	±3	–40 to +125	+3.0 to +3.6	500	Serial output temperature sensor with integrated EEPROM (TSE2002B3)
MCP98244	±0.5	±3	–40 to +125	+1.7 to +3.6	500	Serial output temperature sensor compliant to TSE2004a
MCP9844	±0.5	±3	–40 to +125	+1.7 to +3.6	500	Serial output temperature sensor with integrated EEPROM (TSE2004a)
TC77	±0.5	±1	–55 to +125	+2.7 to +5.5	400	SPI-compatible interface, 0.0625°C temperature resolution
TC72	±0.5	±1	–55 to +125	+2.65 to +5.5	400	SPI-compatible interface, Power-saving one-shot temperature measurement, 0.25°C temperature resolution
TC74	±0.5	±2	–40 to +125	+2.7 to +5.5	350	SMBus/I ² C-compatible interface, 1°C temperature resolution
TCN75A	±0.5	±2	–40 to +125	+2.7 to +5.5	500	SMBus/I ² C-compatible interface, power-saving one-shot temperature measurement, multi-drop capability, 0.0625°C to 0.5°C adjustable temperature resolution
AT30TS74	±1	±2	–55 to +125	+1.7 to +5.5	125	SMBus/I ² C compatible interface, 0.0625°C to 0.5°C adj. resolution, power-saving one-shot temperature measurement
AT30TS75A	±0.5	±1	–55 to +125	+1.7 to +5.5	125	SMBus/I ² C compatible interface, 0.0625°C to 0.5°C adj. resolution, power-saving one-shot temperature measurement
AT30TS750A	±0.5	±1	–55 to +125	+1.7 to +5.5	125	SMBus/I ² C compatible interface, nonvolatile registers to retain user-configured or pre-defined power-up defaults
AT30TSE752A	±0.5	±1	–55 to +125	+1.7 to +5.5	125	SMBus/I ² C compatible interface, nonvolatile registers to retain user-configured or pre-defined power-up defaults, integrated 2 KB serial EEPROM

Note 1: These devices use an external temperature sensor. Accuracy of the total solution is a function of the accuracy of the external sensor.

2: Maximum accuracy measured at 85°C.

THERMAL MANAGEMENT: Multichannel Temperature Sensors

Part #	Typical Accuracy (°C)	Maximum Accuracy @ 25°C (°C)	Maximum Temperature Range (°C)	Vcc Range (V)	Maximum Supply Current (µA)	Features
Serial Output Temperature Sensors (Continued)						
AT30TSE754A	±0.5	±1	–55 to +125	+1.7 to +5.5	125	SMBus/I ² C compatible interface, nonvolatile registers to retain user-configured or pre-defined power integrated 4 KB serial EEPROM
AT30TSE758A	±0.5	±1	–55 to +125	+1.7 to +5.5	125	SMBus/I ² C compatible interface, nonvolatile registers to retain user-configured or pre-defined power integrated 8 KB serial EEPROM
AT30TSE002B	±1	±3	–40 to +125	+2.7 to +3.6	500	JEDEC (JC42.4) SO-DIMM SPD + TS compliant, SMBus/I ² C compatible interface, integrated 2 KB serial EEPROM
AT30TSE004A	±0.5	±3	–40 to +125	+1.7 to +3.6	500	JEDEC JC42.4 (TSE2004av) DIMM SPD + TS compliant, SMBus/I ² C compatible interface, integrated 4 KB serial EEPROM

THERMAL MANAGEMENT PRODUCTS: Multichannel Temperature Sensors

Part #	# of Remote Temp. Sensors	Typ. Accuracy (°C)	Maximum Accuracy @ 25°C (°C)	Maximum Temp. Range (°C)	Ambient Temp. Sensor	Alert/ THERM	Hardware Shutdown	Vcc Range (V)	Typ. Supply Current (µA)	Description and Additional Features
Serial Output Temperature Sensors with Multichannel Temperature Sensors										
MIC184	1	±1.0	±2.0	–55 to +125	1	1	–	2.7–5.5	340	Local/Remote Thermal Supervisor
MIC280	1	±1.0	±2.0	–55 to +125	1	1	–	3.0–3.6	230	Precision IttyBitty® Thermal Supervisor
MIC281	1	±1.0	±3.0	–55 to +125	0	1	–	3.0–3.6	230	Low-Cost IttyBitty Thermal Sensor
MIC284	1	±1.0	±2.0	–55 to +125	1	2	–	2.7–5.5	350	Two-Zone Thermal Supervisor with CRIT Output
MIC384	2	±1.0	±2.0	–55 to +125	1	1	–	2.7–5.5	350	Three-Zone Thermal Supervisor
MCP9902	1	±0.25	±1.0	–40 to +125	1	2	–	3.0–3.6	450	Lower Temperature Dual Temperature Sensor
MCP9903	2	±0.25	±1.0	–40 to +125	1	2	–	3.0–3.6	450	Lower Temperature Triple Temperature Sensor
MCP9904	3	±0.25	±1.0	–40 to +125	1	2	–	3.0–3.6	450	Lower Temperature Quad Temperature Sensor
EMC1046	5	±0.25	±1.0	–40 to +125	1	–	–	3.0–3.6	395	Sextuple SMBus/I ² C Sensor with REC, Beta Compensation and Hottest of Thermal Zones
EMC1047	6	±0.25	±1.0	–40 to +125	1	–	–	3.0–3.6	395	Septuple SMBus/I ² C Sensor with REC, Beta Compensation and Hottest of Thermal Zones
EMC1072	1	±0.25	±1.0	–40 to +125	1	2	–	3.0–3.6	430	Dual SMBus/I ² C Sensor with Selectable Address
EMC1073	2	±0.25	±1.0	–40 to +125	1	2	–	3.0–3.6	430	Triple SMBus/I ² C Sensor with Selectable Address
EMC1074	3	±0.25	±1.0	–40 to +125	1	2	–	3.0–3.6	430	Quad SMBus/I ² C Sensor with Selectable Address
EMC1812	1	±0.25	±1.0	–40 to +125	1	2	–	1.62–3.6	25	Dual Channel 1.8V Temperature Sensor with Rate of Change, Resistor-Set Thermal Shutdown, Beta Comp
EMC1813	2	±0.25	±1.0	–40 to +125	1	2	–	1.62–3.6	25	Triple Channel 1.8V Temperature Sensor with Rate of Change, Resistor-Set Thermal Shutdown, Beta Comp
EMC1814	3	±0.25	±1.0	–40 to +125	1	2	–	1.62–3.6	25	Quad Channel 1.8V Temperature Sensor with Rate of Change, Resistor-Set Thermal Shutdown, Beta Comp
EMC1815	4	±0.25	±1.0	–40 to +125	1	2	–	1.62–3.6	25	Five Channel 1.8V Temperature Sensor with Rate of Change, Resistor-Set Thermal Shutdown, Beta Comp
EMC1833	2	±0.25	±1.0	–40 to +125	1	2	–	1.62–3.6	25	Triple Channel 1.8V Temperature Sensor with Rate of Change, Resistor-Set Thermal Shutdown, Beta Comp
EMC1412	1	±0.25	±1.0	–40 to +125	1	2	–	3.0–3.6	430	Dual SMBus/I ² C Sensor with REC, Beta Compensation and Selectable Address
EMC1413	2	±0.25	±1.0	–40 to +125	1	2	–	3.0–3.6	430	Triple SMBus/I ² C Sensor with REC, Beta Compensation and Selectable Address
EMC1414	3	±0.25	±1.0	–40 to +125	1	2	–	3.0–3.6	430	Quad SMBus/I ² C Sensor with REC, Beta Compensation and Selectable Address
EMC1422	1	±0.25	±1.0	–40 to +125	1	1	1	3.0–3.6	430	Dual SMBus/I ² C Sensor with REC, Beta Compensation and Resistor-Set Thermal Shutdown
EMC1423	2	±0.25	±1.0	–40 to +125	1	1	1	3.0–3.6	430	Triple SMBus/I ² C Sensor with REC, Beta Compensation and Resistor-Set Thermal Shutdown
EMC1424	3	±0.25	±1.0	–40 to +125	1	1	1	3.0–3.6	430	Quad SMBus/I ² C Sensor with REC, Beta Compensation and Resistor-Set Thermal Shutdown
EMC1428	7	±0.25	±1.0	–40 to +125	1	1	1	3.0–3.6	450	Octal SMBus/I ² C Sensor REC, Beta Compensation and Resistor-Set Thermal Shutdown and Hottest of Thermal Zones
EMC1438	7	±0.25	±1.0	–40 to +125	1	1	1	3.0–3.6	450	Octal SMBus/I ² C Sensor REC, Beta Compensation and Resistor-Set Thermal Shutdown and Hottest of Thermal Zones
EMC1822	1	±0.25	±1.0	–40 to +125	1	1	1	1.62–3.6	25	Dual Channel 1.8V Temperature Sensor with Rate of Change, Resistor-Set Thermal Shutdown, Beta Comp
EMC1823	2	±0.25	±1.0	–40 to +125	1	1	1	1.62–3.6	25	Triple Channel 1.8V Temperature Sensor with Rate of Change, Resistor-Set Thermal Shutdown, Beta Comp
EMC1824	3	±0.25	±1.0	–40 to +125	1	1	1	1.62–3.6	25	Quad Channel 1.8V Temperature Sensor with Rate of Change, Resistor-Set Thermal Shutdown, Beta Comp
EMC1825	4	±0.25	±1.0	–40 to +125	1	1	1	1.62–3.6	25	Five Channel 1.8V Temperature Sensor with Rate of Change, Resistor-Set Thermal Shutdown, Beta Comp
EMC1843	2	±0.25	±1.0	–40 to +125	1	1	1	1.62–3.6	25	Triple Channel 1.8V Temperature Sensor with Rate of Change, Resistor-Set Thermal Shutdown, Beta Comp

Note 1: These devices use an external temperature sensor. Accuracy of the total solution is a function of the accuracy of the external sensor. **2:** Maximum accuracy measured at 85°C. **3:** TCN75 idle current is 250 mA. Thermal Shutdown reduces supply current to < 1 mA.

THERMAL MANAGEMENT: Sensor Conditioning ICs

Product	Description	Typical Tc Accuracy (°C)	Typical Th Accuracy (°C)	Temperature Range (°C)
MCP9600	±1.5°C thermocouple to degrees C converter. Supports thermocouple types K, J, T, N, S, E, B and R.	1	1	–40 to +125
MCP96L00	±4°C thermocouple to degrees C converter. Supports thermocouple types K, J, T, N, S, E, B and R.	1	4	–40 to +125
MCP96RL00	±6°C thermocouple to degrees C converter. Supports thermocouple types K, J, T, N, S, E, B and R.	1	6	–40 to +125
MCP9601	±1.5°C Thermocouple to I ² C converter. This device has Opens/Shorts pin detection. This device supports K, J, T, N, S, E, B, and R type thermocouples.	±1.0	±1.5	–40 to +125
MCP96L01	±4.0°C Thermocouple to I ² C converter. This device has Opens/Shorts pin detection. This device supports K, J, T, N, S, E, B, and R type thermocouples.	±1.0	±4.0	–40 to +125
MCP96RL01	±6.0°C Thermocouple to I ² C converter. This device has Opens/Shorts pin detection. This device supports K, J, T, N, S, E, B, and R type thermocouples.	±1.0	±6.0	–40 to +125

THERMAL MANAGEMENT: Open-Loop Fan Controllers and Fan Fault Detectors

Part #	Description	# of Temp. Monitors	Typical Accuracy (°C)	Maximum Accuracy @ 25°C (°C)	Maximum Temperature Range (°C)	Vcc Range (V)	Maximum Supply Current (µA)	Features
EMC2101	Single SMBus I ² C Fan Manager	2	±0.5	±1	–40 to +125	+3.0 to +3.6	1,000	Fan Controller with high-frequency PWM driver, programmable speed table and alert
TC642	Fan Manager	1	Note 1	Note 1	–40 to +85	+3.0 to +5.5	1,000	FanSense™ Fan Monitor, Minimum fan speed control
TC642B	Fan Manager	1	Note 1	Note 1	–40 to +85	+3.0 to +5.5	400	FanSense Fan Monitor, Minimum fan speed control, Fan auto-restart
TC646	Fan Manager	1	Note 1	Note 1	–40 to +85	+3.0 to +5.5	1,000	FanSense Fan Monitor, Auto-shutdown
TC646B	Fan Manager	1	Note 1	Note 1	–40 to +85	+3.0 to +5.5	400	FanSense Fan Monitor, Auto-shutdown, Fan auto-restart
TC647	Fan Manager	1	Note 1	Note 1	–40 to +85	+3.0 to +5.5	1,000	FanSense Fan Monitor, Minimum fan speed control
TC647B	Fan Manager	1	Note 1	Note 1	–40 to +85	+3.0 to +5.5	400	FanSense Fan Monitor, Minimum fan speed control, Fan auto-restart
TC648	Fan Manager	1	Note 1	Note 1	–40 to +85	+3.0 to +5.5	1,000	Overtemperature alert, Auto-shutdown
TC648B	Fan Manager	1	Note 1	Note 1	–40 to +85	+3.0 to +5.5	400	Overtemperature alert, Auto-shutdown, Fan auto-restart
TC649	Fan Manager	1	Note 1	Note 1	–40 to +85	+3.0 to +5.5	1,000	FanSense Fan Monitor, Auto-shutdown
TC649B	Fan Manager	1	Note 1	Note 1	–40 to +85	+3.0 to +5.5	400	FanSense Fan Monitor, Auto-shutdown, Fan auto-restart
TC650	Fan Manager	1	±1	±3	–40 to +125	+2.8 to +5.5	90	Overtemperature alert
TC651	Fan Manager	1	±1	±3	–40 to +125	+2.8 to +5.5	90	Overtemperature alert, Auto-shutdown
TC652	Fan Manager	1	±1	±3	–40 to +125	+2.8 to +5.5	90	FanSense Fan Monitor, Overtemperature alert
TC653	Fan Manager	1	±1	±3	–40 to +125	+2.8 to +5.5	90	FanSense Fan Monitor, Overtemperature alert, Auto-shutdown
TC654	Dual SMBus Fan Manager	1	Note 1	Note 1	–40 to +85	+3.0 to +5.5	320	FanSense Fan Monitor, RPM data
TC655	Dual SMBus Fan Manager	1	Note 1	Note 1	–40 to +85	+3.0 to +5.5	320	FanSense Fan Monitor, RPM data, Overtemperature alert
TC664	Single SMBus Fan Manager	1	Note 1	Note 1	–40 to +85	+3.0 to +5.5	320	FanSense Fan Monitor, RPM data
TC665	Single SMBus Fan Manager	1	Note 1	Note 1	–40 to +85	+3.0 to +5.5	320	FanSense Fan Monitor, RPM data, Overtemperature alert
TC670	Predictive Fan Fault Detector	1	N/A	N/A	–40 to +85	+3.0 to +5.5	150	FanSense Fan Monitor, Programmable threshold

Note 1: These devices use an external temperature sensor. Accuracy of the total solution is a function of the accuracy of the external sensor.

THERMAL MANAGEMENT: Closed-Loop Fan Controllers with SMBus/I²C Interface

Part #	# of Fan Drivers	PWM/Linear Control	# of Remote Temp. Monitors	Ambient Temp. Sensor	Typical Accuracy (°C)	Maximum Accuracy @ 25°C (°C)	Maximum Temperature Range (°C)	Vcc Range (V)	SMBus Alert	System Shutdown	Voltage Monitors	Description
EMC2112	1	Linear	3	1	±0.25	±1.0	0 to +85	+3.3 and +5	Yes	Yes	No	RPM-Based Fan Controller with EEPROM
EMC2103-1	1	PWM	1	1	±0.5	±1.0	–40 to +125	+3.0 to +3.6	Yes	Yes	No	RPM-Based Fan Controller with EEPROM
EMC2103-2	1	PWM	3	1	±0.5	±1.0	–40 to +125	+3.0 to +3.6	Yes	Yes	No	RPM-Based Fan Controller with EEPROM
EMC2103-4	1	PWM	3	1	±0.5	±1.0	–40 to +125	+3.0 to +3.6	Yes	Yes	No	RPM-Based Fan Controller with EEPROM and EEPROM loadable
EMC2104	2	PWM	4	1	±0.25	±1.0	–40 to +85	+3.0 to +3.6	Yes	Yes	Yes	Dual RPM-Based PWM Fan Controller with System Shutdown
EMC2105	1	Linear	4	1	±0.25	±1.0	–40 to +85	+3.3 and +5.0	Yes	Yes	Yes	RPM-Based High-Side Fan Controller with System Shutdown

THERMAL MANAGEMENT: Closed-Loop Fan Controllers with SMBus/I²C Interface

EMC2106	2	PWM & Linear	4	1	±0.25	±1.0	–40 to +85	+3.3 and +5.0	Yes	Yes	Yes	RPM-Based High Side Fan Controller with Shutdown
EMC2113	1	PWM	3	1	±0.5	±1.0	–40 to +125	+3.0 to +3.6	Yes	Yes	No	Single RPM-Based Fan Controller with Hardware Thermal Shutdown
EMC2301	1	PWM	N/A	N/A	N/A	N/A	–40 to +125	+3.0 to +3.6	Yes	No	N/A	Single RPM-Based PWM Fan Speed Controller
EMC2302	2	PWM	N/A	N/A	N/A	N/A	–40 to +125	+3.0 to +3.6	Yes	No	N/A	Dual RPM-Based PWM Fan Speed Controller
EMC2303	3	PWM	N/A	N/A	N/A	N/A	–40 to +125	+3.0 to +3.6	Yes	No	N/A	Triple RPM-Based PWM Fan Speed Controller
EMC2305	5	PWM	N/A	N/A	N/A	N/A	–40 to +125	+3.0 to +3.6	Yes	No	N/A	Penta RPM-Based PWM Fan Speed Controller

MOTOR DRIVERS

MOTOR DRIVERS: Stepper Motors, DC Motors and 3-Phase BLDC Motors

Part #	Motor Type	Input Voltage Range (V)	Internal/External FETs	Output Current (mA)	Control Scheme	Motor Speed Output	Protections	Temperature Operating Range (°C)	Features
ATA6826C	DC Motor	7 to 40	Internal	1000	SPI	N/A	Short Circuit, Overtemperature, Power Supply Fail	–40 to +125	3 half bridge outputs, No shutdown, quiescent current <2 µA
ATA6831C	DC Motor	7 to 40	Internal	1000	SPI	N/A	Short Circuit, Overtemperature, Power Supply Fail	–40 to +125	3 half bridge outputs, No shutdown, quiescent current <2 µA, PWM
ATA6832C	DC Motor	7 to 40	Internal	1000	SPI	N/A	Short Circuit, Overtemperature, Power Supply Fail	–40 to +150	3 half bridge outputs, No shutdown, quiescent current <2 µA, PWM
ATA6836C	DC Motor	7 to 40	Internal	650	SPI	N/A	Short Circuit, Overtemperature, Power Supply Fail	–40 to +125	6 half bridge outputs, No shutdown, quiescent current <2 µA
ATA6838C	DC Motor	7 to 40	Internal	950	SPI	N/A	Short Circuit, Overtemperature, Power Supply Fail	–40 to +125	6 half bridge outputs, No shutdown, quiescent current <2 µA
ATA6823C	DC Motor	7 to 20	External	100	PWM, DIR	N/A	Short Circuit, Overtemperature, Over/Under Voltage, Chargepump Fail	–40 to +125	Dead time adjust, Charge pump, battery reverse protection NMOS, Watchdog, LIN TRX, Sleep mode
ATA6824C	DC Motor	7 to 20	External	100	PWM, DIR	N/A	Short Circuit, Overtemperature, Over/Under Voltage, Chargepump Fail	–40 to +150	Dead time adjust, Charge pump, battery reverse protection NMOS, Window Watchdog, HV interface
ATA6843	3-Phase Brushless Motor	5.5 to 32	External	100	Direct PWM	N/A	Short Circuit, Overtemperature, Over/Under Voltage, Chargepump Fail	–40 to +125	Charge pump supply for external protection NMOS, Dead time, Window Watchdog, LIN TRX,
ATA6844	3-Phase Brushless Motor	5.5 to 32	External	100	Direct PWM	N/A	Short Circuit, Overtemperature, Over/Under Voltage, Chargepump Fail	–40 to +150	Charge pump supply for external protection NMOS, Dead time, Window Watchdog, LIN TRX,
MCP8063	3-Phase Brushless Motor	2.0 to 14.0	Internal	750	Sensorless Sinusoidal	Frequency Generator	Overtemperature, Motor Lock-up, Overcurrent, Overvoltage	–40 to +125	3-Phase BLDC 180° Sinusoidal Motor Driver, Overcurrent Limitation, Frequency at 23 kHz
MTS62C19A	One Bipolar Stepper Motor or Two DC Motors	10.0 to 40.0	Internal	750	Direct PWM Input, Current Limit Control, Microstepping	No	Overtemperature, Under Voltage	–40 to +105	Dual Full-Bridge Motor Driver compatible with Allegro 6219
MTS2916A	One Bipolar Stepper Motor or Two DC Motors	10.0 to 40.0	Internal	750	Direct PWM Input, Current Limit Control, Microstepping	No	Overtemperature, Under Voltage	–40 to +105	Dual Full-Bridge Motor Driver compatible with Allegro 2916
MTD6501C	3-Phase Brushless Motor	2.0 to 14.0	Internal	800	Sensorless Sinusoidal	Frequency Generator	Overtemperature, Motor Lock-up, Overcurrent, Overvoltage	–30 to +95	3-Phase BLDC 180° Sinusoidal Motor Driver, Overcurrent Limitation, Frequency at 20 kHz
MTD6501D	3-Phase Brushless Motor	2.0 to 14.0	Internal	500	Sensorless Sinusoidal	Frequency Generator	Overtemperature, Motor Lock-up, Overcurrent, Overvoltage	–30 to +95	3-Phase BLDC 180° Sinusoidal Motor Driver, Boost Mode, Overcurrent Limitation, Switching Frequency at 20 kHz
MTD6501G	3-Phase Brushless Motor	2.0 to 14.0	Internal	800	Sensorless Sinusoidal	Frequency Generator	Overtemperature, Motor Lock-up, Overcurrent, Overvoltage	–30 to +95	3-Phase BLDC 180° Sinusoidal Motor Driver, Overcurrent Limitation, Frequency at 23 kHz
MTD6502B	3-Phase Brushless Motor	2.0 to 5.5	Internal	750	Sensorless Sinusoidal	Frequency Generator	Overtemperature, Motor Lock-up, Overcurrent, Overvoltage	–40 to +125	3-Phase BLDC Sinusoidal Servo Motor Driver, Direction control, Overcurrent Limitation, Switching Frequency at 30 kHz
MTD6508	3-Phase Brushless Motor	2.0 to 5.5	Internal	750	Sensorless Sinusoidal	Frequency Generator	Overcurrent, Overvoltage, Overtemperature, Motor Lock-up	–40 to +125	180° Sinusoidal Sensorless Drive, Programmable BEMF Coefficient, Switching Frequency at 30 kHz, RPM and Slew Rate, Selectable Phase Target Regulation

MOTOR DRIVERS: Stepper Motors, DC Motors and 3-Phase BLDC Motors

Part #	Motor Type	Input Voltage Range (V)	Internal/ External FETs	Output Current (mA)	Control Scheme	Motor Speed Output	Protections	Temperature Operating Range (°C)	Features
MTD6505	3-Phase Brushless Motor	2.0 to 5.5	Internal	750	Sensorless Sinusoidal	Frequency Generator	Overcurrent, Overvoltage, Overtemperature, Motor Lock-up	-40 to +125	180° Sinusoidal Sensorless Drive Programmable BEMF Coefficient Switching Frequency at 30 kHz

POSITION SENSORS

POSITION SENSORS: Inductive Sensors

Part #	Calibration Segments	Sensor Offset Adjust	Origin Adjust (bits)	Output Interface	Output Resolution (bits)	Redundant IC support	# of ADCs	ADC Sampling Rate (samples/sec)	ADC for external sensor (bits)	MCU	Temperature Range (°C)	Features
LX3301A	6	Yes	12	Analog, PWM	12	Yes	2	2000	N/A	32-bit, 8 MHz	-40 to +125	AEC-Q100 Grade 1 injection molding
LX3302A	8	Yes	12	Analog, PWM, SENT, PS15, Sin/Cos	12	Yes	3	2000	10	32-bit, 8 MHz	-40 to +150	AEC-Q100 Grade 0 temperature sensitive

POWER MANAGEMENT

POWER MANAGEMENT: Voltage References

Part #	V _{IN} Max (V)	Output Voltage (V)	Max. Load Current (mA)	Initial Accuracy (max.%)	Temperature Coefficient (ppm/°C)	Maximum Supply Current (µA @ 25°C)	Features
MCP1501	5.5	1.024, 1.250, 1.8, 2.048, 2.5, 3.0, 3.3, 4.096	20	±0.08	50	350	8-pin
MCP1525	5.5	2.5	±2	±1	50	100	3-pin
MCP1541	5.5	4.096	±2	±1	50	100	3-pin
LM4040C	15	2.5, 4.096, 5.0	15	±0.5	100	65–85	3-pin
LM4040D	15	2.5, 4.096, 5.0	15	±1	150	65–85	3-pin
LM4041C	15	1.225, Adj. (1.24–10V)	12	±0.5	100	70	3-pin
LM4041D	15	1.225, Adj. (1.24–10V)	12	±1	150	70	3-pin
MIC40403	10	Adjustable	15	±1	–	70	8-pin

POWER MANAGEMENT: Single Output Linear Regulators

Part #	Output Current (mA)	V _{IN} Min (V)	V _{IN} Max (V)	V _{OUT} (V)	Voltage Drop Typical (mV)	I _q Typical (µA)	Output Accuracy (%)	PSRR 1 kHz (dB)	Features
MCP1811	150	1.8	5.5	1.2, 1.8, 2.8, 3.0, 3.3	400	250 nA	±2	50	Ultra-Low I _q
MCP1812	300	1.8	5.5	1.2, 1.8, 2.8, 3.0, 3.3	400	250 nA	±2	50	Ultra-Low I _q
MIC5231	10	3.5	12	2.75, 3.0, 3.3, 5.0	150	650 nA	±2	50	High Input Voltage, Small Package
MIC5232	10	2.7	7	1.2, 2.5, 2.8, 3.3	100	1.8 µA	±2	55	7V input
MAQ5280	25	4.5	120	Adj.	1100	31 µA	±2	80	Ultra-High Input Voltage, Load Dump Protection
MIC5280	25	4.5	120	Adj.	1100	31 µA	±2	80	High Input Voltage, Load Dump, Protection
MIC5281	25	6	120	3.3, 5.0, Adj.	2000	6 µA	±3	90	High Input Voltage, Load Dump
MAQ5281	25	6	120	3.3, 5.0, Adj.	2000	6 µA	±3	90	High Input Voltage, Load Dump
MAQ5282	50	6	120	3.3, 5.0, Adj.	2000	6 µA	±3	90	High Input Voltage, High PSRR
MIC5282	50	6	120	3.3, 5.0, Adj.	2000	6 µA	±3	90	High Input Voltage, Load Dump
TC1014	50	2.7	6	1.8, 2.5, 2.7, 2.8, 2.85, 3.0, 3.3, 3.6, 4.0, 5.0	85	50 µA	±0.5	64	Ultra Low Dropout
TC1054	50	2.7	6	1.8, 2.5, 2.7, 2.8, 2.85, 3.0, 3.3, 3.6, 4.0, 5.0	85	50 µA	±0.5	64	Ultra Low Dropout
TC1070	50	2.7	6	1.23–5.5	85	50 µA	±0.5	64	Ultra Low Dropout
TC1072	50	2.7	6	2.5, 2.7, 2.8, 2.85, 3.0, 3.3, 3.6, 4.0, 5.0	85	50 µA	±0.5	64	Ultra Low Dropout
TC1223	50	2.7	6	2.5, 2.7, 2.8, 3.0, 3.3, 3.6, 4.0, 5.0	85	50 µA	±0.5	64	Ultra Low Dropout
TC2014	50	2.7	6	1.8, 2.7, 2.8, 3.0, 3.3	45	50 µA	±0.4	55	Ultra Low Dropout
TC2054	50	2.7	6	1.8, 2.7, 2.8, 3.0, 3.3	45	55 µA	±0.4	50	Ultra Low Dropout

POWER MANAGEMENT: Single Output Linear Regulators

Part #	Output Current (mA)	V _{IN} Min (V)	V _{IN} Max (V)	V _{OUT} (V)	Voltage Drop Typical (mV)	I _q Typical (μA)	Output Accuracy (%)	PSRR 1 kHz (dB)	Features
MCP1790	70	6	30	3.0, 3.3, 5.0	700	70 μA	±0.2	90	High Input
MCP1791	70	6	30	3.0, 3.3, 5.0	700	70 μA	±0.2	90	High Input
MIC5203	80	2.5	16	2.6, 2.8, 3.0, 3.3, 3.6, 3.8, 4.0, 4.5, 5.0	300	180 μA	±3	60	High Input Voltage, Small Package
MIC5213	80	2.5	16	2.5, 2.6, 2.7, 2.8, 3.0, 3.3, 3.6, 5.0	280	180 μA	±3	60	High Input Voltage, Small Package
TC1016	80	2.7	6	1.8, 2.7, 2.8, 3.0	150	53 μA	±0.5	58	Low Dropout
LP2951	100	2	30	4.8, 5.0, Adj.	380	100 μA	±0.5	70	High Input Voltage, High PSRR
MIC5200	100	2.5	26	3.0, 3.3, 4.8, 5.0	230	130 μA	±1	70	Low Dropout
MIC5233	100	2.3	36	1.8, 2.5, 3.0, 3.3, 5.0, Adj.	270	18 μA	±1	50	High Input Voltage, Reverse Battery Protection
MCP1792	100	4.5	55	3.3, 5.0	250	25	2	70	AEC-Q100 Qualified and PPAP Automotive Grade 0
MCP1793	100	4.5	55	3.3, 5.0	250	25	2	70	AEC-Q100 Qualified and PPAP Automotive Grade 0
MCP1799	80	4.5	45	3.3, 5.0	300	50	2	70	AEC-Q100 Qualified and PPAP Automotive Grade 0
MIC5253	100	2.7	5.5	1.5, 1.8, 1.85, 2.5, 2.6, 2.7, 2.8, 2.9, 3.0, 3.1, 3.2, 3.3	165	75 μA	±0.5	70	Low Dropout
MIC5270	100	-2	-16	(-3.0, (-)4.1, (-)5.0, Adj.	500	35 μA	±2	50	Negative LDO
MIC5271	100	-3.3	-16	(-3.0, (-)4.1, (-)5.0, Adj.	500	25 μA	±2	50	Negative LDO
TC1015	100	2.7	6	1.8, 2.5, 2.7, 2.8, 2.85, 3.0, 3.3, 3.6, 4.0, 5.0	180	50 μA	±0.5	64	Low Dropout
TC1055	100	2.7	6	1.8, 2.5, 2.7, 2.8, 2.85, 3.0, 3.3, 3.6, 4.0, 5.0	180	50 μA	±0.5	64	Low Dropout
TC1071	100	2.7	6	1.23-5.5	180	50 μA	±0.5	64	Low Dropout
TC1073	100	2.7	6	2.5, 2.7, 2.8, 2.85, 3.0, 3.3, 3.6, 4.0, 5.0	180	50 μA	±0.5	64	Low Dropout
TC1224	100	2.7	6	2.5, 2.7, 2.8, 3.0, 3.3, 3.6, 4.0, 5.0	180	50 μA	±0.5	64	Low Dropout
TC2015	100	2.7	6	1.8, 2.7, 2.8, 3.0, 3.3	90	55 μA	±0.4	55	Low Dropout
TC2055	100	2.7	6	1.8, 2.7, 2.8, 3.0, 3.3	90	55 μA	±0.4	50	Low Dropout
TC59	100	-	-10	-8	380	3 μA	±0.5	50	Negative LDO
TC1188	120	2.7	6	1.8, 2.8, 2.84, 3.15	130	50 μA	±0.5	80	High PSRR
TC1189	120	2.7	6	1.8, 2.8, 2.84, 3.15	130	50 μA	±0.5	80	High PSRR
MCP1810	150	2.5	5.5	1.2, 1.8, 2.5, 3.0, 3.3, 4.2	380	0.02 μA	±1	25	Ultra Low I _o
MAQ5283	150	6	120	3.3, 5.0, Adj.	1800	8 μA	±3	75	High Input Voltage, High PSRR
MIC2951	150	2	30	3.3, 5.0	320	120 μA	±1	67	Load Dump, Reverse Battery Protection
MIC5205	150	2.5	16	2.5, 2.7, 2.8, 2.85, 2.9, 3.0, 3.1, 3.2, 3.3, 3.6, 3.8, 4.0, 5.0, Adj.	165	80 μA	±1	75	High Input Voltage, Small Package
MIC5206	150	2.5	16	2.5, 2.7, 3.0, 3.2, 3.3, 3.6, 3.8, 4.0, 5.0, Adj.	165	1.3mA	±1	75	High Input Voltage, Small Package
MIC5225	150	2.3	16	1.5, 1.8, 2.5, 2.7, 3.0, 3.3, 5.0, Adj.	310	29 μA	±0.5	35	High Input Voltage, Small Package, Current Protection
MIC5234	150	2.3	30	Adj.	320	20 μA	±1	-	High Input Voltage, Load Dump, and Current Protection
MIC5235	150	2.3	24	1.5, 1.8, 2.5, 2.7, 3.0, 3.3, 5.0, Adj.	310	18 μA	±1	35	High Input Voltage, Reverse Battery Protection
MIC5236	150	2.3	30	2.5, 3.0, 3.3, 5.0, Adj.	300	20 μA	±1	55	High Input Voltage, Load Dump, and Current Protection
MIC5238	150	1.5	6	1.0, 1.1, 1.3	310	23 μA	±5	50	Low Dropout
MIC5247	150	2.7	6	1.5, 1.6, 1.8, 1.85, 2.0, 2.1, 2.2, 2.4	150	85 μA	±1	60	Low Dropout
MIC5248	150	2.7	6	1.2	-	100 μA	±3	60	Low Dropout
MIC5252	150	2.7	6	1.8, 2.5, 2.8, 2.85, 3.0, 4.75	135	90 μA	±1	60	Low Dropout
MIC5255	150	2.7	6	2.5, 2.6, 2.7, 2.75, 2.8, 2.85, 2.9, 3.0, 3.1, 3.2, 3.3, 3.5	135	90 μA	±1	60	Low Dropout

POWER MANAGEMENT: Single Output Linear Regulators

Part #	Output Current (mA)	V _{IN} Min (V)	V _{IN} Max (V)	V _{OUT} (V)	Voltage Drop Typical (mV)	I _q Typical (μA)	Output Accuracy (%)	PSRR 1 kHz (dB)	Features
MIC5256	150	2.7	6	1.5, 1.8, 2.5, 2.6, 2.7, 2.8, 2.85, 2.9, 3.0, 3.1, 3.3	135	90 μA	±1	60	Low Dropout
MIC5258	150	2.7	6	1.2	–	85 μA	±3	–	Low Dropout
MIC5265	150	2.7	5.5	1.5, 1.8, 1.85, 2.5, 2.6, 2.7, 2.8, 2.85, 2.9, 3.0, 3.1, 3.2, 3.3	210	75 μA	±2	64	Low Dropout
MIC5268	150	2.7	6	1.2	–	110 μA	±3	–	Low Dropout
MIC5283	150	6	120	3.3, 5.0, Adj.	1800	8 μA	±3	75	High Input Voltage, Load Dump
MIC5295	150	2.3	24	3.0, 3.3, 5.0, Adj.	310	18 μA	±1	50	Reverse Battery and Current Protection
MIC5301	150	2.3	5.5	1.3, 1.5, 1.8, 2.1, 2.5, 2.6, 2.8, 2.85, 2.9, 3.0, 3.3, 4.6, Adj.	40	85 μA	±2	75	Ultra Low Dropout
MIC5302	150	2.3	5.5	1.3, 1.5, 1.8, 2.1, 2.5, 2.6, 2.8, 2.85, 2.9, 3.0, 3.3, 4.6	50	85 μA	±2	65	Ultra Low Dropout
MIC5304	150	2.3	5.5	3.15/1.85, 3.15/1.875, 3.2/1.8	85	24 μA	±0.5	65	Ultra Low Dropout
MIC5305	150	2.25	5.5	1.5, 1.8, 2.0, 2.5, 2.6, 2.7, 2.8, 2.85, 2.9, 3.0, 3.3, 4.6, 4.75, Adj.	60	90 μA	±1	85	Ultra Low Dropout
MIC5306	150	2.25	5.5	1.8, 2.5, 2.6	45	16 μA	±1	62	Ultra Low Dropout
MIC5308	150	1.6	5.5	1.2, 1.5, 1.8, Adj.	45	23 μA	±2	90	Ultra Low Dropout, Ultra High PSRR
MIC5317	150	2.5	6	1.0, 1.2, 1.5, 1.8, 2.5, 2.8, 3.0, 3.3	155	32 μA	±2	80	High PSRR
MIC5365	150	2.5	5.5	1.5, 1.8, 2.0, 2.5, 2.6, 2.7, 2.8, 2.85, 2.9, 3.0, 3.3	155	32 μA	±2	80	High PSRR
MIC5366	150	2.5	5.5	1.5, 1.8, 2.0, 2.5, 2.6, 2.7, 2.8, 2.85, 2.9, 3.0, 3.3	155	32 μA	±2	80	High PSRR
MIC5376	150	2.5	5.5	2.8	120	29 μA	±2	60	Low Dropout
MIC5377	150	2.5	5.5	Adj.	120	29 μA	±2	60	Low Dropout
MIC5378	150	2.5	5.5	Adj.	120	29 μA	±2	60	Low Dropout
MCP1711	150	1.4	6	1.1–5.0	670	0.6 μA	±1	–	Ultra Low I _q , Capless
MCP1754	150	3.6	16	1.8–5.0	300	56 μA	±0.4	72	High Performance
MCP1754S	150	3.6	16	1.8–5.0	300	56 μA	±0.2	72	High Performance
MCP1804	150	2	28	1.8–18	300	50 μA	±2	50	High Input
TC1017	150	2.7	6	1.8, 2.6, 2.7, 2.8, 2.85, 2.9, 3.0, 3.3, 4.0	285	53 μA	±0.5	58	Low Dropout
TC1185	150	2.7	6	1.8, 2.5, 2.7, 2.8, 2.85, 3.0, 3.3, 3.6, 4.0, 5.0	270	50 μA	±0.5	64	Low Dropout
TC1186	150	2.7	6	1.8, 2.5, 2.7, 2.8, 2.85, 3.0, 3.3, 3.6, 4.0, 5.0	270	50 μA	±0.5	64	Low Dropout
TC1187	150	2.7	6	1.23–5.5	270	50 μA	±0.5	64	Low Dropout
TC2185	150	2.7	6	1.8, 2.7, 2.8, 3.0, 3.3	140	55 μA	±0.4	55	High Accuracy
TC2186	150	2.7	6	1.8, 2.7, 2.8, 3.0, 3.3	140	55 μA	±0.4	50	High Accuracy
MIC5207	180	2.5	16	1.8, 2.5, 2.8, 2.9, 3.0, 3.1, 3.2, 3.3, 4.0, 5.0, Adj.	165	80 μA	±3	75	High Input Voltage, Small Package
MIC5201	200	2.5	26	3.0, 3.3, 4.8, 5.0, Adj.	270	130 μA	±2	75	Low Dropout
MIC5367	200	2.5	5.5	1.2, 1.5, 3.3	180	29 μA	±2	65	Low Dropout
MIC5368	200	2.5	5.5	1.2, 1.5, 3.3	180	29 μA	±1	65	Low Dropout
MIC94300	200	1.8	3.6	Input Follower	170	138 μA	–	0	RippleBlocker
MIC94310	200	1.8	3.6	1.2, 1.5, 1.8, 1.85, 2.5, 2.7, 2.8, 2.85, 3.0, 3.3	40	170 μA	±1	85	RippleBlocker
MIC2954	250	2	30	5.0, Adj.	375	140 μA	±1	–	Load Dump

POWER MANAGEMENT: Single Output Linear Regulators

Part #	Output Current (mA)	V _{IN} Min (V)	V _{IN} Max (V)	V _{OUT} (V)	Voltage Drop Typical (mV)	I _q Typical (μA)	Output Accuracy (%)	PSRR 1 kHz (dB)	Features
MCP1700	250	2.3	6	1.8, 2.5, 3.0, 3.3, 5.0	300	1.6 μA	±0.4	44	Low I _q
MCP1702	250	2.7	13.2	1.2, 1.5, 1.8, 2.5, 2.8, 3.0, 3.3, 4.0, 5.0	625	2 μA	±0.4	44	Low I _q
MCP1703A	250	2.7	16	1.2–5.5	625	2 μA	±0.4	35	High Input, Low I _q
MAQ5300	300	2.3	5.5	1.5, 1.8, 2.5, 2.8, 2.85, 3.0, 3.3	100	85 μA	±2	65	Low Dropout
MIC5249	300	2.7	6	1.5, 1.8, 2.5, 2.8, 2.85, 3.0, 3.3	340	85 μA	±1	65	High PSRR
MIC5259	300	2.7	6	1.5, 1.8, 2.1, 2.5, 2.8, 2.85, 3.0, 3.3	300	105 μA	±0.5	70	Low Dropout
MIC5303	300	2.3	5.5	1.5, 1.8, 2.1, 2.5, 2.6, 2.8, 2.85, 2.9, 3.0, 3.3	100	85 μA	±2	65	Ultra Low Dropout
MIC5307	300	2.4	5.5	1.5, 1.8, 2.8, 3.0	120	20 μA	±1	62	Low Dropout
MIC5309	300	1.7	5.5	1.2, 1.5, 1.8, Adj.	100	23 μA	±2	90	Ultra High PSRR
MIC5318	300	2.3	6	1.5, 1.8, 2.5, 2.8, 3.3, Adj.	110	85 μA	±2	75	High PSRR
MIC5323	300	2.65	5.5	1.8, 2.8, 3.3, Adj.	120	90 μA	±2	80	High PSRR
MIC5327	300	2.3	5.5	1.8, 2.8	180	24 μA	±0.5	60	High PSRR
MIC5337	300	2.3	5.5	1.8, 2.8	180	24 μA	±0.5	65	High PSRR
MIC5353	300	2.6	6	1.8, 2.5, 2.6, 2.8, 3.0, 3.3, Adj.	160	90 μA	±2	60	Low Dropout
MIC5363	300	2.5	5.5	1.2, 2.1, 2.8, 3.3	225	38 μA	±2	80	High PSRR
MIC5364	300	2.5	5.5	1.2, 2.1, 2.8, 3.3	225	38 μA	±2	80	High PSRR
MIC5501	300	2.5	5.5	1.2, 1.8, 2.8, 3.0, 3.3	160	38 μA	±2	60	Low Dropout
MIC5502	300	2.5	5.5	1.2, 1.8, 2.8, 3.0, 3.3	160	38 μA	±2	60	Low Dropout
MIC5503	300	2.5	5.5	1.2, 1.8, 2.8, 3.0, 3.3	160	38 μA	±2	60	Low Dropout
MIC5504	300	2.5	5.5	1.2, 1.8, 2.8, 3.0, 3.1, 3.3	160	38 μA	±2	60	Low Dropout
MIC5512	300	2.5	5.5	1.2, 1.8, 2.8, 3.3	160	38 μA	±2	65	Low Dropout
MIC5514	300	2.5	5.5	1.2, 1.8, 2.8, 3.0, 3.3	160	38 μA	±2	65	Low Dropout
MCP1755	300	3.6	16	1.8–5.5	300	68 μA	±0.85	80	High Input, Low Dropout
MCP1755S	300	3.6	16	1.8–5.5	300	68 μA	±0.85	80	Low Dropout
MCP1824	300	2.1	6	0.8, 1.2, 1.8, 2.5, 3.0, 3.3, 5.0	200	120 μA	±0.4	55	High Accuracy
MCP1824S	300	2.1	6	0.8, 1.2, 1.8, 2.5, 3.0, 3.3, 5.0	200	120 μA	±0.4	55	High Accuracy
TC1107	300	2.7	6	2.5, 2.7, 2.8, 3.0, 3.3, 5.0	240	50 μA	±0.5	60	Low Dropout
TC1108	300	2.7	6	2.5, 2.7, 2.8, 3.0, 3.3, 5.0	240	50 μA	±0.5	60	Low Dropout
TC1173	300	2.7	6	3.3, 5.0, 2.5, 2.7, 2.8, 3.0	240	50 μA	±0.5	60	Low Dropout
TC1174	300	2.7	6	1.23–5.5	270	50 μA	±0.5	60	Low Dropout
TC1269	300	2.7	6	2.5, 2.8, 3.0, 3.3, 5.0	240	50 μA	±0.5	50	Low Dropout
TC1300	300	2.7	6	2.5, 2.7, 2.8, 2.85, 3.0, 3.3	210	80 μA	±0.5	60	Low Dropout
MIC29201	400	2	26	3.3, 4.8, 5.0, 12	400	140 μA	±1	70	Load Dump, Reverse Battery Protection
MIC29202	400	2	26	Adj.	400	140 μA	±1	70	Load Dump, Reverse Battery Protection
MIC29204	400	2	26	5.0, Adj.	400	140 μA	±1	70	Load Dump, Reverse Battery Protection
MIC2920A	400	2	26	3.3, 4.8, 5.0, 12	400	140 μA	±1	70	Load Dump, Reverse Battery Protection
MIC5325	400	1.7	5.5	1.2, 1.5, 1.8, 3.3, 3.6	110	35 μA	±2	65	Low Noise
MIC47050	500	1	3.6	1.2, 1.8, Adj.	44	6 μA	±0.5	50	Ultra Low Dropout
MIC47053	500	1	3.6	Adj.	44	6 μA	±2	55	Ultra Low Dropout
MIC5209	500	2.5	16	1.8, 2.5, 3.0, 3.3, 3.6, 4.2, 5.0, Adj.	350	8 mA	±1	75	High Input Voltage, Small Package
MIC5216	500	2.5	12	2.5, 3.3, 3.6, 5.0	300	8 mA	±1	75	High Input Voltage, Small Package
MIC5219	500	2.5	12	2.5, 2.6, 2.7, 2.8, 2.85, 2.9, 3.0, 3.1, 3.3, 3.6, 5.0, Adj.	350	12 mA	±1	75	High Input Voltage, Small Package

POWER MANAGEMENT: Single Output Linear Regulators

Part #	Output Current (mA)	V _{IN} Min (V)	V _{IN} Max (V)	V _{OUT} (V)	Voltage Drop Typical (mV)	I _Q Typical (μA)	Output Accuracy (%)	PSRR 1 kHz (dB)	Features
MIC5237	500	2.5	16	2.5, 3.3, 5.0	300	8 mA	±3	75	High Input Voltage, Reverse Battery and Current Protection
MIC5239	500	2.3	30	1.5, 1.8, 2.5, 3.0, 3.3, 5.0, Adj.	350	23 μA	±1	50	Reverse Battery and Current Protection
MIC5319	500	2.5	5.5	1.375, 1.8, 1.85, 2.5, 2.6, 2.7, 2.8, 2.85, 2.9, 3.0, 3.3, 5.0, Adj.	200	90 μA	±1	70	High PSRR
MIC5524	500	2.5	5.5	1.2, 1.8, 2.8, 3.0, 3.3	260	38 μA	±2	65	Low Noise
MIC5528	500	2.5	5.5	3.3	260	38 μA	±2	70	Low Dropout
MIC94305	500	1.8	3.6	Input Follower	170	150 μA	–	0	RippleBlocker
MIC94325	500	1.8	3.6	Adj.	100	170 μA	±1	85	RippleBlocker
MIC94345	500	1.8	3.6	1.2, 1.5, 1.8, 2.8, 3.3	100	170 μA	±1	85	RippleBlocker
MIC94355	500	1.8	3.6	1.2, 1.5, 1.8, 2.8, 3.3	100	170 μA	±1	85	RippleBlocker
MCP1725	500	2.3	6	0.8, 1.2, 1.8, 2.5, 3.0, 3.3, 5.0	210	120 μA	±0.5	60	Low Dropout
MCP1825	500	2.1	6	0.8, 1.2, 1.8, 2.5, 3.0, 3.3, 5.0	210	120 μA	±0.5	60	Low Dropout
MCP1825S	500	2.1	6	0.8, 1.2, 1.8, 2.5, 3.0, 3.3, 5.0	300	120 μA	±0.5	60	Low Dropout
TC1262	500	2.7	6	2.5, 2.8, 3.0, 3.3, 5.0	350	80 μA	±0.5	64	Low Dropout
TC1263	500	2.7	6	2.5, 2.8, 3.0, 3.3, 5.0	350	80 μA	±0.5	64	Low Dropout
MIC29371	750	4.3	26	3.3, 5.0, 12	370	160 μA	±1	–	Load Dump, Reverse Current Protection
MIC29372	750	4.3	26	Adj.	370	160 μA	±1	–	Load Dump, Reverse Current Protection
MIC2937A	750	4.3	26	3.3, 5.0, 12	370	160 μA	±1	–	Load Dump, Reverse Current Protection
MIC3775	750	2.25	6	1.5, 1.65, 1.8, 2.5, 3.0, 3.3, Adj.	280	6.5 mA	±1	60	Reverse Current Protection
MIC3975	750	2.25	16	1.65, 1.8, 2.5, 3.0, 3.3, 5.0, Adj.	300	7.5 mA	±1	55	Reverse Current Protection
TC1264	800	2.7	6	1.8, 2.5, 3.0, 3.3	450	80 μA	±0.5	64	Low Dropout
TC1265	800	2.7	6	1.8, 2.5, 3.0, 3.3	450	80 μA	±0.5	64	Low Dropout
TC2117	800	2.7	6	1.8, 2.5, 3.0, 3.3	600	80 μA	±0.5	55	Low Dropout
MIC37100	1000	2.25	6	1.5, 1.65, 1.8, 2.5, 3.3	280	400 μA	±1	50	Reverse Battery and Current Protection
MIC37101	1000	2.25	6	1.5, 1.65, 1.8, 2.1, 2.5, 3.3	280	400 μA	±1	50	Reverse Battery and Current Protection
MIC37102	1000	2.25	6	Adj.	280	400 μA	±1	50	Reverse Battery and Current Protection
MIC39100	1000	2.25	16	1.8, 2.5, 3.3, 5.0	410	6.5 mA	±1	55	Reverse Battery and Current Protection
MIC39101	1000	2.25	16	1.8, 2.5, 3.3, 5.0	410	6.5 mA	±1	55	Reverse Battery and Current Protection
MIC39102	1000	2.25	16	Adj.	410	6.5 mA	±1	55	Reverse Battery and Current Protection
MIC47100	1000	1	3.6	0.8, 1.0, 1.2, Adj.	80	350 μA	±0.5	80	Ultra Low Dropout
MIC69101	1000	1.65	5.5	1.8	215	11 mA	±2	55	Low Dropout
MIC69103	1000	1.65	5.5	Adj.	215	11 mA	±2	55	Low Dropout
MCP1726	1000	2.3	6	0.8, 1.2, 1.8, 2.5, 3.3, 5.0	500	130 μA	±0.5	54	Low Dropout
MCP1826	1000	2.3	6	0.8, 1.2, 1.8, 2.5, 3.0, 3.3, 5.0	225	120 μA	±0.5	60	Low Dropout
MCP1826S	1000	2.3	6	0.8, 1.2, 1.8, 2.5, 3.0, 3.3, 5.0	225	120 μA	±0.5	60	Low Dropout
MIC2940A	1250	2	26	3.3, 5.0, 12	400	35 mA	±1	–	Load Dump, Reverse Current Protection
MIC2941A	1250	2	26	Adj.	400	35 mA	±1	–	Load Dump, Reverse Current Protection
MIC29150	1500	2.25	26	3.3, 5.0, 12	350	22 mA	±1	–	Load Dump, Reverse Current Protection
MIC29151	1500	2.25	26	3.3, 5.0, 12	350	22 mA	±1	–	Load Dump, Reverse Current Protection

POWER MANAGEMENT: Single Output Linear Regulators

Part #	Output Current (mA)	V _{IN} Min (V)	V _{IN} Max (V)	V _{OUT} (V)	Voltage Drop Typical (mV)	I _q Typical (μA)	Output Accuracy (%)	PSRR 1 kHz (dB)	Features
MIC29152	1500	2.25	26	Adj.	350	22 mA	±1	–	Load Dump, Reverse Current Protection
MIC37139	1500	2.25	6	1.8, 2.5	500	17 mA	±1	50	Reverse Battery and Current Protection
MIC37150	1500	2.25	6	1.5, 1.65, 1.8, 2.5, 3.3	325	17 mA	±1	45	Reverse Battery and Current Protection
MIC37151	1500	2.25	6	1.5, 1.65, 1.8, 2.5, 3.3	325	17 mA	±1	45	Reverse Battery and Current Protection
MIC37152	1500	2.25	6	Adj.	325	17 mA	±1	45	Reverse Battery and Current Protection
MIC37153	1500	2.25	6	Adj.	325	17 mA	±1	45	Reverse Battery and Current Protection
MIC39150	1500	2.25	16	1.65, 1.8, 2.5	375	17 mA	±1	53	Reverse Battery and Current Protection
MIC39151	1500	2.25	16	1.65, 1.8, 2.5	375	17 mA	±1	53	Reverse Battery and Current Protection
MIC39152	1500	2.25	16	Adj.	375	17 mA	±1	53	Reverse Battery and Current Protection
MIC47150	1500	1.4	6.5	Adj.	280	15 mA	±1	55	Low Dropout
MIC49150	1500	1.4	6.5	0.9, 1.2, 1.5, 1.8, Adj.	280	15 mA	±1	57	Low Dropout
MIC59150	1500	1	3.8	Adj.	100	12.5 mA	±1	60	Ultra Low Dropout
MIC61150	1500	1.1	3.6	1.0, Adj.	75	7.6 mA	±1	50	Ultra Low Dropout, Soft Start
MCP1727	1500	2.3	6	0.8, 1.2, 1.8, 2.5, 3.0, 3.3, 5.0	330	120 μA	±0.5	60	Low Dropout
MCP1827	1500	2.3	6	0.8, 1.2, 1.8, 2.5, 3.0, 3.3, 5.0	330	120 μA	±0.5	60	Low Dropout
MCP1827S	1500	2.3	6	0.8, 1.2, 1.8, 2.5, 3.0, 3.3, 5.0	330	120 μA	±0.5	60	Low Dropout
MIC49200	2000	1.4	6.5	1.0, 1.8, Adj.	400	15 mA	±1	83	Low Dropout
MIC68200	2000	1.65	5.5	1.2, 1.5, 1.8, 2.5, 3.3, Adj.	300	42 mA	±1	60	Low Dropout, Soft Start
MIC37252	2500	3	6	Adj.	550	40 mA	±2	50	Reverse Current Protection
MIC2937A	750	4.3	26	3.3, 5.0, 12	370	160 μA	±1	–	Load Dump, Reverse Current Protection
MIC3775	750	2.25	6	1.5, 1.65, 1.8, 2.5, 3.0, 3.3, Adj.	280	6.5 mA	±1	60	Reverse Current Protection
MIC3975	750	2.25	16	1.65, 1.8, 2.5, 3.0, 3.3, 5.0, Adj.	300	7.5 mA	±1	55	Reverse Current Protection
TC1264	800	2.7	6	1.8, 2.5, 3.0, 3.3	450	80 μA	±0.5	64	Low Dropout
TC1265	800	2.7	6	1.8, 2.5, 3.0, 3.3	450	80 μA	±0.5	64	Low Dropout
TC2117	800	2.7	6	1.8, 2.5, 3.0, 3.3	600	80 μA	±0.5	55	Low Dropout
MIC37100	1000	2.25	6	1.5, 1.65, 1.8, 2.5, 3.3	280	400 μA	±1	50	Reverse Battery and Current Protection
MIC37101	1000	2.25	6	1.5, 1.65, 1.8, 2.1, 2.5, 3.3	280	400 μA	±1	50	Reverse Battery and Current Protection
MIC37102	1000	2.25	6	Adj.	280	400 μA	±1	50	Reverse Battery and Current Protection
MIC39100	1000	2.25	16	1.8, 2.5, 3.3, 5.0	410	6.5 mA	±1	55	Reverse Battery and Current Protection
MIC39101	1000	2.25	16	1.8, 2.5, 3.3, 5.0	410	6.5 mA	±1	55	Reverse Battery and Current Protection
MIC39102	1000	2.25	16	Adj.	410	6.5 mA	±1	55	Reverse Battery and Current Protection
MIC47100	1000	1	3.6	0.8, 1.0, 1.2, Adj.	80	350 μA	±0.5	80	Ultra Low Dropout
MIC69101	1000	1.65	5.5	1.8	215	11 mA	±2	55	Low Dropout
MIC69103	1000	1.65	5.5	Adj.	215	11 mA	±2	55	Low Dropout
MCP1726	1000	2.3	6	0.8, 1.2, 1.8, 2.5, 3.3, 5.0	500	130 μA	±0.5	54	Low Dropout
MCP1826	1000	2.3	6	0.8, 1.2, 1.8, 2.5, 3.0, 3.3, 5.0	225	120 μA	±0.5	60	Low Dropout
MCP1826S	1000	2.3	6	0.8, 1.2, 1.8, 2.5, 3.0, 3.3, 5.0	225	120 μA	±0.5	60	Low Dropout
MIC2940A	1250	2	26	3.3, 5.0, 12	400	35 mA	±1	–	Load Dump, Reverse Current Protection
MIC2941A	1250	2	26	Adj.	400	35 mA	±1	–	Load Dump, Reverse Current Protection

POWER MANAGEMENT: Single Output Linear Regulators

Part #	Output Current (mA)	V _{IN} Min (V)	V _{IN} Max (V)	V _{OUT} (V)	Voltage Drop Typical (mV)	I _q Typical (μA)	Output Accuracy (%)	PSRR 1 kHz (dB)	Features
MIC29150	1500	2.25	26	3.3, 5.0, 12	350	22 mA	±1	–	Load Dump, Reverse Current Protection
MIC29151	1500	2.25	26	3.3, 5.0, 12	350	22 mA	±1	–	Load Dump, Reverse Current Protection
MIC29152	1500	2.25	26	Adj.	350	22 mA	±1	–	Load Dump, Reverse Current Protection
MIC37139	1500	2.25	6	1.8, 2.5	500	17 mA	±1	50	Reverse Battery and Current Protection
MIC37150	1500	2.25	6	1.5, 1.65, 1.8, 2.5, 3.3	325	17 mA	±1	45	Reverse Battery and Current Protection
MIC37151	1500	2.25	6	1.5, 1.65, 1.8, 2.5, 3.3	325	17 mA	±1	45	Reverse Battery and Current Protection
MIC37152	1500	2.25	6	Adj.	325	17 mA	±1	45	Reverse Battery and Current Protection
MIC37153	1500	2.25	6	Adj.	325	17 mA	±1	45	Reverse Battery and Current Protection
MIC39150	1500	2.25	16	1.65, 1.8, 2.5	375	17 mA	±1	53	Reverse Battery and Current Protection
MIC39151	1500	2.25	16	1.65, 1.8, 2.5	375	17 mA	±1	53	Reverse Battery and Current Protection
MIC39152	1500	2.25	16	Adj.	375	17 mA	±1	53	Reverse Battery and Current Protection
MIC47150	1500	1.4	6.5	Adj.	280	15 mA	±1	55	Low Dropout
MIC49150	1500	1.4	6.5	0.9, 1.2, 1.5, 1.8, Adj.	280	15 mA	±1	57	Low Dropout
MIC59150	1500	1	3.8	Adj.	100	12.5 mA	±1	60	Ultra Low Dropout
MIC61150	1500	1.1	3.6	1.0, Adj.	75	7.6 mA	±1	50	Ultra Low Dropout, Soft Start
MCP1727	1500	2.3	6	0.8, 1.2, 1.8, 2.5, 3.0, 3.3, 5.0	330	120 μA	±0.5	60	Low Dropout
MCP1827	1500	2.3	6	0.8, 1.2, 1.8, 2.5, 3.0, 3.3, 5.0	330	120 μA	±0.5	60	Low Dropout
MCP1827S	1500	2.3	6	0.8, 1.2, 1.8, 2.5, 3.0, 3.3, 5.0	330	120 μA	±0.5	60	Low Dropout
MIC49200	2000	1.4	6.5	1.0, 1.8, Adj.	400	15 mA	±1	83	Low Dropout
MIC68200	2000	1.65	5.5	1.2, 1.5, 1.8, 2.5, 3.3, Adj.	300	42 mA	±1	60	Low Dropout, Soft Start
MIC37252	2500	3	6	Adj.	550	40 mA	±2	50	Reverse Current Protection
MIC29300	3000	2.25	26	3.3, 5.0, 12	370	37 mA	±1	–	Load Dump, Reverse Current Protection
MIC29301	3000	2.25	26	3.3, 5.0, 12	370	37 mA	±1	–	Load Dump, Reverse Current Protection
MIC29302	3000	2.25	26	Adj.	370	37 mA	±1	–	Load Dump, Reverse Current Protection
MIC29302A	3000	3	16	Adj.	450	60 mA	±1	–	Reverse Battery and Current Protection
MIC29302H	3000	2.25	26	Adj.	370	37 mA	±1	–	Load Dump, Reverse Current Protection
MIC29303	3000	2.25	26	Adj.	370	37 mA	±1	–	Load Dump, Reverse Current Protection
MIC29310	3000	2.3	16	3.3, 5.0	600	60 mA	±1	–	Load Dump, Reverse Current Protection
MIC29312	3000	2.3	16	Adj.	600	60 mA	±1	–	Load Dump, Reverse Current Protection
MIC35302	3000	2.25	6	Adj.	370	20 mA	±1	50	Reverse Battery and Current Protection
MIC37300	3000	2.25	6	1.5, 1.65, 1.8, 2.5, 3.3	300	27 mA	±1	50	Reverse Current Protection
MIC37301	3000	2.25	6	1.5, 1.8, 2.5, 3.3	300	27 mA	±1	50	Reverse Current Protection
MIC37302	3000	2.25	6	Adj.	300	27 mA	±1	50	Reverse Current Protection
MIC37303	3000	2.25	6	Adj.	300	27 mA	±1	50	Reverse Current Protection
MIC39300	3000	2.25	16	1.8, 2.5	385	45 mA	±1	–	Reverse Battery and Current Protection
MIC39301	3000	2.25	16	1.8, 2.5	385	45 mA	±1	–	Reverse Battery and Current Protection
MIC39302	3000	2.25	16	Adj.	385	45 mA	±1	–	Reverse Battery and Current Protection
MIC47300	3000	1.4	6.5	Adj.	230	25 mA	±1	–	Low Dropout
MIC49300	3000	1.4	6.5	0.9, 1.2, 1.5, 1.8, Adj.	280	25 mA	±1	–	Low Dropout
MIC59300	3000	1	3.8	1.2V, Adj.	205	30 mA	±1	65	Low Dropout
MIC61300	3000	1.1	3.6	1.0, Adj.	150	7.6 mA	±1	55	Low Dropout, Soft Start

POWER MANAGEMENT: Single Output Linear Regulators

Part #	Output Current (mA)	V _{IN} Min (V)	V _{IN} Max (V)	V _{OUT} (V)	Voltage Drop Typical (mV)	I _q Typical (μA)	Output Accuracy (%)	PSRR 1 kHz (dB)	Features
MIC69301	3000	1.65	5.5	1.2	275	32 mA	±2	55	Low Dropout
MIC69302	3000	1.65	5.5	Adj.	275	32 mA	±2	55	Low Dropout
MIC69303	3000	1.65	5.5	Adj.	275	32 mA	±2	55	High Current
MIC68400	4000	1.65	5.5	1.8, Adj.	360	90 mA	±2	50	Low Dropout, Soft Start
MIC68401	4000	1.65	5.5	Adj.	360	90 mA	±2	50	Low Dropout, Soft Start
MIC29500	5000	2.25	26	3.3, 5.0, 12	370	70 mA	±1	–	Load Dump, Reverse Current Protection
MIC29501	5000	2.25	26	3.3, 5.0, 12	370	70 mA	±1	–	Load Dump, Reverse Current Protection
MIC29502	5000	2.25	26	Adj.	370	70 mA	±1	–	Load Dump, Reverse Current Protection
MIC29503	5000	2.25	26	Adj.	370	70 mA	±1	–	Load Dump, Reverse Current Protection
MIC29510	5000	2.3	16	3.3, 5.0	700	100 mA	±1	–	Load Dump, Reverse Current Protection
MIC29512	5000	2.3	16	Adj.	700	100 mA	±1	–	Load Dump, Reverse Current Protection
MIC37501	5000	2.3	6	1.5, 1.65, 1.8, 2.5, 3.3	330	57 mA	±1	–	Reverse Current Protection
MIC37502	5000	2.3	6	Adj.	330	57 mA	±1	–	Reverse Current Protection
MIC39500	5000	2.25	16	1.8, 2.5	400	70 mA	±1	30	Reverse Battery and Current Protection
MIC39501	5000	2.25	16	1.8, 2.5	400	70 mA	±1	30	Reverse Battery and Current Protection
MIC49500	5000	1.4	6	0.9, 1.2, Adj.	290	55 mA	±1	75	Low Dropout
MIC69502	5000	1.65	5.5	Adj.	250	54 mA	±1	52	High Current
MIC29712	7500	2.3	16	Adj.	700	250 mA	±2	–	High Current
MIC29751	7500	2.5	26	3.3, 5.0	425	120 mA	±1	–	Load Dump, Reverse Current Protection
MIC29752	7500	2.5	26	Adj.	425	120 mA	±1	–	Load Dump, Reverse Current Protection

POWER MANAGEMENT: Multiple Output Linear Regulators

Part #	Product Type	I _{OUT} #1	I _{OUT} #2	I _{OUT} #3	I _{OUT} #4	V _{IN} Min. (V)	V _{IN} Max. (V)	V _{OUT} (V)	Voltage Drop Typ. (mV)	IGND Typ. (μA)	PSRR (dB)
MIC2210	Dual LDOs	150 mA	300 mA	–	–	2.25	5.5	Please Refer to Datasheet	120/140	48/60 μA	60
MIC2211	Dual LDOs	150 mA	300 mA	–	–	2.25	5.5	Please Refer to Datasheet	120/140	48/60 μA	60
MIC2212	Dual LDOs	150 mA	300 mA	–	–	2.25	5.5	Please Refer to Datasheet	120/140	48/60 μA	60
MIC2213	Dual LDOs	150 mA	300 mA	–	–	2.25	5.5	Please Refer to Datasheet	120/140	48/60 μA	60
MIC2214	Dual LDOs	150 mA	300 mA	–	–	2.25	5.5	Please Refer to Datasheet	120/140	48/60 μA	60
MIC2215	Multi-Channel LDOs	250 mA	250 mA	250 mA	–	2.25	5.5	Please Refer to Datasheet	100	110 μA	70
MIC2219	Dual LDOs	150 mA	300 mA	–	–	2.25	5.5	Please Refer to Datasheet	120	48 μA	60
MIC5202	Dual LDOs	100 mA	100 mA	–	–	2.5	26	Please Refer to Datasheet	225	170 μA	70
MIC5208	Dual LDOs	50 mA	50 mA	–	–	2.5	16	Please Refer to Datasheet	250	180 μA	–
MIC5210	Dual LDOs	150 mA	150 mA	–	–	2.5	16	Please Refer to Datasheet	165	80 μA	70
MIC5211	Dual LDOs	80 mA	80 mA	–	–	2.5	16	Please Refer to Datasheet	250	90 μA	60
MIC5212	Dual LDOs	500 mA	500 mA	–	–	4	16	Please Refer to Datasheet	350	1.5mA	70
MIC5264	Dual LDOs	150 mA	150 mA	–	–	2.7	5.5	Please Refer to Datasheet	210	75 μA	60
MIC5310	Dual LDOs	150 mA	150 mA	–	–	2.3	5.5	Please Refer to Datasheet	35	85 μA	70
MIC5311	Dual LDOs	300 mA	300 mA	–	–	2.5	5.5	Please Refer to Datasheet	120	28 μA	60
MIC5312	Dual LDOs	300 mA	300 mA	–	–	2.5	5.5	Please Refer to Datasheet	120	28 μA	60
MIC5315	Dual LDOs	300 mA	300 mA	–	–	1.7	5.5	Please Refer to Datasheet	85	30 μA	60

POWER MANAGEMENT: Multiple Output Linear Regulators

Part #	Product Type	I _{OUT} #1	I _{OUT} #2	I _{OUT} #3	I _{OUT} #4	V _{IN} Min. (V)	V _{IN} Max. (V)	V _{OUT} (V)	Voltage Drop Typ. (mV)	I _{GND} Typ. (μA)	PSRR (dB)
MIC5316	Dual LDOs	300 mA	300 mA	–	–	1.7	5.5	Please Refer to Datasheet	85	30 μA	60
MIC5320	Dual LDOs	150 mA	150 mA	–	–	2.3	5.5	Please Refer to Datasheet	35	85 μA	60
MIC5321	Dual LDOs	150 mA	150 mA	–	–	2.3	5.5	Please Refer to Datasheet	35	85 μA	70
MIC5322	Dual LDOs	150 mA	150 mA	–	–	2.3	5.5	Please Refer to Datasheet	35	150 μA	70
MIC5330	Dual LDOs	300 mA	300 mA	–	–	2.3	5.5	Please Refer to Datasheet	75	85 μA	70
MIC5331	Dual LDOs	300 mA	300 mA	–	–	2.3	5.5	Please Refer to Datasheet	120	40 μA	60
MIC5332	Dual LDOs	300 mA	300 mA	–	–	2.3	5.5	Please Refer to Datasheet	120	40 μA	60
MIC5333	Dual LDOs	300 mA	300 mA	–	–	2.3	5.5	Please Refer to Datasheet	120	40 μA	60
MIC5335	Dual LDOs	300 mA	300 mA	–	–	2.3	5.5	Please Refer to Datasheet	75	90 μA	60
MIC5338	Dual LDOs	300 mA	300 mA	–	–	2.5	5.5	Please Refer to Datasheet	220	38 μA	50
MIC5339	Dual LDOs	300 mA	300 mA	–	–	2.5	5.5	Please Refer to Datasheet	220	38 μA	50
MIC5350	Dual LDOs	300 mA	500 mA	–	–	2.6	5.5	Please Refer to Datasheet	75/125	95 μA	50
MIC5355	Dual LDOs	500mA	500 mA	–	–	2.5	5.5	Please Refer to Datasheet	350	38 μA	50
MIC5356	Dual LDOs	500mA	500 mA	–	–	2.5	5.5	Please Refer to Datasheet	350	38 μA	50
MIC5357	Dual LDOs	500mA	500 mA	–	–	2.6	5.5	Please Refer to Datasheet	130	95 μA	70
MIC5370	Dual LDOs	150mA	150 mA	–	–	2.3	5.5	Please Refer to Datasheet	155	32 μA	60
MIC5371	Dual LDOs	150mA	150 mA	–	–	2.5	5.5	Please Refer to Datasheet	155	32 μA	60
MIC5373	Multi-Channel LDOs	200mA	200 mA	200 mA	–	1.7	5.5	Please Refer to Datasheet	170	32 μA	50
MIC5374	Multi-Channel LDOs	200 mA	200 mA	200 mA	1 mA	1.7	5.5	Please Refer to Datasheet	170	42 μA	50
MIC5380	Dual LDOs	150 mA	150 mA	–	–	2.5	5.5	Please Refer to Datasheet	155	32 μA	60
MIC5381	Dual LDOs	150 mA	150 mA	–	–	2.5	5.5	Please Refer to Datasheet	155	32 μA	60
MIC5383	Multi-Channel LDOs	200 mA	200 mA	200 mA	–	1.7	5.5	Please Refer to Datasheet	170	32 μA	50
MIC5384	Multi-Channel LDOs	200 mA	200 mA	200 mA	1 mA	1.7	5.5	Please Refer to Datasheet	170	42 μA	50
MIC5385	Multi-Channel LDOs	150 mA	150 mA	150 mA	–	2.5	5.5	Please Refer to Datasheet	180	32 μA	70
MIC5387	Multi-Channel LDOs	150 mA	150 mA	150 mA	–	2.5	5.5	Please Refer to Datasheet	180	32 μA	70
MIC5388	Dual LDOs	200 mA	200 mA	–	–	2.5	5.5	Please Refer to Datasheet	175	32 μA	70
MIC5389	Dual LDOs	200 mA	200 mA	–	–	2.5	5.5	Please Refer to Datasheet	175	32 μA	70
MIC5392	Dual LDOs	150 mA	150 mA	–	–	2.5	5.5	Please Refer to Datasheet	155	57 μA	60
MIC5393	Dual LDOs	150 mA	150 mA	–	–	2.5	5.5	Please Refer to Datasheet	155	57 μA	60
MIC5396	Dual LDOs	300 mA	300 mA	–	–	2.5	5.5	Please Refer to Datasheet	160	37 μA	60
MIC5397	Dual LDOs	300 mA	300 mA	–	–	2.5	5.5	Please Refer to Datasheet	160	37 μA	60
MIC5398	Dual LDOs	300 mA	300 mA	–	–	2.5	5.5	Please Refer to Datasheet	160	37 μA	60
MIC5399	Dual LDOs	300 mA	300 mA	–	–	2.5	5.5	Please Refer to Datasheet	160	37 μA	60
MIC68220	Dual LDOs	2.0A	2.0A	–	–	1.65	5.5	Please Refer to Datasheet	300	15 mA	40
TC1307	Multi-Channel LDOs	150 mA	150 mA	150 mA	150 mA	2.7	6	Please Refer to Datasheet	200	220 μA	60

POWER MANAGEMENT: Multiple Output Linear Regulators

Part #	Product Type	I _{OUT} #1	I _{OUT} #2	I _{OUT} #3	I _{OUT} #4	V _{IN} Min. (V)	V _{IN} Max. (V)	V _{OUT} (V)	Voltage Drop Typ. (mV)	I _{GND} Typ. (μA)	PSRR (dB)
TC1301A	Dual LDOs	300 mA	150 mA	–	–	2.7	6	Please Refer to Datasheet	104	103 μA	50
TC1301B	Dual LDOs	300 mA	150 mA	–	–	2.7	6	Please Refer to Datasheet	104	114 μA	50
TC1302A	Dual LDOs	300 mA	150 mA	–	–	2.7	6	Please Refer to Datasheet	104	103 μA	50
TC1302B	Dual LDOs	300 mA	150 mA	–	–	2.7	6	Please Refer to Datasheet	104	114 μA	50

POWER MANAGEMENT: Linear Regulators – LDO Controller and SIM Card

Part #	Product Type	V _{IN} Min. (V)	V _{IN} Max. (V)	V _{OUT} (V)	I _{GND} Typ. (μA)	V _{REF} (V)	V _{EN} (V)	Internal Charge Pump	External MO
MIC5156	LDO Controllers	3	36	3.3, 5.0, Adj.	2.7	1.235	2.4	–	Y
MIC5157	LDO Controllers	3	36	3.3, 5.0, 12	4.5	1.235	2.4	Yes	Y
MIC5158	LDO Controllers	3	36	5.0, Adj.	4.5	1.235	2.4	Yes	Y
MIC5159	LDO Controllers	1.65	5.5	1.8, 3.0, Adj.	10	1.235	1.2	–	Y
MIC5190	LDO Controllers	0.9	5.5	Adj. down to 0.5V	15	0.5	0.8	–	Y
MIC5191	LDO Controllers	1	5.5	Adj. down to 1.0V	15	1	0.8	–	Y
MIC4555	SIM Card Lvl Shifter with 50 mA LDO	2.7	5.5	1.8, 3.3	41/79	–	–	–	

POWER MANAGEMENT: DDR Termination Regulators

Part #	I _{OUT}	V _{IN} Min. (V)	V _{IN} Max. (V)	V _{OUT} (V)	PWR Good	V _{TT} Accuracy	External Transistor	Sync Buck	Frequency	Features
MIC5162	±7A	1.35	6	1/2 of V _{IN}	–	±5 mV	✓	–	–	
MIC5163	±7A	0.75	6	1/2 of V _{IN}	–	±5 mV	✓	–	–	Low Voltage
MIC5164	±7A	1.35	6	1/2 of V _{IN}	✓	±5 mV	✓	–	–	
MIC5165	±7A	0.75	6	1/2 of V _{IN}	✓	±5 mV	✓	–	–	Low Voltage
MIC5166	±3A	0.9	3.6	1/2 of V _{IN}	✓	±25 mV	–	–	–	DDR 1, 2, 3, 4
MIC5167	±6A	2.6	5.5	Adj. down to 0.35V	✓	±12 mV	–	✓	1 MHz	Integrated Sync Buck

POWER MANAGEMENT: High-Voltage Linear Regulators

Part #	Input to Output Voltage Differential (Min.)	Input to Output Voltage Differential (Max.)	Output Voltage (V)	Max Output Current (mA)	Typical Line Regulation (%/V)	Typical Load Regulation (%/mA)	Features
LR8	12	450	1.2–440	10	0.003	0.15	3-Lead TO-252, 3-Lead
LR12	12	100	1.2–88	50	0.003	0.06	3-Lead TO-252, 8-Lead
LR645	15	450	10	3	0.0001	0.50	8-Lead SOIC, 3-Lead TO
LR745	25	450	20	2	0.0001	0.50	3-Lead TO-92, 3-Lead S

POWER MANAGEMENT: Single Output Switching Regulators (Buck)

Part #	Input Voltage Range (V)	Output Voltage (V)	Operating Junction Temperature Range (°C)	Switching Frequency (kHz)	Output Current (mA)	Features
LX7167A	3.0 to 5.5	0.6 to 3.3	–10 to +85	3000	2400	Skip-mode, UVLO, OV, Power Good
LX7176	3.0 to 5.5	0.6 to 3.3	0 to +85	1650	3000	PWM, 100% Duty Cycle, UVLO, OV, Power Good
LX7176A	3.0 to 5.5	0.6 to 3.3	0 to +85	1650	4000	PFM/PWM, 100% Duty Cycle, UVLO, OV, Power Good
LX7180A	3.0 to 5.5	0.6 to 3.3	0 to +85	1650	4000	I ² C Programmable, Power Save Mode, Power Good
LX7165/7178	3.0 to 5.5	0.6 to 3.3	0 to +85	1875	5000	I ² C Programmable, Power Save Mode, Power Good
LX7219/7220	2.7 to 5.5	0.6 to 3.3	–40 to +85	1200	6000	I ² C Programmable, Power Save Mode, Power Good
MCP1601	2.7 to 5.5	0.9V to V _{IN}	–40 to +85	750	500	UVLO, Auto-switching, LDO
MCP1602	2.7 to 5.5	0.8 to 4.5	–40 to +85	2000	500	PFM, PWM auto-switching, UVLO, soft start, power good indicator
MCP1603	2.7 to 5.5	0.8 to 4.0	–40 to +85	2000	500	Overtemperature and overcurrent protection
MCP1612	2.7 to 5.5	0.8 to 5.5	–40 to +85	1400	1000	Overall efficiency > 94%, Soft start, overtemperature and overcurrent protection
MIC2245	2.7 to 5.5	Adj.	–40 to +125	4,000	500	LDO Standby Mode and Low Q current
MIC23030	2.7 to 5.5	1.0, 1.2, 1.5, 1.8, Adj.	–40 to +125	8,000	400	HyperLight Load [®] mode
MIC23031	2.7 to 5.5	1.0, 1.2, 1.5, 1.8, Adj.	–40 to +125	4,000	400	HyperLight Load mode
MIC23050	2.7 to 5.5	1.0, 1.2, 1.8, 3.3	–40 to +125	4,000	600	HyperLight Load mode
MIC23051	2.7 to 5.5	1–1.2, 1–1.8, 1.15–1.4, 0.95–1.25	–40 to +125	4,000	600	HyperLight Load mode, voltage scaling
MIC23150	2.7 to 5.5	1.0, 1.2, 1.35, 1.8, 3.3	–40 to +125	4,000	2,000	HyperLight Load mode
MIC23153	2.7 to 5.5	1.8, Adj.	–40 to +125	4,000	2,000	Power Good, HyperLight Load mode
MIC23155	2.7 to 5.5	1.8, Adj.	–40 to +125	3,000	2,000	Power Good, HyperLight Load mode
MIC23303	2.7 to 5.5	Adj.	–40 to +125	4,000	3,000	Power Good, HyperLight Load mode
MIC23201	2.7 to 5.5	Adj.	–40 to +125	2,000	2,000	Power Good
MIC2202	2.3 to 5.5	Adj.	–40 to +125	1,600–2,500	600	
MIC2204	2.3 to 5.5	Adj.	–40 to +125	2,000	600	
MIC2267	3 to 5.5	Adj.	–40 to +125	400–1,500	2,000	Power Good
MIC2207	2.7 to 5.5	Adj.	–40 to +125	2,000	3,000	Power Good
MIC2208	2.7 to 5.5	Adj.	–40 to +125	1,000	3,000	Power Good
MIC22200	2.6 to 5.5	Adj.	–40 to +125	800–1,200	3,000	Power Good
MIC22400	2.6 to 5.5	Adj.	–40 to +125	300–4,000	4,000	Power Good
MIC22601	2.6 to 5.5	Adj.	–40 to +125	4,000	6,000	Power Good
MIC22602	2.6 to 5.5	Adj.	–40 to +125	1,000	6,000	Power Good
MIC22700	2.6 to 5.5	Adj.	–40 to +125	1,000	7,000	Power Good
MIC22950	2.6 to 5.5	Adj.	–40 to +125	400–2,000	10,000	Power Good
MCP16311	4.4 to 30.0	2.0 to 24.0	–40 to +125	500	1000	PFM/PWM operation, enable function
MCP16312	4.4 to 30.0	2.0 to 24.0	–40 to +125	500	1000	PWM operation, enable function
MCP16301	4.0 to 30	2.0 to 15	–40 to +85	500	600	Integrated N-channel, UVLO, Soft start, overtemperature protection
MIC24045	4.5 to 19	0.64 to 5.25	–40 to +125	310–1200	5000	I ² C Programmable, 4.5V–19V Input, 5A Step-Down Converter
TC105	2.2 to 10	3.0, 3.3, 5.0	–40 to +85	300	1000	Low power shutdown mode
MIC24046	4.5 to 19	0.7 to 3.3	–40 to +125	400–790	5000	Pin-Programmable, 4.5V–19V Input, 5A Step-Down Converter
MIC24051	4.5 to 19	Adj.	–40 to +125	600	6000	Power Good, Soft Start, Architecture Regulation Scheme
MIC24052	4.5 to 19	Adj.	–40 to +125	600	6000	Power Good, Soft Start, HyperLight Load mode
MIC24053	4.5 to 19	Adj.	–40 to +125	600	9000	Power Good, Soft Start, Architecture Regulation Scheme
MIC24054	4.5 to 19	Adj.	–40 to +125	600	9000	Power Good, Soft Start, HyperLight Load mode
MIC24055	4.5 to 19	Adj.	–40 to +125	600	12000	Power Good, Soft Start, Architecture Regulation Scheme
MIC24056	4.5 to 19	Adj.	–40 to +125	600	12000	Power Good, Soft Start, HyperLight Load mode
MIC26601	4.5 to 28	Adj.	–40 to +125	600	6000	Power Good, Soft Start, Hyper Speed Control [®] architecture
MIC26603	4.5 to 28	Adj.	–40 to +125	600	6000	Power Good, Soft Start, HyperLight Load mode
MIC26603Z	4.5 to 28	Adj.	–40 to +125	600	6000	Power Good, Soft Start, HyperLight Load mode
MIC26901	4.5 to 28	Adj.	–40 to +125	600	9000	Power Good, Soft Start, Hyper Speed Control architecture
MIC26903	4.5 to 28	Adj.	–40 to +125	600	9000	Power Good, Soft Start, HyperLight Load mode
MIC26950	4.5 to 26	Adj.	–40 to +125	300	12000	Soft Start, Architecture Regulation Scheme: Hyper Speed Control architecture, Thermal Shutdown
MIC27600	4.5 to 36	Adj.	–40 to +125	300	7000	Soft Start, Architecture Regulation Scheme: Hyper Speed Control architecture, Thermal Shutdown
MIC4680	4 to 34	3.3, 5.0, Adj.	–40 to +125	200	1,300	
MIC4681	4 to 30	Adj.	–40 to +125	400	2,000	
MIC4682	4 to 34	Adj.	–40 to +125	200	2,000	
MIC4684	4 to 30	Adj.	–40 to +125	200	2,000	
MIC4685	4 to 30	Adj.	–40 to +125	200	3,000	
MCP16331	4.4 to 50	2.0 to 24.0	–40 to +125	500	1000	Integrated N-channel, UVLO, Soft start, Overtemperature Protection

POWER MANAGEMENT: Single Output Switching Regulators (Buck)

Part #	Input Voltage Range (V)	Output Voltage (V)	Operating Junction Temperature Range (°C)	Switching Frequency (kHz)	Output Current (mA)	Features
MIC28510	4.5 to 75	Adj.	–40 to +125	100–500	4000	Soft Start, Architecture Regulation Scheme: Hyper Speed Control architecture, Thermal Shutdown
MIC28511-1	4.6 to 60	Adj.	–40 to +125	200–680	3000	Power Good, Soft Start, HyperLight Load® mode
MIC28511-2	4.6 to 60	Adj.	–40 to +125	200–680	3000	Power Good, Soft Start, Hyper Speed Control architecture
MIC28514	4.5 to 75	0.6 to 32	–40 to +125	270–800	5000	Adj. Soft Start, Power Good, Internal Compensation, Enable, Pre-bias Start Up
MIC28515	4.5 to 75	0.6 to 32	–40 to +125	270–800	5000	Selectable Operating Mode, Power Good, Internal Compensation, Enable, Pre-Bias Start Up
MIC28512-1	4.6 to 70	Adj.	–40 to +125	200–680	2000	Power Good, Soft Start, HyperLight Load mode
MIC28512-2	4.6 to 70	Adj.	–40 to +125	200–680	2000	Power Good, Soft Start, Hyper Speed Control architecture
MIC28513-1	4.6 to 45	Adj.	–40 to +125	200–680	4000	Power Good, Soft Start, Hyper Speed Control architecture
MIC28513-2	4.6 to 45	Adj.	–40 to +125	200–680	4000	Power Good, Soft Start, Hyper Speed Control architecture
MIC4930	2.7 to 5.5	Adj.	–40 to +125	3300	3000	Power Good, Safe Start, Thermal Shutdown and Current Limit
MIC4950	2.7 to 5.5	Adj.	–40 to +125	3300	5000	Power Good, Safe Start, Thermal Shutdown and Current Limit
MIC23350	2.4 to 5.5	0.6 to 3.3	–40 to +125	600–3000	3000	Pin selectable Vout, 100% Duty Cycle, Safe Startup, UVLO, TSD, OCP, Power Good
MIC23356	2.4 to 5.5	0.6 to 3.84	–40 to +125	600–3000	3000	I°C programmable, 100% Duty Cycle, Safe Startup, UVLO, TSD, OCP, Power Good
MIC23650	2.4 to 5.5	0.6 to 3.3	–40 to +125	1000–1400	6000 (pulsed)	Pin selectable Vout, 100% Duty Cycle, Safe Startup, UVLO, TSD, OCP, Power Good
MIC23656	2.4 to 5.5	0.6 to 3.84	–40 to +125	1000–1400	6000 (pulsed)	I°C programmable, 100% Duty Cycle, Safe Startup, UVLO, TSD, OCP, Power Good

POWER MANAGEMENT: Single Output Switching Regulators (Boost)

Part #	Input Voltage Range (V)	Output Voltage (V)	Operating Junction Temperature Range (°C)	Switching Frequency (kHz)	Output Switch Current (mA)	Features
MCP1623/4	0.65 to 5.5	2.0 to 5.5	–40 to +85	500	425	Integrated synchronous boost regulator, 0.65V start-up voltage, soft start, true load disconnect
MCP1642B/D	0.65 to 5.5	1.8 to 5.5	–40 to +85	1000	1800	Integrated synchronous boost regulator, 0.65V start-up voltage, soft start, enable, true load disconnect or input-to-output bypass option
MCP16251/2	0.82 to 5.5	1.8 to 5.5	–40 to +85	500	650	True load disconnect shutdown (MCP16251)/Input to output bypass shutdown (MCP16252)
MCP1640B/C/D	0.65 to 5.5	2.0 to 5.5	–40 to +85	500	800	Integrated synchronous boost regulator, 0.65V start-up voltage, Soft start, True load disconnect or input-to-output bypass option
MCP1643	0.5 to 5.5	0.6 to 5.0	–40 to +85	1000	1600	True load disconnect, Shutdown
MCP1665	2.7 to 5	Up to 32	–40 to +85	500	3600	Pin selectable PWM or PFM/PWM mode
MCP1663/4	2.4 to 5.5	Up to 32	–40 to +85	500	1800	High-efficiency (up to 92%), fixed-frequency, non-synchronous, 300 mV feedback for LED driving (MCP1664)
MCP1661/2	2.4 to 5.5	Up to 32	–40 to +85	500	1300	Non-synchronous, Soft start, Enable, 300 mV feedback for LED driving (MCP1661)
MIC2141	2.2 to 14	Up to 22	–40 to +85	330	1000	Micropower boost converter with control signal input to proportionally adjust output
MIC2619	2.8 to 6.5	Up to 35	–40 to +125	1200	350	1.2 MHz PWM boost converter with OVP
MIC2290	2.5 to 10	Up to 34	–40 to +125	1200	750	2 mm × 2 mm PWM boost regulator with internal Schottky diode
MIC2605/06	4.5 to 20	Up to 40	–40 to +125	1200/2000	500	0.5A, 1.2 MHz/2 MHz wide input range boost with integrated switch and Schottky diode
MIC2145	2.4 to 16	Up to 16	–40 to +85	450	900	High-efficiency 2.5W boost converter
MIC2570/1	1.3 to 15	Up to 36	–40 to +85	20	1100	Two-cell/single-cell switching regulator
MIC2288	2.5 to 10	Up to 34	–40 to +125	1200	1200	1A 1.2 MHz PWM boost converter in Thin SOT-23 and 2 mm × 2 mm MLF
MIC3172	3 to 40	Up to 65	–40 to +85	100	1250	100 kHz 1.25A switching regulators with enable pin
MIC2295/96	2.5 to 10	Up to 34	–40 to +125	1200/600	1200	High power density 1.2A boost regulator
MIC2601/02	4.5 to 20	Up to 40	–40 to +125	1200/2000	1200	1.2A, 1.2 MHz/2 MHz wide input range integrated switch boost regulator
MIC2250/51	2.5 to 5.5	Up to 32/27	–40 to +125	Variable	900	High-efficiency low EMI boost regulator with frequency dithering
MIC2172	3 to 40	Up to 65	–40 to +85	100	1250	100 kHz 1.25A switching regulator with frequency sync

POWER MANAGEMENT: Single Output Switching Regulators (Boost)

Part #	Input Voltage Range (V)	Output Voltage (V)	Operating Junction Temperature Range (°C)	Switching Frequency (kHz)	Output Switch Current (mA)	Features
MIC2253	2.5 to 10	Up to 30	–40 to +125	1000	3500	3.5A 1 MHz high-efficiency boost regulator with OVP and softstart
MIC2171	3 to 40	Up to 65	–40 to +85	100	2500	100 kHz 2.5A switching regulator
MIC2875/76	2.5 to 6	Up to 6	–40 to +125	2000	4800	4.8A ISW, synchronous boost regulator with bi-directional load disconnect
MIC2877	2.5 to 5.5	V _{IN} to 5.5V	–40 to +125	2000	6500	6.5A ISW, synchronous boost regulator with bidirectional load disconnect

POWER MANAGEMENT: Multiple Output Switching Regulators

Part #	Description	Input Voltage Range (V)	Number of Outputs	Output Voltage (V)	Operating Temperature Range (°C)	Control Scheme	Switching Frequency (kHz)	Output Current (mA)	
MIC4742	2 MHz Dual 2A Integrated Switch Buck Regulator	2.9 to 5.5	2	DC/DC: 0.6 to 5.5	–40 to +125	PWM Mode	2000	DC to DC: 2,000/2,000 mA	
MIC4744	4 MHz Dual 2A Integrated Switch Buck Regulator	2.9 to 5.5	2	DC/DC: 0.6 to 5.5	–40 to +125	PWM Mode	4000	DC to DC: 2,000/2,000 mA	
MIC4782	1.8M Hz Dual 2A Integrated Switch	3 to 6	2	DC/DC: 0.6 to 6	–40 to +125	PWM Mode	1800	DC to DC: 2,000/2,000 mA	
MIC2238	2.5 MHz Dual Phase PWM Buck Regulator	2.5 to 5.5	2	DC/DC: 0.8 to 3.3	–40 to +125	PWM Mode	2500	DC to DC: 800/800 mA	Automate of oper
MIC23250	4 MHz Dual Synchronous Buck Regulator	2.7 to 5.5	2	DC/DC: 0.8 to 3.3	–40 to +125	PWM Mode	4000	DC to DC: 400/400 mA	With Hy
MIC23254	4 MHz Dual 400 mA Synchronous Buck Regulator	2.5 to 5.5	2	1.0/1.8	–40 to +125	PWM Mode	4000	DC to DC: 400/400 mA	With Lo Load m
MIC23450	3 MHz, PWM, 2A Triple Buck Regulator	2.7 to 5.5	3	DC/DC: 1.0 to 3.3	–40 to +125	PWM Mode	3000	DC to DC: 2,000/2,000/2,000 mA	With Hy Good
MIC24420	2.5A Dual Output PWM Synchronous Buck Regulator	4.5 to 15	2	DC/DC: 0.7 to 10.5	–40 to +125	PWM Mode	1000	DC to DC: 2,500/2,500 mA	Power phase c
MIC24421	2.5A Dual Output PWM Synchronous Buck Regulator	4.5 to 15	2	DC/DC: 0.7 to 10.5	–40 to +125	PWM Mode	500	DC to DC: 2,500/2,500 mA	Power phase c
MIC25400	2A Dual Output PWM Synchronous Buck Regulator	4.5 to 13.2	2	DC/DC: 0.7 to 9.4	–40 to +125	PWM Mode	1000	DC to DC: 2,000/2,000 mA	180° ou
MIC23158	3 MHz PWM Dual 2A Buck Regulator with Output Auto Discharge + B15	2.7 to 5.5	2	DC/DC: 1 to 3.3	–40 to +125	PWM Mode	3000	DC to DC: 2,000/2,000 mA	HyperL Output
MIC23159	3 MHz PWM Dual 2A Buck Regulator	2.7 to 5.5	2	DC/DC: 1 to 3.3	–40 to +125	PWM Mode	3000	DC to DC: 2,000/2,000 mA	HyperL
MIC23451	3 MHz, 2A Triple Synchronous Buck Regulator	2.7 to 5.5	3	DC/DC: 1 to 3.3	–40 to +125	PWM Mode	3000	DC to DC: 2,000/2,000/2,000 mA	HyperL
MIC2230	Dual Synchronous Step-Down DC/DC Regulator	2.5 to 5.5	2	DC/DC: 0.8 to 3.3	–40 to +125	PWM Mode	2500	DC to DC: 800/800 mA	Power
MIC23060	4 MHz DC/DC Regulator and LDO Regulator	2.7 to 5.5	2	DC/DC Boost: 1.8 to 3.3 DC/DC Buck: 1 to Boost V _{OUT}	–40 to +125	PWM Mode	4000	DC to DC Buck: 600 mA, LDO: 300 mA	Flexible
MIC2225	2 MHz DC/DC Converter with LDO	2.7 to 5.5	2	DC/DC: 1.0 to 4.5 LDO: 0.8 to 3.3	–40 to +125	PWM Mode	2000	DC to DC Buck: 600 mA, LDO: 300 mA	Indepen
MIC23099	Step-Up/Step-Down Regulators with Battery Monitoring	0.85 to 1.6	2	DC/DC: 1.7 to 2.5 LDO: 0.8 to 2.5	–40 to +125	PWM Mode	100 Boost, 1000 Buck	DC to DC Buck: 30mA, DC/DC Boost 200 mA	AA/AAA
MIC2800	2 MHz DC/DC Converter with Two Linear Regulators. POR/Power Good pin and LOWQ Mode	2.7 to 5.5	3	DC/DC: 1.8 to 3.3 LDOs: 0.8 to 3.6	–40 to +125	PWM Mode	2000	DC to DC Buck: 600 mA, LDO: 300/300 mA	POR/P
MIC2810	2 MHz DC/DC Regulator with Two Linear Regulators. LDO1 has a separate V _{IN} pin and can either post-regulate the DC/DC converter or be connect directly to the main input supply. POR/Power Good Pin.	2.7 to 5.5	3	DC/DC: 1.8 to 3.3 LDOs: 0.8 to 3.6	–40 to +125	PWM Mode	2000	DC to DC Buck: 600 mA, LDO: 300/300 mA	LDO1 h either p
MIC2811	2 MHz 600 mA DC/DC Regulators with Triple 300 mA LDOs	2.7 to 5.5	4	LDO1/2 : 0.8 to 3.6 LDO3 : 1.0 to 3.9	–40 to +125	PWM Mode	2000	DC to DC Buck: 600 mA, LDO: 300/300/300 mA	LDO1 a

POWER MANAGEMENT: Multiple Output Switching Regulators

Part #	Description	Input Voltage Range (V)	Number of Outputs	Output Voltage (V)	Operating Temperature Range (°C)	Control Scheme	Switching Frequency (kHz)	Output Current (mA)	
MIC2821	2 MHz 600 mA DC/DC Regulators with Triple 300 mA LDOs	2.7 to 5.5	4	LDO1/2 : 0.8 to 3.6 LDO3 : 1.0 to 3.9	–40 to +125	PWM Mode	2000	DC to DC Buck: 600 mA, LDO: 300/300/300 mA	Indepen
MIC2826	Quad Output PMIC with HyperLight Load Mode DC/DC, Three LDOs and I ² C Control	2.7 to 5.5	4	DC/DC : 0.8 to 1.8 LDOs : 0.8 to 3.3	–40 to +125	PWM Mode	4000	DC to DC Buck: 500 mA, LDO: 150/150/150 mA	I ² C Con 3 LDOs
MIC2827	Triple Output PMIC with HyperLight Load Mode DC-DC, Two LDOs and I ² C Control	2.7 to 5.5	3	DC/DC : 0.8 to 1.8 LDOs : 0.8 to 3.3	–40 to +125	PWM Mode	4000	DC to DC Buck: 500 mA, LDO: 150/150 mA	I ² C Con 3 LDOs
MIC7400	Configurable Five-Channel Buck Regulator Plus One-Boost	2.4 to 5.5	6	Bucks: 0.8 to 3.3 (Configurable) Boost: 7.0 to 14.0 (Configurable)	–40 to +125	PWM Mode	2000 Boost, 1300 Bucks	DC to DC Bucks: 3,000 mA, DC/DC Boost 200 mA	Highly i five buc and glo
MIC7401	Configurable Five-Channel Buck Regulator Plus One-Boost with HyperLight Load mode, I ² C Control, and Enable	2.4 to 5.5	6	Bucks : 0.8 to 3.3 (Configurable) Boost : 7.0 to 14.0 (Configurable)	–40 to +125	PWM Mode	2000 Boost, 1300 Bucks	DC to DC Bucks: 3,000 mA, DC/DC Boost 200 mA	Highly i buck re power g

POWER MANAGEMENT: Combination Switching Regulators

Part #	Description	Input Voltage Range (V)	Output Voltage (V)	Operating Temp. Range (°C)	Control Scheme	Switching Frequency (kHz)	Typical Active Current (mA)	Output Current (mA)	
TC1303	Synchronous Buck Regulator, LDO with Power Good	2.7 to 5.5	DC/DC: 0.8 to 4.5 LDO: 1.5 to 3.3	–40 to +85	PFM/PWM	2000	65/600	DC/DC: 500 mA LDO: 300 mA	PFM/P Power
TC1304	Synchronous Buck Regulator, LDO	2.7 to 5.5	DC/DC: 0.8 to 4.5 LDO: 1.5 to 3.3	–40 to +85	PFM/PWM	2000	65/600	DC/DC: 500 mA LDO: 300 mA	PFM/P Power
TC1313	Synchronous Buck Regulator, LDO	2.7 to 5.5	DC/DC: 0.8 to 4.5 LDO: 1.5 to 3.3	–40 to +85	PFM/PWM	2000	65/600	DC/DC: 500 mA LDO: 300 mA	PFM/P

POWER MANAGEMENT: Inductorless Offline Switching Regulators

Part #	V _{IN} (V _{AC})	Adjustable V _{OUT} (V)	Fixed V _{OUT} (V)	I _{OUT} Max. (mA)	Load Regulation
SR086	80–285	9.0–50	3.3	100	0.025
SR087	80–285	9.0–50	5	100	0.017
SR10	80–285	6.0–28	6.0, 12, 24	60	–

POWER MANAGEMENT: PWM Controllers

Part #	Supported Topologies	Supported Outputs	Input Voltage Range (V)	Output Voltage (V)	Operating Frequency (Hz)	Operating Temp. Range (°C)	Features
MIC2101	Sync. Buck	1	4.5 to 38	0.8 to 24	200k to 600k	–40 to +125	HyperLight Load®mode, External Clock Sync, Power Good, Soft Start, Internal Compensation and Voltage Bias
MIC2102	Sync. Buck	1	4.5 to 38	0.8 to 24	200k to 600k	–40 to +125	Power Good, Soft Start, Internal Compensation and Voltage Bias
MIC2103	Sync. Buck	1	4.5 to 75	0.8 to 24	200k to 600k	–40 to +125	HyperLight Load mode, External Clock sync, Power Good, Soft Start, Internal Compensation and Voltage Bias
MIC2104	Sync. Buck	1	4.5 to 75	0.8 to 24	200k to 600k	–40 to +125	Power Good, Soft Start, Internal Compensation and Voltage Bias
MIC2111B	Sync. Buck	1	3.3 to 5.5	0.6 to 3.64	200k to 2M	–40 to +125	Power Good, Soft Start, Internal Voltage Bias, Enable Pin, Current Limit/Short Circuit Protection
MIC2124	Sync. Buck	1	3.0 to 18	0.8 to 12	300k	–40 to +125	Soft Start, Internal Voltage Bias
MIC2130	Sync. Buck	1	8.0 to 40	0.7 to 24	150k or 400k	–40 to +125	Power Good, Soft Start, Internal Voltage Bias
MIC2131	Sync. Buck	1	8.0 to 40	0.7 to 24	150k or 400k	–40 to +125	Power Good, Soft Start, Internal Voltage Bias
MIC2150	Sync. Buck	2	4.5 to 14.5	0.7 to 5.5	500k	–40 to +125	Power Good, Soft Start, Internal Voltage Bias
MIC2151	Sync. Buck	2	4.5 to 14.5	0.7 to 5.5	300k	–40 to +125	Power Good, Soft Start, Internal Voltage Bias
MIC2155	Sync. Buck	1	4.5 to 14.5	0.7 to 3.6	500k	–40 to +125	External Clock Sync, Power Good, Soft Start
MIC2164	Sync. Buck	1	3.0 to 28	0.8 to 5.5	300k, 600k, 1M	–40 to +125	Soft Start, Internal Compensation and Voltage Bias
MIC2164C	Sync. Buck	1	3.0 to 28	0.8 to 5.5	270k	–40 to +125	Soft Start, Internal Compensation and Voltage Bias
MIC2165	Sync. Buck	1	4.5 to 28	0.8 to 5.5	600k	–40 to +125	Hyper Speed Control® architecture, Power Good, Soft Start, Internal Voltage Bias
MIC2166	Sync. Buck	1	4.5 to 28	0.8 to 5.5	600k	–40 to +125	Power Good, Soft Start, Internal Compensation and Voltage Bias
MIC2168	Sync. Buck	1	3.0 to 14.5	0.8 to 5.5	1.0M	–40 to +125	Soft Start, Internal Compensation and Voltage Bias
MIC2169	Sync. Buck	1	3.0 to 14.5	0.8 to 5.5	500k	–40 to +125	Soft Start, Internal Voltage Bias
MIC2169A	Sync. Buck	1	3.0 to 14.5	0.8 to 5.5	500k	–40 to +125	Soft Start, Internal Voltage Bias
MIC2169B	Sync. Buck	1	3.0 to 14.5	0.8 to 5.5	500k	–40 to +125	Soft Start, Internal Voltage Bias
MIC2176	Sync. Buck	1	4.5 to 75	0.8 to 24	100k, 200k, or 300k	–40 to +125	Soft Start, Internal Compensation and Voltage Bias
MIC2182	Sync. Buck	1	4.5 to 32	1.25 to 6.0	300k	–40 to +85	Skip Mode, External Clock Sync, Soft Start, Internal Voltage Bias
MIC2183	Sync. Buck	1	2.9 to 14	1.3 to 12	200k/400k	–40 to +125	External Clock Sync, Soft Start, Internal Voltage Bias
MIC2125	Sync. Buck	1	4.5 to 28	0.6 to 24	200k to 750k	–40 to +125	HyperLight Load mode, Power Good, Soft Start (7 ms), Internal Voltage Bias, Enable Pin, Current Limit/Short Circuit Protection
MIC2126	Sync. Buck	1	4.5 to 28	0.6 to 24	200k to 750k	–40 to +125	Power Good, Soft Start (7 ms), Internal Voltage Bias, Enable Pin, Current Limit/Short Circuit Protection
MIC2128	Sync. Buck	1	4.5 to 75	0.6 to 30	200k to 800k	–40 to +125	Programmable soft-start/frequency/current-limit, Internal compensation and voltage bias
MIC2127A	Sync. Buck	1	4.5 to 75	0.6 to 30	200k to 800k	–40 to +125	Light load operation, Programmable frequency, Current Limit, Switching over LDO
MIC2184	Async. Buck	1	2.9 to 14	1.3 to 12	200k/400k	–40 to +125	External Clock Sync, Soft Start, Internal Voltage Bias
MIC2185	Boost, SEPIC, Ćuk	1	2.9 to 14	3.3 to 5.5	200k/400k	–40 to +85	Skip Mode, External Clock Sync, Soft Start, Internal Voltage Bias
MIC2186	Boost, SEPIC, Flyback	1	2.9 to 14	3.3 to 5.5	100/200/400k	–40 to +85	Skip Mode, External Clock Sync, Soft Start, Internal Voltage Bias
MIC2193	Sync. Buck	1	2.9 to 14	3.3 to 5.5	400k	–40 to +125	Internal Voltage Bias, UVLO
MIC2194	Async. Buck	1	2.9 to 14	3.3 to 5.5	400k	–40 to +125	Internal voltage Bias, UVLO, Current Limit/Short Circuit Protection
MIC2196	Boost, SEPIC	1	2.9 to 14	3.3 to 5.5	400k	–40 to +125	Internal voltage Bias, UVLO, Current Limit/Short Circuit Protection
MIC2198	Sync. Buck	1	4.5 to 32	0.8 to 6.0	500k	–40 to +125	Internal voltage Bias, UVLO, Current Limit/Short Circuit Protection
MIC2199	Buck	1	4.5 to 32	0.8 to 6.0	300k	–40 to +125	Internal voltage Bias, UVLO, Current Limit/Short Circuit Protection
MIC3808	Push-Pull, Half Bridge, Full Bridge	1	8.3 to 15	–	Adj. to 1M	–40 to +85	Soft Start, Internal Voltage Bias, UVLO, Current Limit/Short Circuit Protection
MIC3809	Push-Pull, Half Bridge, Full Bridge	1	4.1 to 15	–	Adj. to 1M	–40 to +85	Soft Start, Internal Voltage Bias, UVLO, Current Limit/Short Circuit Protection
MIC3838	Push-Pull, Half Bridge, Full Bridge	1	8.3 to 15	–	Adj. to 1M	–40 to +85	Soft Start, Internal Voltage Bias, UVLO, Current Limit/Short Circuit Protection
MIC3839	Push-Pull, Half Bridge, Full Bridge	1	4.1 to 15	–	Adj. to 1M	–40 to +85	Soft Start, Internal Voltage Bias, UVLO, Current Limit/Short Circuit Protection
MIC38C42	Forward, Flyback	1	15.5 to 20	–	Adj. to 500k	–40 to +85	Forward, Flyback Supported Topologies

POWER MANAGEMENT: PWM Controllers							
Part #	Supported Topologies	Supported Outputs	Input Voltage Range (V)	Output Voltage (V)	Operating Frequency (Hz)	Operating Temp. Range (°C)	Features
MIC38C43	Forward, Flyback	1	9.0 to 20	–	Adj. to 500k	–40 to +85	Forward,Flyback Supported Topologies
MIC38C44	Forward, Flyback	1	15.5 to 20	–	Adj. to 500k	–40 to +85	Forward,Flyback Supported Topologies
MIC38C45	Forward, Flyback	1	9.0 to 20	–	Adj. to 500k	–40 to +85	Forward,Flyback Supported Topologies
MIC38HC42	Forward, Flyback	1	15.5 to 20	–	Adj. to 500k	–40 to +85	Forward,Flyback Supported Topologies
MIC38C43	Forward, Flyback	1	9.0 to 20	–	Adj. to 500k	–40 to +85	Forward,Flyback Supported Topologies
MIC38C44	Forward, Flyback	1	15.5 to 20	–	Adj. to 500k	–40 to +85	Forward,Flyback Supported Topologies
MIC38C45	Forward, Flyback	1	9.0 to 20	–	Adj. to 500k	–40 to +85	Forward,Flyback Supported Topologies
MIC38HC42	Forward, Flyback	1	15.5 to 20	–	Adj. to 500k	–40 to +85	Forward,Flyback Supported Topologies
MIC38HC44	Forward, Flyback	1	15.5 to 20	–	Adj. to 500k	–40 to +85	Forward,Flyback Supported Topologies
MIC38HC45	Forward, Flyback	1	9.0 to 20	–	Adj. to 500k	–40 to +85	Forward,Flyback Supported Topologies
MIC9130	Forward, Flyback	1	9.0 to 180	–	Adj. to 1.5M	–40 to +125	Forward,Flyback Supported Topologies, External Clock Sync
MIC9131	Forward, Flyback	1	9.0 to 180	–	Adj. to 1M	–40 to +125	Forward,Flyback Supported Topologies, External Clock Sync
MCP1630	Flyback, Boost, SEPIC, Ćuk	1	3.0 to 5.5	–	Sync. to 1M	–40 to +125	External Clock Sync, Current Limit/Short Circuit Protection
MCP1630V	Flyback, Boost, SEPIC, Ćuk	1	3.0 to 5.5	–	Sync. to 1M	–40 to +125	External Clock Sync, Current Limit/Short Circuit Protection
MCP1631	Flyback, Boost, SEPIC, Ćuk	1	3.0 to 5.5	–	Sync. to 2M	–40 to +125	External Clock Sync, Current Limit/Short Circuit Protection
MCP1631V	Flyback, Boost, SEPIC, Ćuk	1	3.0 to 5.5	–	Sync. to 2M	–40 to +125	External Clock Sync, Current Limit/Short Circuit Protection
MCP1631HV	Flyback, Boost, SEPIC, Ćuk	1	3.5 to 16	–	Sync. to 2M	–40 to +125	External Clock Sync, Current Limit/Short Circuit Protection
MCP1631VHV	Flyback, Boost, SEPIC, Ćuk	1	3.5 to 16	–	Sync. to 2M	–40 to +125	External Clock Sync, Current Limit/Short Circuit Protection
MCP1632	Flyback, Boost, SEPIC, Ćuk	1	3.0 to 6	–	300k/600k	–40 to +125	Soft Start, Internal Voltage Bias, UVLO, Current Limit/Short Circuit Protection
MCP19035	Sync. Buck	1	4.5 to 30	–	300k/600k	–40 to +125	Power Good, Soft Start, Internal Voltage Bias, UVLO, Current Limit/Short Circuit Protection

POWER MANAGEMENT: Hybrid PWM Controllers – Digitally Enhanced Power Analog

Part #	Input Voltage Range (V)	Output Voltage (V)	Topologies Supported	Channels	Program Memory Size (kWords)	RAM (bytes)	GPIO	Product features integrated MCU, LDO, MOSFET drivers, 10-user-configurable operation and:
MCP19110	4.5 to 32	0.5 to 90% * V _{IN}	Sync. Buck	1	4	256	11	Configurable and dynamically changeable internal analog compensation
MCP19111	4.5 to 32	0.5 to 90% * V _{IN}	Sync. Buck	1	4	256	14	Configurable and dynamically changeable internal analog compensation interface
MCP19114	4.5 to 42	Dependent on topology	Boost, Flyback, SEPIC, Ćuk	1	4	256	8	Excellent regulation for constant current applications
MCP19115	4.5 to 42	Dependent on topology	Boost, Flyback, SEPIC, Ćuk	1	4	256	12	Excellent regulation for constant current applications and a debug interface
MCP19116	4.5 to 42	Dependent on topology	Boost, Flyback, SEPIC, Ćuk	1	8	336	8	Improved current regulation accuracy, additional code space (compare MCP19115)
MCP19117	4.5 to 42	Dependent on topology	Boost, Flyback, SEPIC, Ćuk	1	8	336	12	Improved current regulation accuracy, additional code space (compare MCP19115) and a debug interface
MCP19118	4.5 to 40	0.5 to 90% * V _{IN}	Sync. Buck	1	4	256	11	Configurable and dynamically changeable internal analog compensation
MCP19119	4.5 to 40	0.5 to 90% * V _{IN}	Sync. Buck	1	4	256	14	Configurable and dynamically changeable internal analog compensation interface
MCP19122	4.5 to 40	0.3 to 16	Sync. Buck	1	4	256	12	Emulated average current mode control, programmable gain feedback operation, improved regulation accuracy and current measurement accuracy (compare MCP19110/1/8/9)
MCP19123	4.5 to 40	0.3 to 16	Sync. Buck	1	4	256	16	Emulated average current mode control, programmable gain feedback operation, improved regulation accuracy and current measurement accuracy (compare MCP19110/1/8/9) and a debug interface
MCP19124	4.5 to 42	Dependent on topology	Boost, Flyback, SEPIC, Ćuk	1	4	256	8	Dual independent voltage and current control loops allow seamless transition from voltage to constant current regulation
MCP19125	4.5 to 42	Dependent on topology	Boost, Flyback, SEPIC, Ćuk	1	4	256	12	Dual independent voltage and current control loops allow seamless transition from voltage to constant current regulation and a debug interface
MCP19214	4.5 to 42	Dependent on topology	Boost, Flyback, SEPIC, Ćuk	2	8	336	8	Dual channels, which can be configured to control two outputs, or one output and a debug interface
MCP19215	4.5 to 42	Dependent on topology	Boost, Flyback, SEPIC, Ćuk	2	8	336	12	Dual channels, which can be configured to control two outputs, or one output and a debug interface

POWER MANAGEMENT: Power Modules

Part #	Input Voltage Range (V)	Output Voltage (V)	Operating Temp. Range (°C)	Control Scheme	Switching Frequency (kHz)	V _{out} Max. (V)	Output Current (A)	Features
MIC28304-1	4.5 to 70	Adj.	-40 to +125	COT	600	24	3	HyperLight Load® Mode, Power Good, Soft Start
MIC28304-2	4.5 to 70	Adj.	-40 to +125	COT	600	24	3	Hyper Speed Control® Architecture, Power Good, Soft Start
MIC45205-1	4.5 to 26	Adj.	-40 to +125	COT	200–600	5.5	6	HyperLight Load Mode, Power Good, Soft Start
MIC45205-2	4.5 to 26	Adj.	-40 to +125	COT	200–600	5.5	6	Hyper Speed Control Architecture, Power Good, Soft Start
MIC45208-1	4.5 to 26	Adj.	-40 to +125	COT	200–600	5.5	10	HyperLight Load Mode, Power Good, Soft Start
MIC45208-2	4.5 to 26	Adj.	-40 to +125	COT	200–600	5.5	10	Hyper Speed Control Architecture, Power Good, Soft Start
MIC45212-1	4.5 to 26	Adj.	-40 to +125	COT	200–600	5.5	14	HyperLight Load Mode, Power Good, Soft Start
MIC45212-2	4.5 to 26	Adj.	-40 to +125	COT	200–600	5.5	14	Hyper Speed Control Architecture, Power Good, Soft Start
MIC33030	2.7 to 5.5	1.2, 1.8, Adj.	-40 to +125	PWM	8,000	3.6	0.4	HyperLight Load Mode
MIC33050	2.7 to 5.5	1.0, 1.2, 1.8, 3.3, Adj.	-40 to +125	PWM	4,000	3.3	0.6	HyperLight Load Mode
MIC33153	2.7 to 5.5	1.2, Adj.	-40 to +125	PWM	4,000	3.6	1.2	HyperLight Load Mode, Power Good, Soft Start
MIC3385	2.7 to 5.5	1.5, Adj.	-40 to +125	PWM	8,000	5.5	0.6	LowQ
MIC33M650	2.4 to 5.5	Pin Selectable	-40 to +125	COT	1000–2500	3.84	6	HyperLight Load, Meet CISPR 32 class B specifications
MIC33M656	2.4 to 5.5	I ² C Configurable	-40 to +125	COT	1000–2500	3.84	6	HyperLight Load, Meet CISPR 32 class B specifications
MIC28303-1	4.5 to 50	Adj.	-40 to +125	COT	600	24	3	HyperLight Load Mode, Power Good, Soft Start
MIC28303-2	4.5 to 50	Adj.	-40 to +125	COT	600	24	3	Hyper Speed Control Architecture, Power Good, Soft Start
MIC45116-1	4.5 to 20	Adj.	-40 to +125	COT	600	17	6	HyperLight Load Mode, Power Good, Soft Start
MIC45116-2	4.5 to 20	Adj.	-40 to +125	COT	600	17	6	Hyper Speed Control Architecture, Power Good, Soft Start
MIC45404	4.5 to 19	Selectable	-40 to +125	Fixed	400–790	3.3	5	Power Good, Soft Start

POWER MANAGEMENT: Charge Pump DC-to-DC Converters

Part #	Configuration	Input Voltage Range (V)	Output Voltage (V)	Typical Output Current (mA)	Switching Frequency (kHz)	Supply Current (I _s , floating output μ A, 25°C)	Output Resistance (Ω , at typical output current, 25°C)	Power Conversion Efficiency (%)	Features
Inverting or Doubling Charge Pumps									
TC682	Inverted doubling	2.4 to 5.5	$-2 \times V_{IN}$	10	12	185	140	92% at 2.5 mA	–
TC1240A	Doubling	2.5 to 5	$2 \times V_{IN}$	20	80	550	12	94% at 5 mA	Shutdown
TC7660S	Inverting or doubling	1.5 to 12	$-V_{IN}$ or $2 \times V_{IN}$	20	10 or 45	80	60	98% at 1 mA	Boost pin increases switch
TC7660H	Inverting or doubling	1.5 to 10	$-V_{IN}$ or $2 \times V_{IN}$	20	120	1000	55	85% at 10 mA	High-voltage oscillator
TC7662B	Inverting or doubling	1.5 to 15	$-V_{IN}$ or $2 \times V_{IN}$	20	10 or 35	80	65	96% at 1 mA	Boost pin increases switch
TC7662A	Inverting or doubling	3 to 18	$-V_{IN}$ or $2 \times V_{IN}$	40	12	190	50	97% at 7.5 mA	No low-voltage terminal
TC962	Inverting or doubling	3 to 18	$-V_{IN}$ or $2 \times V_{IN}$	80	12 or 24	190	35	97% at 7.5 mA	Boost pin increases switch
Regulated Charge Pumps									
MCP1256	Regulated	1.8 to 3.6	3.3	100	650	2300	N/A	85% at 50 mA	Soft start, shutdown, power good, and sleep mode
MCP1257	Regulated	1.8 to 3.6	3.3	100	650	2300	N/A	85% at 50 mA	Soft start, shutdown, power good, signal, and sleep mode
MCP1258	Regulated	1.8 to 3.6	3.3	100	650	2300	N/A	85% at 50 mA	Soft start, shutdown, power good, and bypass mode
MCP1259	Regulated	1.8 to 3.6	3.3	100	650	2300	N/A	85% at 50 mA	Soft start, shutdown, power good, signal, and bypass mode
MCP1252	Regulated	2.0 to 5.5	3.3, 5.0, or adjustable	150	650	60	N/A	81% at 10 mA	Shutdown, power good, adjustable version
MCP1253	Regulated	2.0 to 5.5	3.3, 5.0, or adjustable	150	1000	60	N/A	81% at 10 mA	Shutdown, power good, adjustable version

POWER MANAGEMENT: CPU/System Supervisors

Part #	Type	Watchdog Timer	Manual Reset	Power Fail	Operating Temp. Range (°C)	V _{CC} Range (V)	Nominal Reset Voltage (V)	Reset Type	Output	Typical Reset Pulse Width (ms)
MCP100	Supervisor	–	–	–	–40 to +85	1.0–5.5	2.7, 3, 3.15, 4.5, 4.6, 4.75, 4.85	Active Low	Push-Pull	350
MCP101	Supervisor	–	–	–	–40 to +85	1.0–5.5	2.7, 3, 3.15, 4.5, 4.6, 4.75, 4.85	Active High	Push-Pull	350
MCP102	Supervisor	–	–	–	–40 to +125	1.0–5.5	1.95 (I-Temp), 2.4, 2.7, 3, 3.15, 4.5, 4.75	Active Low	Push-Pull	120
MCP103	Supervisor	–	–	–	–40 to +125	1.0–5.5	1.95 (I-Temp), 2.4, 2.7, 3, 3.15, 4.5, 4.75	Active Low	Push-Pull	120
MCP120	Supervisor	–	–	–	–40 to +85	1.0–5.5	2.7, 3, 3.15, 4.5, 4.6, 4.75, 4.85	Active Low	Open-Drain	350
MCP121	Supervisor	–	–	–	–40 to +125	1.0–5.5	1.95 (I-Temp), 2.4, 2.7, 3, 3.15, 4.5, 4.75	Active Low	Open-Drain	120
MCP130	Supervisor	–	–	–	–40 to +85	1.0–5.5	2.7, 3, 3.15, 4.5, 4.6, 4.75, 4.85	Active Low	Open-Drain	350
MCP131	Supervisor	–	–	–	–40 to +125	1.0–5.5	1.95 (I-Temp), 2.4, 2.7, 3, 3.15, 4.5, 4.75	Active Low	Open-Drain	120
MCP1316	Supervisor	✓	✓	–	–40 to +125	1.0–5.5	2.9, 4.6, (2.0–2.4V=I-Temp, 2.4–4.7=Ext)	Active Low	Push-Pull	200
MCP1316M	Supervisor	✓	✓	–	–40 to +125	1.0–5.5	2.9, 4.6, (2.0–2.4V=I-Temp, 2.4–4.7=Ext)	Active Low	Open-Drain	200
MCP1317	Supervisor	✓	✓	–	–40 to +125	1.0–5.5	2.9, 4.6, (2.0–2.4V=I-Temp, 2.4–4.7=Ext)	Active High	Push-Pull	200
MCP1318	Supervisor	✓	–	–	–40 to +125	1.0–5.5	2.9, 4.6, (2.0–2.4V=I-Temp, 2.4–4.7=Ext)	Active Low/High or High/Low	Dual Output Open-Drain and/or Push-Pull	200

POWER MANAGEMENT: CPU/System Supervisors (Continued)

Part #	Type	Watchdog Timer	Manual Reset	Power Fail	Operating Temp. Range (°C)	V _{CC} Range (V)	Nominal Reset Voltage (V)	Reset Type	Output	Typical Reset Pulse Width (ms)
MCP1318M	Supervisor	✓	–	–	–40 to +125	1.0–5.5	2.9, 4.6, (2.0–2.4V=I-Temp, 2.4–4.7=Ext)	Active Low/High or High/Low	Dual Output Open-Drain and/or Push-Pull	200
MCP1319	Supervisor	–	✓	–	–40 to +125	1.0–5.5	2.9, 4.6, (2.0–2.4V=I-Temp, 2.4–4.7=Ext)	Active Low/High or High/Low	Dual Output Open-Drain and/or Push-Pull	200
MCP1319M	Supervisor	–	✓	–	–40 to +125	1.0–5.5	2.9, 4.6, (2.0–2.4V=I-Temp, 2.4–4.7=Ext)	Active Low/High or High/Low	Dual Output Open-Drain and/or Push-Pull	200
MCP1320	Supervisor	✓	✓	–	–40 to +125	1.0–5.5	2.9, 4.6, (2.0–2.4V=I-Temp, 2.4–4.7=Ext)	Active Low	Open-Drain	200
MCP1321	Supervisor	✓	–	–	–40 to +125	1.0–5.5	2.9, 4.6, (2.0–2.4V=I-Temp, 2.4–4.7=Ext)	Active Low/High or High/Low	Dual Output Open-Drain and/or Push-Pull	200
MCP1322	Supervisor	–	✓	–	–40 to +125	1.0–5.5	2.9, 4.6, (2.0–2.4V=I-Temp, 2.4–4.7=Ext)	Active Low/High or High/Low	Dual Output Open-Drain and/or Push-Pull	200
MCP809	Supervisor	–	–	–	–40 to +85	1.0–5.5	2.7, 3.0, 3.15, 4.5, 4.6, 4.75, 4.85	Active Low	Push-Pull	350
MCP810	Supervisor	–	–	–	–40 to +85	1.0–5.5	2.7, 3.0, 3.15, 4.5, 4.6, 4.75, 4.85	Active High	Push-Pull	350
TC1232	Supervisor	✓	✓	–	–40 to +85	4.5–5.5	4.5, 4.75	Active Low/High or High/Low	Dual Output Open-Drain and/or Push-Pull	610
TC1270A	Supervisor	–	✓	–	–40 to +125	1.0–5.5	2.7, 3, 3.15, 4.5, 4.75	Active Low	Push-Pull	280
TC1270AN	Supervisor	–	✓	–	–40 to +125	1.0–5.5	2.7, 3, 3.15, 4.5, 4.75	Active Low	Open-Drain	280
TC1271A	Supervisor	–	✓	–	–40 to +125	1.0–5.5	2.7, 3, 3.15, 4.5, 4.75	Active High	Push-Pull	280
TC1272A	Supervisor	–	–	–	–40 to +125	1.0–5.5	4.50, 4.25, 3.89, 3.00, 2.85, 2.55, 2.25	Active Low	Push-Pull	140
TC32M	Supervisor	✓	–	–	–40 to +85	4.5–5.5	4.25	Active Low	Open-Drain	500
TCM809	Supervisor	–	–	–	–40 to +125	1.0–5.5	4.50, 4.25, 3.89, 3.00, 2.85, 2.55, 2.25	Active Low	Push-Pull	140
TCM810	Supervisor	–	–	–	–40 to +125	1.0–5.5	4.50, 4.25, 3.89, 3.00, 2.85, 2.55, 2.25	Active High	Push-Pull	140
MIC705	Supervisor	✓	✓	✓	–40 to +85	1.5–5.5	4.65	Active Low	Push-Pull	140
MIC706	Supervisor	✓	✓	✓	–40 to +85	1.5–5.5	4.4	Active Low	Push-Pull	140
MIC707	Supervisor	–	–	✓	–40 to +85	1.5–5.5	4.65	Active Low/High or High/Low	Push-Pull	140
MIC708	Supervisor	–	–	✓	–40 to +85	1.5–5.5	4.4	Active Low/High or High/Low	Push-Pull	140
MIC803	Supervisor	–	–	–	–40 to +125	1.0–5.5	2.63, 2.93, 3.00, 3.08, 4.00, 4.10, 4.38, 4.63	Active Low	Open-Drain	20/140/1100
MIC809	Supervisor	–	–	–	–40 to +85	1.4–5.5	2.63, 2.93, 3.08, 4.00, 4.38, 4.63	Active Low	Push-Pull	140
MIC809-5	Supervisor	–	✓	–	–40 to +125	1.4–5.5	2.93	Active Low	Push-Pull	30
MIC810	Supervisor	–	–	–	–40 to +85	1.4–5.5	2.63, 2.93, 3.08, 4.00, 4.38, 4.63	Active Low/High or High/Low	Push-Pull	140
MIC811	Supervisor	–	✓	–	–40 to +85	1.4–5.5	2.63, 2.93, 3.08, 4.00, 4.38, 4.63	Active Low	Push-Pull	140
MIC812	Supervisor	–	✓	–	–40 to +85	1.4–5.5	2.63, 2.93, 3.08, 4.00, 4.38, 4.63	Active Low/High or High/Low	Push-Pull	140
MIC1810	Supervisor	–	–	–	–40 to +85	1.5–5.5	4.12, 4.37, 4.62	Active Low	Push-Pull	100
MIC1815	Supervisor	–	–	–	–40 to +85	1.5–5.5	2.55, 2.88	Active Low	Push-Pull	100
MIC1232	Supervisor	✓	–	–	–40 to +85	4.5–5.5	4.37, 4.62	Active Low/High or High/Low	Push-Pull	250
MIC1832	Supervisor	✓	✓	–	–40 to +85	1.4–5.5	2.55, 2.88	Active Low/High or High/Low	Push-Pull	250
MIC2755	Supervisor	–	✓	–	–40 to +85	1.5–5.5	1.24	Active Low	Open-Drain	700
MIC2775	Supervisor	–	✓	–	–40 to +85	1.5–5.5	1.69, 2.25, 2.34, 2.53, 2.67, 2.81, 2.93, 3.09, 4.43, 4.68	Active Low/High or High/Low	Push-Pull	140
MIC2776N	Supervisor	–	✓	–	–40 to +85	1.5–5.5	0.3	Active Low	Open-Drain	140

POWER MANAGEMENT: CPU/System Supervisors (Continued)

Part #	Type	Watchdog Timer	Manual Reset	Power Fail	Operating Temp. Range (°C)	Vcc Range (V)	Nominal Reset Voltage (V)	Reset Type	Output	Typical Reset Pulse Width (µs)
MIC2776H	Supervisor	–	✓	–	–40 to +85	1.5–5.5	0.3	Active High	Push-Pull	140
MIC2776L	Supervisor	–	✓	–	–40 to +85	1.5–5.5	0.3	Active Low	Push-Pull	140
MIC2778	Supervisor	–	–	–	–40 to +85	1.5–5.5	1.24 with adjustable hysteresis	Active Low	Open-Drain	140
MIC2779H	Supervisor	–	–	–	–40 to +85	1.5–5.5	1.24 with adjustable hysteresis	Active High	Push-Pull	140
MIC2779L	Supervisor	–	–	–	–40 to +85	1.5–5.5	1.24 with adjustable hysteresis	Active Low	Push-Pull	140
MIC2785	Supervisor	–	✓	–	–40 to +85	1.5–5.5	1.62	Active Low	Push-Pull	0.025
MIC6315	Supervisor	–	✓	–	–40 to +85	1.4–5.5	2.63, 2.93, 3.00, 3.08, 4.00, 4.10, 4.38, 4.63	Active Low	Open-Drain	20/140/1100
MIC8114	Supervisor	–	✓	–	–40 to +85	1.0–5.5	3.08	Active Low	Push-Pull	790
MIC8115	Supervisor	–	✓	–	–40 to +85	1.0–5.5	3.08	Active Low	Push-Pull	1100
MIC826	Supervisor	✓	✓	–	–40 to +125	1.0–5.5	1.665, 2.188, 2.315, 2.625, 2.925, 3.075, 4.375, 4.625	Active Low/High or High/Low	Push-Pull	140
MIC706P/ R/S/T	Supervisor	✓	✓	✓	–40 to +85	1.5–5.5	2.63, 2.93, 3.08	Active Low	Push-Pull	140
MIC708P/ R/S/T	Supervisor	–	–	✓	–40 to +85	1.5–5.5	2.63, 2.93, 3.08	Active Low/High or High/Low	Push-Pull	140
TC51	Detector	–	–	–	–40 to +85	0.7–10	2.94, 2.65, 2.16 (1.6-6V)	Active Low	Open-Drain	50
TC54	Detector	–	–	–	–40 to +85	0.7–10	4.21, 4.12, 2.94, 2.84, 2.65, 2.06, 1.37 (1.4-6V)	Active Low	CMOS Push-Pull or Open drain	0
MCP111	Detector	–	–	–	–40 to +125	1.0–5.5	1.87(Itemp), 2.29, 2.59, 2.86, 2.87, 3.03, 4.31, 4.56	Active Low	Open-Drain	0
MCP112	Detector	–	–	–	–40 to +125	1.0–5.5	1.87(Itemp), 2.29, 2.59, 2.86, 2.87, 3.03, 4.31, 4.56	Active Low	Push-Pull	0
TC52	Detector	–	–	–	–40 to +85	1.5–10	4.41, 2.65 (1.5-5V)	Active Low	Open-Drain	0
TC53	Detector	–	–	–	–40 to +85	1.5–10	2.84, 2.65, 2.16 (1.6-6V, 7V)	Active Low	CMOS Push-Pull or Open drain	0
MIC2772	Dual	–	✓	–	–40 to +85	1.0–5.5	2.93, 3.08, 4.38, 4.63	Active Low	Open-Drain	20/140/1100
MIC2774N	Dual	–	✓	–	–40 to +85	1.5–5.5	1.69, 2.25, 2.34, 2.53, 2.67, 2.81, 2.93, 3.09, 4.43, 4.68	Active Low	Open-Drain	140
MIC2774H	Dual	–	✓	–	–40 to +85	1.5–5.5	1.69, 2.25, 2.34, 2.53, 2.67, 2.81, 2.93, 3.09, 4.43, 4.68	Active High	Push-Pull	140
MIC2774L	Dual	–	✓	–	–40 to +85	1.5–5.5	1.69, 2.25, 2.34, 2.53, 2.67, 2.81, 2.93, 3.09, 4.43, 4.68	Active Low	Push-Pull	140
MIC2777	Dual	–	–	–	–40 to +85	1.5–5.5	1.69, 2.25, 2.34, 2.53, 2.67, 2.81, 2.93, 3.09, 4.43, 4.68	Active Low/High or High/Low	Push-Pull	140
MIC2782	Push Button	–	Dual	–	–40 to +85	1.5–5.5	Custom options	Active Low	Open-Drain	500/1000/2000
MIC2790	Push Button	–	✓	–	–40 to +125	1.5–5.5	0.4	Active Low/High or High/Low	Dual Output Open-Drain and/or Push-Pull	1.05
MIC2791	Push Button	–	✓	–	–40 to +125	1.5–5.5	0.4	Active Low/High or High/Low	Dual Output Open-Drain and/or Push-Pull	1.05
MIC2793	Push Button	–	✓	–	–40 to +125	1.5–5.5	0.4	Active Low/High or High/Low	Dual Output Open-Drain and/or Push-Pull	1.05

POWER MANAGEMENT: Power MOSFET Drivers

Part #	Drivers	Configuration	Peak Output Current (source/sink, A)	Maximum Supply Voltage (V)	Output Resistance (source/sink, Ω)	Propagation Delay (T_{d1}/T_{d2} , ns)	Rise/Fall Time (T_r/T_f , ns)	Capacitive Load Drive	Features	
Low-Side Power MOSFET Drivers										
MCP1401	Single	Inverting	0.5/0.5	18	12/10	35/35	19/15	470 pF in 19 ns	Small footprint	5-pin SOT
MCP1402	Single	Non-inverting	0.5/0.5	18	12/10	35/35	19/15	470 pF in 19 ns	Small footprint	5-pin SOT
MCP14A0051	Single	Inverting	0.5/0.5	18	12.5/7.5	33/24	40/28	1000 pF in 40 ns	Enable pin, small footprint	6-pin SOT
MCP14A0052	Single	Non-inverting	0.5/0.5	18	12.5/7.5	33/24	40/28	1000 pF in 40 ns	Enable pin, small footprint	6-pin SOT
TC1410N	Single	Non-inverting	0.5/0.5	16	16/16	30/30	25/25	500 pF in 25 ns		8-pin SOI
TC1411N	Single	Non-inverting	1.0/1.0	16	8/8	30/30	25/25	1000 pF in 25 ns		8-pin SOI
MIC4416	Single	Non-Inverting	1.2/1.2	18	3.5/3.5	33/23	14/16	1000 pF in 16 ns		SOT-143
MIC4417	Single	Inverting	1.2/1.2	18	3.5/3.5	33/23	14/16	1000 pF in 16 ns		SOT-143
TC1426	Dual	Inverting	1.2/1.2	16	12/8	36/43	23/17	1000 pF in 38 ns		8-pin SOI
TC1427	Dual	Non-inverting	1.2/1.2	16	12/8	36/43	23/17	1000 pF in 38 ns		8-pin SOI
TC1428	Dual	Complimentary	1.2/1.2	16	12/8	36/43	23/17	1000 pF in 38 ns		8-pin SOI
MIC4467	Quad	Inverting	1.2/1.2	18	5/5	30/45	14/13	1000 pF in 25 ns	Latch-up Protected; Input to -5V	16-pin W
MIC4468	Quad	Non-inverting	1.2/1.2	18	5/5	30/45	14/13	1000 pF in 25 ns	Latch-up Protected; Input to -5V	16-pin W
MIC4469	Quad	Complimentary	1.2/1.2	18	5/5	30/45	14/13	1000 pF in 25 ns	Latch-up Protected; Input to -5V. SMD	16-pin W
TC4467	Quad	Inverting	1.2/1.2	18	10/10	40/40	15/15	470 pF in 15 ns		16-pin SC
TC4468	Quad	Non-inverting	1.2/1.2	18	10/10	40/40	15/15	470 pF in 15 ns		16-pin SC
TC4469	Quad	Complimentary	1.2/1.2	18	10/10	40/40	15/15	470 pF in 15 ns		16-pin SC
MCP14A0151	Single	Inverting	1.5/1.5	18	4.5/3	33/24	11/10	1000 pF in 11.5 ns	Low Input Threshold and Enable Pin	6-pin SOT
MCP14A0152	Single	Non-inverting	1.5/1.5	18	4.5/3	33/24	11/10	1000 pF in 11.5 ns	Low Input Threshold and Enable Pin	6-pin SOT
MCP1415	Single	Inverting	1.5/1.5	18	6/4	44/47	18/21	470 pF in 13 ns	Small footprint	5-pin SOT
MCP1416	Single	Non-inverting	1.5/1.5	18	6/4	44/47	18/21	470 pF in 13 ns	Small footprint	5-pin SOT
MIC4414	Single	Non-inverting	1.5/1.5	18	3.5/3.5	44/47	18/21	1000 pF in 12 ns	Very small footprint	1.2 × 1.2
MIC4415	Single	Inverting	1.5/1.5	18	3.5/3.5	29/30	12/12	1000 pF in 12 ns	Very small footprint	1.2 × 1.2
TC4626	Single	Inverting	1.5/1.5	6	10/8	29/30	33/27	1000 pF in 40 ns	Boosted drive voltage	16-pin SC
TC4627	Single	Non-inverting	1.5/1.5	6	10/8	35/45	33/27	1000 pF in 40 ns	Boosted drive voltage	16-pin SC
TC4404	Single	Inverting	1.5/1.5	18	7/7	15/32	25/25	1000 pF in 30 ns	Open - drain	8-pin SOI
TC4405	Single	Non-inverting	1.5/1.5	18	7/7	15/32	25/25	1000 pF in 30 ns	Open - drain	8-pin SOI
MCP14A0153	Dual	Inverting	1.5/1.5	18	4.5/3	25/24	11/10	1000 pF in 11.5 ns	Low Input Threshold and Enable Pin	8-pin SOI
MCP14A0154	Dual	Non-inverting	1.5/1.5	18	4.5/3	25/24	11/10	1000 pF in 11.5 ns	Low Input Threshold and Enable Pin	8-pin SOI
MCP14A0155	Dual	Complimentary	1.5/1.5	18	4.5/3	25/24	11/10	1000 pF in 11.5 ns	Low Input Threshold and Enable Pin	8-pin SOI
TC4426A	Dual	Inverting	1.5/1.5	18	7/7	30/30	25/25	1000 pF in 25 ns		8-pin SOI
TC4427A	Dual	Non-inverting	1.5/1.5	18	7/7	30/30	25/25	1000 pF in 25 ns		8-pin SOI
TC4428A	Dual	Complimentary	1.5/1.5	18	7/7	30/30	25/25	1000 pF in 25 ns		8-pin SOI
MIC4426	Dual	Inverting	1.5/1.5	18	6/6	17/23	18/15	1000 pF in 18 ns		8-pin SOI
MIC4427	Dual	Non-inverting	1.5/1.5	18	6/6	17/23	18/15	1000 pF in 18 ns		8-pin SOI
MIC4428	Dual	Complimentary	1.5/1.5	18	6/6	17/23	18/15	1000 pF in 18 ns		8-pin SOI
MIC4126	Dual	Inverting	1.5/1.5	20	6/6	37/40	13/15	1000 pF in 15 ns		8-pin eSC

POWER MANAGEMENT: Power MOSFET Drivers (Continued)

Part #	Drivers	Configuration	Peak Output Current (source/sink, A)	Maximum Supply Voltage (V)	Output Resistance (source/sink, Ω)	Propagation Delay (T_{d1}/T_{d2} , ns)	Rise/Fall Time (T_r/T_f , ns)	Capacitive Load Drive	Features	
Low-Side Power MOSFET Drivers (Continued)										
MIC4127	Dual	Non-inverting	1.5/1.5	20	6/6	37/40	13/15	1000 pF in 15 ns		8-pin
MIC4128	Dual	Complimentary	1.5/1.5	20	6/6	37/40	13/15	1000 pF in 15 ns		8-pin
MCP14E6	Dual	Inverting	2.0/2.0	18	5/5	45/45	12/15	1000 pF in 15 ns	Enable pin	8-pin
MCP14E7	Dual	Non-inverting	2.0/2.0	18	5/5	45/45	12/15	1000 pF in 15 ns	Enable pin	8-pin
MCP14E8	Dual	Complimentary	2.0/2.0	18	5/5	45/45	12/15	1000 pF in 15 ns	Enable pin	8-pin
TC1412	Single	Inverting	2.0/2.0	16	4/4	35/35	18/18	1000 pF in 18 ns		8-pin
TC1412N	Single	Non-Inverting	2.0/2.0	16	4/4	35/35	18/18	1000 pF in 18 ns		8-pin
MIC4478	Dual	Non-Inverting	2.5/2.5	32	6/3	160/70	120/45	1,000pF in 45 ns		8-pin
MIC4479	Dual	Inverting	2.5/2.5	32	6/3	160/70	120/45	1,000pF in 45 ns		8-pin
MIC4480	Dual	Complimentary	2.5/2.5	32	6/3	160/70	120/45	1,000pF in 45 ns		8-pin
TC4423A	Dual	Inverting	3.0/3.0	18	2.2/2.8	40/41	12/12	1800 pF in 12 ns		8-pin
TC4424A	Dual	Non-Inverting	3.0/3.0	18	2.2/2.8	40/41	12/12	1800 pF in 12 ns		8-pin
TC4425A	Dual	Complimentary	3.0/3.0	18	2.2/2.8	40/41	12/12	1800 pF in 12 ns		8-pin
MCP14E9	Dual	Inverting	3.0/3.0	18	4/4	45/45	14/17	1800 pF in 17 ns	Enable pin	8-pin
MCP14E10	Dual	Non-Inverting	3.0/3.0	18	4/4	45/45	14/17	1800 pF in 17 ns	Enable pin	8-pin
MCP14E11	Dual	Complimentary	3.0/3.0	18	4/4	45/45	14/17	1800 pF in 17 ns	Enable Pin	8-pin
MCP14A0301	Single	Interverting	3.0/3.0	18	2.2/1.5	15/18	13/12	1,800 pF in 13 ns	Low Input Threshold, Enable Pin	8-pin
MCP14A0302	Single	Non-Inverting	3.0/3.0	18	2.2/1.5	15/18	13/12	1,800 pF in 13 ns	Low Input Threshold and Enable Pin	8-pin
TC1413N	Single	Non-Inverting	3.0/3.0	16	2.7/2.7	35/35	20/20	1800 pF in 20 ns		8-pin
MIC4123	Dual	Inverting	3.0/3.0	20	5/5	44/59	11/11	1,800 pF in 11 ns		8-pin
MIC4124	Dual	Non-Inverting	3.0/3.0	20	5/5	44/59	11/11	1,800 pF in 11 ns		8-pin
MIC4125	Dual	Complimentary	3.0/3.0	20	5/5	44/59	11/11	1,800 pF in 11 ns		8-pin
MIC4423	Dual	Inverting	3.0/3.0	18	5/5	33/38	23/25	1,800 pF in 23ns		8-pin
MIC4424	Dual	Non-Inverting	3.0/3.0	18	5/5	33/38	23/25	1,800 pF in 23ns		8-pin
MIC4425	Dual	Complimentary	3.0/3.0	18	5/5	33/38	23/25	1,800 pF in 23ns		8-pin
MIC4223	Dual	Inverting	4.0/4.0	18	30/16	25/35	15/15	2000 pF in 15 ns	Enable pin	8-pin
MIC4224	Dual	Non-Inverting	4.0/4.0	18	30/16	25/35	15/15	2000 pF in 15 ns	Enable pin	8-pin
MIC4225	Dual	Complimentary	4.0/4.0	18	30/16	25/35	15/15	2000 pF in 15 ns	Enable pin	8-pin
MCP14E3	Dual	Inverting	4.0/4.0	18	2.5/2.5	46/50	15/18	2200 pF in 15 ns	Enable pin	8-pin
MCP14E4	Dual	Non-Inverting	4.0/4.0	18	2.5/2.5	46/50	15/18	2200 pF in 15 ns	Enable pin	8-pin
MCP14E5	Dual	Complimentary	4.0/4.0	18	2.5/2.5	46/50	15/18	2200 pF in 15 ns	Enable pin	8-pin
MCP1403	Dual	Inverting	4.5/4.5	18	2.2/2.8	40/40	15/18	2200 pF in 15 ns		8-pin
MCP1404	Dual	Non-Inverting	4.5/4.5	18	2.2/2.8	40/40	15/18	2200 pF in 15 ns		8-pin
MCP1405	Dual	Complimentary	4.5/4.5	18	2.2/2.8	40/40	15/18	2200 pF in 15 ns		8-pin
MCP14A0451	Single	Inverting	4.5/4.5	18	1.6/1.2	16/19	9/9	2200 pF in 9.5 ns	Low Input Threshold, Enable	8-pin
MCP14A0452	Single	Non-Inverting	4.5/4.5	18	1.6/1.2	16/19	9/9	2200 pF in 9.5 ns	Low Input Threshold, Enable	8-pin
MIC4120	Single	Non-Inverting	6.0/6.0	20	5/5	45/50	12/13	2200 pF in 12 ns		8-pin
MIC4129	Single	Inverting	6.0/6.0	20	5/5	45/50	12/13	2200 pF in 12 ns		8-pin
MCP14A1201	Single	Inverting	12/12	18	1.5/1.2	28/28	25/25	15,000 pF in 25 ns	Low Input Theshold and Enable	8-Le
MCP14A1202	Single	Non-Inverting	12/12	18	1.5/1.2	28/28	25/25	15,000 pF in 25 ns	Low Input Theshold and Enable	8-Le

POWER MANAGEMENT: Power MOSFET Drivers (Continued)

Part #	Drivers	Configuration	Peak Output Current (source/sink, A)	Maximum Supply Voltage (V)	Output Resistance (source/sink, Ω)	Propagation Delay (T_{dl}/T_{d2} , ns)	Rise/Fall Time (T_r/T_f , ns)	Capacitive Load Drive	Features
Low-Side Power MOSFET Drivers (Continued)									
MIC4420	Single	Non-Inverting	6.0/6.0	18	2.8/2.5	18/48	12/13	2200 pF in 12 ns	
MIC4429	Single	Inverting	6.0/6.0	18	2.8/2.5	18/48	12/13	2200 pF in 12 ns	
MIC44F18	Single	Non-Inverting	6.0/6.0	13	2/2	15/13	10/10	1000 pF in 10 ns	Enable pin
MIC44F19	Single	Inverting	6.0/6.0	13	2/2	15/13	10/10	1000 pF in 10 ns	Enable pin
MIC44F20	Single	Inverting	6.0/6.0	13	2/2	15/13	10/10	1000 pF in 10 ns	Enable pin
MCP1406	Single	Inverting	6.0/6.0	18	2.1/1.5	40/40	20/20	2500 pF in 20 ns	
MCP1407	Single	Non-Inverting	6.0/6.0	18	2.1/1.5	40/40	20/20	2500 pF in 20 ns	
MCP14A0601	Single	Inverting	6.0/6.0	18	2.0/2.3	29/29	15/15	2500 pF in 10 ns	Low Logic Input, Enable
MCP14A0602	Single	Non-Inverting	6.0/6.0	18	2.0/2.3	29/29	15/15	2500 pF in 10 ns	Low Logic Input, Enable
TC4421A	Single	Inverting	9.0/9.0	18	1.25/0.8	38/42	28/26	4700 pF in 15 ns	
TC4422A	Single	Non-Inverting	9.0 / 9.0	18	1.25 / 0.8	38/42	28/26	4700 pF in 15 ns	
MIC4421A	Single	Inverting	9.0 / 9.0	18	0.8/0.6	15/35	20/24	10,000 pF in 24 ns	
MIC4422A	Single	Non-Inverting	9.0 / 9.0	18	0.8/0.6	15/35	20/24	10,000 pF in 24 ns	
MIC4451	Single	Inverting	12.0/12.0	18	0.8/0.6	25/40	20/24	10,000 pF in 24 ns	
MIC4452	Single	Non-Inverting	12.0/12.0	18	0.8/0.6	25/40	20/24	10,000 pF in 24 ns	
TC4451	Single	Inverting	12.0/12.0	18	1.0/0.9	44/44	30/32	10,000 pF in 21 ns	
TC4452	Single	Non-Inverting	12.0/12.0	18	1.0/0.9	44/44	30/32	10,000 pF in 21 ns	
High-Side Power MOSFET Drivers									
TC4431	High-Side Single	Inverting	3.0/1.5	30	7/7	62/78	25/33	1000 pF in 25 ns	30V, high-side driver
TC4432	High-Side Single	Non-inverting	3.0/1.5	30	7/7	62/78	25/33	1000 pF in 25 ns	30V, high-side driver
TC4403	Floating Load Driver	Non-inverting	1.5/1.5	18	2.8/3.5	33/38	28/32	1800 pF in 25 ns	Floating load driver
MIC5011	High-Side or Low Side Single	Non-Inverting	950 μ A*	32	N/A	N/A	25 μ s/4 μ s	1000 pF in 60 μ s	Less than 1 μ A in Standby Mode
MIC5013	High-Side or Low Side Single	Non-Inverting	225 μ A*	32	N/A	N/A	60 μ s/4 μ s	1000 pF in 60 μ s	With over-current shutdown and a fault flag
MIC5014	High-Side or Low Side Single	Non-Inverting	800 μ A*	30	N/A	N/A	90 μ s/6 μ s	1000 pF in 90 μ s	Withstands 60V transient and Reverse battery protected to -20V
MIC5015	High-Side or Low Side Single	Inverting	800 μ A*	30	N/A	N/A	90 μ s/6 μ s	1000 pF in 90 μ s	Withstands 60V transient and Reverse battery protected to -20V
MIC5018	High-Side or Low Side Single	Non-Inverting	10 μ A*	9	N/A	N/A	750 μ s/10 μ s	3,000 pF in 2.1 ms	Small Package
MIC5019	High-Side or Low Side Single	Non-Inverting	10 μ A*	9	N/A	N/A	440 μ s/5.56 μ s	3,000 pF in 1.34 ms	Ultra Small 1.2 x 1.2 mm DFN
MIC5021	High-Side or Low Side Single	Non-Inverting	5600 μ A*	36	N/A	500/800	400ns/400ns	2,000 pF in 550 ns	100 kHz operation guaranteed over full temperature and operating voltage range
MIC5060	High-Side or Low Side Single	Non-Inverting	800 μ A*	30	N/A	N/A	90 μ s/6 μ s	1,000 pF in 90 μ s	Withstands 60V transient and Reverse battery protected to -20V

POWER MANAGEMENT: Power MOSFET Drivers (Continued)

Part #	Drivers	Configuration	Peak Output Current (source/sink, A)	Maximum Supply Voltage (V)	Output Resistance (source/sink, Ω)	Propagation Delay (T _{d1} /T _{d2} , ns)	Rise/Fall Time (T _r /T _f , ns)	Capacitive Load Drive	
Synchronous Power MOSFET Drivers									
MCP14628	Half Bridge Driver	Dual Inputs	2.0/3.5	5.5 (36V Boot Pin)	1/1 (0.5 on low side)	15/22	10/10	3300 pF in 10 ns	Continuous operation
MCP14700	Half Bridge Driver	Dual Inputs	2.0/3.5	5.5 (36V Boot Pin)	1/1 (0.5 on low side)	15/22	10/10	3300 pF in 10 ns	Allows external
MIC4100	Half Bridge Driver	Dual Inputs	2.0/2.0	16 (100V Boot Pin)	3.0/3.0	27/27	10/10	1000 pF in 10 ns	
MIC4101	Half Bridge Driver	Dual Inputs	2.0/2.0	16 (100V Boot Pin)	3.0/3.0	31/31	10/10	1000 pF in 10 ns	
MIC4102	Half Bridge Driver	Single PWM	3.0/2.0	16 (100V Boot Pin)	2.5/1.5	60/70	10/6	1000 pF in 10 ns	Adaptive Dead Time Through Circu
MIC4103	Half Bridge Driver	Dual Inputs	3.0/2.0	16 (100V Boot Pin)	2.5/1.25	24/24	10/6	1000 pF in 10 ns	
MIC4104	Half Bridge Driver	Dual Inputs	3.0/2.0	16 (100V Boot Pin)	2.5/1.25	24/24	10/6	1000 pF in 10 ns	
MIC4600	Half Bridge Driver	Dual Inputs, Single PWM	–	28V	–	–	15/13.5	3000 pF in 15 ns	Internal 5V LDO
MIC4604	Half Bridge Driver	Dual Inputs	1.0/1.0	16V (85V Boot Pin)	–	33/34	20/20	1000 pF in 20 ns	Small 2.5 × 2.5 mm
MIC4605	Half Bridge Driver	Dual Inputs, Single PWM	1.0/1.0	16V (85V Boot Pin)	–	35/35	20/20	1000 pF in 20 ns	Adaptive Dead Time Through Circu
MIC4606	Full Bridge Driver	Dual Inputs, Single PWM	1.0/1.0	16V (85V Boot Pin)	–	35/35	20/20	1000 pF in 20 ns	Adaptive Dead Time Through Circu
MIC4608	Half Bridge Driver	Dual Inputs, Single PWM	1.0/1.0	20V (600V Boot Pin)	–	450/450	31/31	–	600V Operation
MIC4609	3 Phase Driver	Dual Inputs	1.0/1.0	20V (600V Boot Pin)	–	600/550	22/20	–	600V Operation

*Charge pump current

POWER MANAGEMENT: Battery Chargers

Part #	Mode	Cell Type	# of Cells	V _{CC} Range (V)	Cell Voltage (V)	Maximum Charging Current (mA)	Max. Voltage Regulation (%)	Int/Ext FET	Features
MCP73113	Linear	Li-ion/Li-Polymer	1	4 to 16	4.1, 4.2, 4.35, 4.4	1100	±0.5	Int	6.5V Overvoltage Protection
MCP73114	Linear	Li-ion/Li-Polymer	1	4 to 16	4.1, 4.2, 4.35, 4.4	1100	±0.5	Int	5.8V Overvoltage Protection
MCP73123	Linear	LiFePO4	1	4 to 16	3.6	1100	±0.5	Int	6.5V Overvoltage Protection, LiFePO4 charging
MCP73213	Linear	Li-ion/Li-Polymer	2	4 to 16	8.2, 8.4, 8.7, 8.8	1100	±0.6	Int	13V Overvoltage Protection
MCP73223	Linear	LiFePO4	2	4 to 16	7.2	1100	±0.6	Int	13V Overvoltage Protection, LiFePO4 charging
MCP73826	Linear	Li-ion/Li-Polymer	1	4.5 to 5.5	4.1, 4.2	N/A	±1.0	Ext	Small size, charge current set by external FET
MCP73827	Linear	Li-ion/Li-Polymer	1	4.5 to 5.5	4.1, 4.2	N/A	±1.0	Ext	Mode indicator, Charge current monitor, Charge current limit
MCP73828	Linear	Li-ion/Li-Polymer	1	4.5 to 5.5	4.1, 4.2	N/A	±1.0	Ext	Temperature monitor, Charge current set by external FET
MCP73841	Linear	Li-ion/Li-Polymer	1	4.5 to 12	4.1, 4.2	N/A	±0.5	Ext	Safety charge timers, Temperature monitor, Charge current limit
MCP73841	Linear	Li-ion/Li-Polymer	1	4.5 to 12	4.1, 4.2	N/A	±0.5	Ext	Safety charge timers, Temperature monitor, Charge current limit, external FET
MCP73842	Linear	Li-ion/Li-Polymer	2	8.7 to 12	8.2, 8.4	N/A	±0.5	Ext	Safety charge timers, Temperature monitor, Charge current limit, external FET

POWER MANAGEMENT: Battery Chargers (Continued)

Part #	Mode	Cell Type	# of Cells	Vcc Range (V)	Cell Voltage (V)	Maximum Charging Current (mA)	Max. Voltage Regulation (%)	Int/Ext FET	Features
MCP73843	Linear	Li-Ion/Li-Polymer	1	4.5 to 12	4.1, 4.2	N/A	±0.5	Ext	Safety charge timers, Charge current set by external
MCP73844	Linear	Li-Ion/Li-Polymer	2	8.7 to 12	8.2, 8.4	N/A	±0.5	Ext	Safety charge timers, Charge current set by external
MCP73811	Linear	Li-Ion/Li-Polymer	1	3.7 to 6.0	4.2	500	±1.0	Int	Selectable charge current (100 mA, 500 mA), Charge
MCP73812	Linear	Li-Ion/Li Polymer	1	3.7 to 6.0	4.2	500	±1.0	Int	Programmable charge current (100 mA, 500 mA), C
MCP73830/L	Linear	Li-Ion/Li-Polymer	1	3.75 to 6.0	4.2	1000/200	±0.75	Int	Soft-start, Charge enable pin
MCP73831	Linear	Li-Ion/Li-Polymer	1	3.7 to 6.0	4.2, 4.35, 4.4, 4.5	500	±0.75	Int	UVLO, Thermal regulation, Programmable charge cu
MCP73832	Linear	Li-Ion/Li-Polymer	1	3.7 to 6.0	4.2, 4.35, 4.4, 4.5	500	±0.75	Int	UVLO, Thermal regulation, Programmable charge cu Open-drain STAT pin
MCP73853	Linear	Li-Ion/Li-Polymer	1	4.5 to 5.5	4.1, 4.2	500	±0.5	Int	USB control, Safety charge timers, Temperature mo
MCP73855	Linear	Li-Ion/Li-Polymer	1	4.5 to 5.5	4.1, 4.2	500	±0.5	Int	USB control, Safety charge timers, Thermal regulati
MCP73833	Linear	Li-Ion/Li-Polymer	1	3.7 to 6.0	4.2, 4.35, 4.4, 4.5	1000	±0.75	Int	UVLO, Thermal regulation, Thermistor input, LDO Te outputs, Safety timer, Power good output
MCP73834	Linear	Li-Ion/Li-Polymer	1	3.7 to 6.0	4.2, 4.35, 4.4, 4.5	1000	±0.75	Int	UVLO, Thermal regulation, Thermistor input, LDO Te outputs, Safety timer, Timer enable input
MCP73837	Linear	Li-Ion/Li-Polymer	1	3.7 to 6.0	4.2, 4.35, 4.4, 4.5	1000	±0.75	Int	Dual input (USB, DC input from adapter) auto-switch regulation, Thermistor input, Power good output
MCP73838	Linear	Li-Ion/Li Polymer	1	3.7 to 6.0	4.2, 4.35, 4.4, 4.5	1000	±0.75	Int	Dual input (USB, DC input from adapter) auto-switch regulation, Timer enable input
MCP73871	Linear	Li-Ion/Li-Polymer	1	3.75 to 6.0	4.1, 4.2, 4.35, 4.4	1500 (A/C Adapter) 500 (USB)	±0.5	Int	Simultaneous charging of load and battery, Load-de programmable charge currents

POWER MANAGEMENT: Hot Swap Controllers & E-Fuse

Part #	Number of Outputs	Input Voltage Range (V)	Latch Off	Auto Retry	OVLO	UVLO	Number of Power Good	Description
MIC2085	1	+2.3 to +16.5	✓	–	Adjustable	Adjustable	–	Pin-Pin equivalent to LTC1642
MIC2582	1	+2.3 to +13.2	✓	–	–	Adjustable	–	Pin-Pin equivalent to LTC1422, dual-level fault detection
MIC2583	1	+2.3 to +13.2	✓	–	–	Adjustable	1 Active High	Dual level fault detection, CL discharge capability
MIC2583R	1	+2.3 to +13.2	–	✓	–	Adjustable	1 Active High	Dual level fault detection, CL discharge capability
MIC2584	2	Ch 1: +2.3 to +13.2 Ch 2: +1.0 to +13.2	✓	–	Adjustable	Adjustable	2 Active High	Output voltage tracking with dual-level fault tracking
MIC2587	1	+10 to +80	✓	–	–	Adjustable	1 Active High/Low	Pin-pin equivalent to LTC1641-1
MIC2587R	1	+10 to +80	–	✓	–	Adjustable	1 Active High/Low	Pin-pin equivalent to LTC1641-2
MIC2588	1	–19 to –80	✓	–	Adjustable	Adjustable	1 Active High/Low	Pin-pin equivalent to LTC1640, LT1640A, LT4250
MIC2594	1	–19 to –80	✓	–	Adjustable	Adjustable	1 Active High/Low	MIC2588 with programmable UVLO hysteresis
MIC2595	1	–19 to –80	✓	–	Adjustable	Adjustable	3 Active High/Low	Staggered power good provides load sequencing, progr
MIC2595R	1	–19 to –80	–	✓	Adjustable	Adjustable	3 Active High/Low	Staggered power good provides load sequencing, progr
LX8204	1	10.8 to 13.2	✓	–	–	Fixed	–	3.5A 12V E-Fuse with Hot-Swap and Voltage Surge Prot
LX8233	1	4.2 to 5.75	✓	–	–	Fixed	–	2.5A 5V E-Fuse with Bidirectional Protection Switch and
LX8237	2	4.3 to 13.2	✓	–	–	Fixed	–	Dual E-Fuse for 12V and 5V, Dual Power Regulators, I2C Monitoring, P3 Disable
LX8247	2	4.3 to 13.2	✓	–	–	Fixed	–	Dual E-Fuse for 12V and 5V, I2C Control and Current Mo

POWER MANAGEMENT: Power Switches

Part #	Description	USB Port Power Switch (55 mΩ)	High-Speed USB 2.0 Switch	Battery Charger Emulation Profile	8 Resistor Set Current Limits	Charging Indicator Output	Attach Detection Output	Current Measurement	Power Allocation
USB Port Power Controllers									
UCS1001-1	USB Port Power Controller with Charger Emulation	1	1	9	Up to 2.4A	✓	–	–	–
UCS1001-2	USB Port Power Controller with Charger Emulation	1	1	9	Up to 2.4A	–	✓	–	–
UCS1001-3	USB Port Power Controller with Charger Emulation	1	1	9	Up to 2.4A	✓	–	–	–
UCS1001-4	USB Port Power Controller with Charger Emulation	1	1	9	Up to 2.4A	–	✓	–	–
UCS1002-1	Programmable USB Port Power Controller with Charger Emulation	1	1	9 + 1 programmable	Up to 2.4A	✓	–	✓	✓
UCS1002-2	Programmable USB Port Power Controller with Charger Emulation	1	1	9 + 1 programmable	Up to 2.4A	✓	–	✓	✓
UCS1003-1	Programmable USB Port Power Controller with Charger Emulation	1	1	9 + 1 programmable	Up to 3A	–	✓	✓	✓
UCS1003-2	Programmable USB Port Power Controller with Charger Emulation	1	1	9	Up to 3A	✓	–	–	–
UCS1003-3	Programmable USB Port Power Controller with Charger Emulation	1	1	9	Up to 3A	–	✓	–	–
UCS81003	Programmable USB Port Power Controller Automotive	1	1	9 + 1 programmable	Up to 3A	–	✓	✓	✓

Current Limit USB Protection Switches

Part #	Channels	V _{IN} Range (V)	Fixed Current Limit (Min.)	Adj. Current Limit (Max.)	R _{DS(on)} (mΩ)	Current Limited/Latched	Reverse Blocking	Enable Logic	ULVO	Thermal Protection	Fault Flag
UCS2114	Dual	2.9–5.5	3.0A	3.4A	18	✓	✓	Active Low, Active High	✓	✓	✓
UCS2113	Dual	2.9–5.5	3.0A	3.4A	40	✓	✓	Active Low, Active High	✓	✓	✓
UCS2112	Dual	2.9–5.5	3.0A	3.4A	40	✓	✓	Active Low, Active High	✓	✓	✓
MIC2003/13	Single	2.5–5.5	500 mA, 800 mA, 1.2A	–	70	✓	–	–	✓	✓	–
MIC2004/14	Single	2.5–5.5	500 mA, 800 mA, 1.2A	–	70	✓	–	Active High	✓	✓	–
MIC2005/15	Single	2.5–5.5	500 mA, 800 mA, 1.2A	–	70	✓	–	Active High	✓	✓	✓
MIC2005A	Single	2.5–5.5	500 mA	–	170	✓	–	Active Low, Active High	✓	✓	✓
MIC2009A	Single	2.5–5.5	–	900 mA	170	✓	–	Active Low, Active High	✓	✓	–
MIC2005L	Single	2.5–5.5	500 mA, 800 mA, 1.2A	–	70	✓	–	Active Low	✓	✓	✓
MIC2007/17	Single	2.5–5.5	–	2.0A	100	✓	–	Active High	✓	✓	–
MIC2008/18	Single	2.5–5.5	–	2.0A	70	✓	–	Active High	✓	✓	–
MIC2009/19	Single	2.5–5.5	–	2.0A	70	✓	–	Active High	✓	✓	✓
MIC2025-1	Single	2.7–5.5	500 mA	–	140	✓	✓	Active High	✓	✓	✓
MIC2025-2	Single	2.7–5.5	500 mA	–	140	✓	✓	Active Low	✓	✓	✓
MIC2026-1	Dual	2.7–5.5	500 mA	–	90	✓	✓	Active High	✓	✓	✓
MIC2026-2	Dual	2.7–5.5	500 mA	–	90	✓	✓	Active Low	✓	✓	✓

*Reduced Height Package

POWER MANAGEMENT: Power Switches (Continued)

Part #	Channels	V _{IN} Range (V)	Fixed Current Limit (Min.)	Adj. Current Limit (Max.)	R _{DS(on)} (mΩ)	Current Limited/Latched	Reverse Blocking	Enable Logic	ULVO	Thermal Protection	Fault Flag
Current Limit USB Protection Switches (Continued)											
MIC2026A-1	Dual	2.7–5.5	500 mA	–	100	✓	✓	Active High	✓	✓	✓
MIC2026A-2	Dual	2.7–5.5	500 mA	–	100	✓	✓	Active Low	✓	✓	✓
MIC2027-1	Quad	2.7–5.5	500 mA	–	150	✓	✓	Active High	✓	✓	✓
MIC2027-2	Quad	2.7–5.5	500 mA	–	150	✓	✓	Active Low	✓	✓	✓
MIC2033	Single	2.5–5.5	475 mA, 517 mA, 760 mA, 950 mA, 1.14A	–	125	✓	–	Active Low, Active High	✓	✓	✓
MIC2039	Single	2.5–5.5	–	2.5A	75	✓	–	Active Low, Active High	✓	✓	✓
MIC2040-1	Single	0.8–5.5	–	1.5A	75	✓	✓	Active High	✓	✓	✓
MIC2040-2	Single	0.8–5.5	–	1.5A	75	✓	✓	Active Low	✓	✓	✓
MIC2041-1	Single	0.8–5.5	–	1.5A	75	Latched	✓	Active High	✓	✓	✓
MIC2041-2	Single	0.8–5.5	–	1.5A	75	Latched	✓	Active Low	✓	✓	✓
MIC2042-1	Single	0.8–5.5	–	3.0A	60	✓	✓	Active High	✓	✓	✓
MIC2042-2	Single	0.8–5.5	–	3.0A	60	✓	✓	Active Low	✓	✓	✓
MIC2043-1	Single	0.8–5.5	–	3.0A	60	Latched	✓	Active High	✓	✓	✓
MIC2043-2	Single	0.8–5.5	–	3.0A	60	Latched	✓	Active Low	✓	✓	✓
MIC2044-1	Single	0.8–5.5	–	6.0A	30	✓	✓	Active High	✓	✓	✓
MIC2044-2	Single	0.8–5.5	–	6.0A	30	✓	✓	Active Low	✓	✓	✓
MIC2045-1	Single	0.8–5.5	–	6.0A	30	Latched	✓	Active High	✓	✓	✓
MIC2045-2	Single	0.8–5.5	–	6.0A	30	Latched	✓	Active Low	✓	✓	✓
MIC2075-1	Single	2.7–5.5	500 mA	–	140	✓	✓	Active High	✓	✓	✓
MIC2075-2	Single	2.7–5.5	500 mA	–	140	✓	✓	Active Low	✓	✓	✓
MIC2076-1	Dual	2.7–5.5	500 mA	–	90	✓	✓	Active High	✓	✓	✓
MIC2076-2	Dual	2.7–5.5	500 mA	–	90	✓	✓	Active Low	✓	✓	✓
MIC2076A-1	Dual	2.7–5.5	500 mA	–	100	✓	✓	Active High	✓	✓	✓
MIC2076A-2	Dual	2.7–5.5	500 mA	–	100	✓	✓	Active Low	✓	✓	✓
MIC2077-1	Quad	2.7–5.5	500 mA	–	150	✓	✓	Active High	✓	✓	✓
MIC2077-2	Quad	2.7–5.5	500 mA	–	150	✓	✓	Active Low	✓	✓	✓
MIC2095-1	Single	2.5–5.5	500 mA	–	170	✓	✓	Active High	✓	✓	✓
MIC2095-2	Single	2.5–5.5	500 mA	–	170	✓	✓	Active Low	✓	✓	✓
MIC2097-1	Single	2.5–5.5	–	1.1A	170	✓	✓	Active High	✓	✓	✓
MIC2097-2	Single	2.5–5.5	–	1.1A	170	✓	✓	Active Low	✓	✓	✓
MIC2098-1	Single	2.5–5.5	900 mA	–	170	✓	✓	Active High	✓	✓	✓
MIC2098-2	Single	2.5–5.5	900 mA	–	170	✓	✓	Active Low	✓	✓	✓
MIC2099-1	Single	2.5–5.5	–	1.1A	170	✓	✓	Active High	✓	✓	✓
MIC2099-2	Single	2.5–5.5	–	1.1A	170	✓	✓	Active Low	✓	✓	✓
MIC2505	Single	2.7–7.5	2.0A	–	30	✓	✓	Active High	–	✓	✓
MIC2505-1	Single	2.7–7.5	2.0A	–	30	✓	✓	Active High	–	✓	✓
MIC2505-2	Single	2.7–7.5	2.0A	–	30	✓	✓	Active Low	–	✓	✓

*Reduced Height Package

POWER MANAGEMENT: Power Switches (Continued)

Part #	Channels	V _{IN} Range (V)	Fixed Current Limit (Min.)	Adj. Current Limit (Max.)	R _{DS(ON)} (mΩ)	Current Limited/Latched	Reverse Blocking	Enable Logic	ULVO	Thermal Protection	Fault Flag
Current Limit USB Protection Switches (Continued)											
MIC2506	Dual	2.7–7.5	1.0A	–	75	✓	✓	Active High	–	✓	✓
MIC2544-1	Single	2.7–5.5	–	1.5A	80	✓	✓	Active High	–	✓	✓
MIC2544-2	Single	2.7–5.5	–	1.5A	80	✓	✓	Active Low	–	✓	✓
MIC2544A-1	Single	2.7–5.5	–	1.5A	80	✓	✓	Active High	–	✓	✓
MIC2544A-2	Single	2.7–5.5	–	1.5A	80	✓	✓	Active Low	–	✓	✓
MIC2545A-1	Single	2.7–5.5	–	3.0A	35	✓	✓	Active High	–	✓	✓
MIC2545A-2	Single	2.7–5.5	–	3.0A	35	✓	✓	Active Low	–	✓	✓
MIC2546-1	Dual	2.7–5.5	–	1.5A	80	✓	✓	Active High	–	✓	✓
MIC2546-2	Dual	2.7–5.5	–	1.5A	80	✓	✓	Active Low	–	✓	✓
MIC2547-1	Dual	2.7–5.5	–	1.5A	80	✓	✓	Active High	–	✓	✓
MIC2547-2	Dual	2.7–5.5	–	1.5A	80	✓	✓	Active Low	–	✓	✓
MIC2548-1	Single	2.7–5.5	–	1.5A	80	✓	✓	Active High	–	✓	✓
MIC2548-2	Single	2.7–5.5	–	1.5A	80	✓	✓	Active Low	–	✓	✓
MIC2548A-1	Single	2.7–5.5	–	1.5A	80	✓	✓	Active High	–	✓	✓
MIC2548A-2	Single	2.7–5.5	–	1.5A	80	✓	✓	Active Low	–	✓	✓
MIC2549A-1	Single	2.7–5.5	–	3.0A	35	✓	✓	Active High	–	✓	✓
MIC2549A-2	Single	2.7–5.5	–	3.0A	35	✓	✓	Active Low	–	✓	✓

*Reduced Height Package

Load Switches

Part #	Channels	V _{IN} Range (V)	Max. Switch Current	R _{DS(ON)} (mΩ)	Soft Start (μs)	Load Discharge (Ω)	Enable Logic	Input Pull-Up Resistor	Revers
MIC94030	Single	2.7–13.5	1.0	750	–	–	Active Low	–	
MIC94040	Single	1.7–5.5	3.0	28	–	–	Active High	–	
MIC94041	Single	1.7–5.5	3.0	28	–	250	Active High	–	
MIC94042	Single	1.7–5.5	3.0	28	100	–	Active High	–	
MIC94043	Single	1.7–5.5	3.0	28	–	250	Active High	–	
MIC94044	Single	1.7–5.5	3.0	28	900	–	Active High	–	
MIC94045	Single	1.7–5.5	3.0	28	900	200	Active High	–	
MIC94050	Single	1.8–5.5	1.8	125	–	–	Active Low	–	
MIC94051	Single	1.8–5.5	1.8	125	–	–	Active Low	✓	
MIC94052	Single	1.8–5.5	2.0	70	–	–	Active Low	–	
MIC94053	Single	1.8–5.5	2.0	70	–	–	Active Low	✓	
MIC94060	Single	1.7–5.5	2.0	77	–	–	Active High	–	
MIC94061	Single	1.7–5.5	2.0	77	–	200	Active High	–	
MIC94062	Single	1.7–5.5	2.0	77	800	–	Active High	–	

*Reduced Height Package

POWER MANAGEMENT: Power Switches (Continued)

Part #	Channels	V _{IN} Range (V)	Max. Switch Current	R _{DS(ON)} (mΩ)	Soft Start (μs)	Load Discharge (Ω)	Enable Logic	Input Pull-Up Resistor	Revers
Load Switches (Continued)									
MIC94063	Single	1.7–5.5	2.0	77	800	200	Active High	–	
MIC94064	Single	1.7–5.5	2.0	77	115	–	Active High	–	
MIC94065	Single	1.7–5.5	2.0	77	115	200	Active High	–	
MIC94070	Single	1.7–5.5	1.2	120	–	–	Active High	–	
MIC94071	Single	1.7–5.5	1.2	120	–	200	Active High	–	
MIC94072	Single	1.7–5.5	1.2	120	800	–	Active High	–	
MIC94073	Single	1.7–5.5	1.2	120	800	200	Active High	–	
MIC94080	Single	1.7–5.5	2.0	67	–	–	Active High	–	
MIC94081	Single	1.7–5.5	2.0	67	–	250	Active High	–	
MIC94082	Single	1.7–5.5	2.0	67	800	–	Active High	–	
MIC94083	Single	1.7–5.5	2.0	67	800	250	Active High	–	
MIC94084	Single	1.7–5.5	2.0	67	120	–	Active High	–	
MIC94085	Single	1.7–5.5	2.0	67	120	250	Active High	–	
MIC94090	Single	1.7–5.5	1.2	130	–	–	Active High	–	
MIC94091	Single	1.7–5.5	1.2	130	–	250	Active High	–	
MIC94092	Single	1.7–5.5	1.2	130	790	–	Active High	–	
MIC94093	Single	1.7–5.5	1.2	130	790	250	Active High	–	
MIC94094	Single	1.7–5.5	1.2	130	120	–	Active High	–	
MIC94095	Single	1.7–5.5	1.2	130	120	250	Active High	–	
MIC94161	Single	1.7–5.5	3.0	15.5	2700	–	Active High	–	
MIC94162	Single	1.7–5.5	3.0	15.5	60	200	Active High	–	
MIC94163	Single	1.7–5.5	3.0	15.5	60	–	Active High	–	
MIC94164	Single	1.7–5.5	3.0	15.5	2700	200	Active High	–	
MIC94165	Single	1.7–5.5	3.0	15.5	2700	–	Active High	–	
MIC95410	Single	0.5–5.5	7.0	6.6	1100	2300	Active High	–	
MIC94066	Dual	1.7–5.5	2	85	–	–	Active High	–	
MIC94067	Dual	1.7–5.5	2	85	–	200	Active High	–	
MIC94068	Dual	1.7–5.5	2	85	800	–	Active High	–	
MIC94069	Dual	1.7–5.5	2	85	800	200	Active High	–	

*Reduced Height Package

DISPLAY AND LED DRIVERS

DISPLAY AND LED DRIVERS: Electroluminescent Backlight Drivers							
Part #	Type	Input Voltage Low (V)	Input Voltage High (V)	Nominal Output Voltage (V)	Max. Switch Resistance (Ω)	Output Regulation	Max. Lamp Size per D
16-Segment Drivers							
HV509	16-Segment Drivers	2	5.5	±50 to ±200	–	–	6.5
HV528	16-Segment Drivers	1.7	5.5	±50 to ±200	–	–	6.5
Offline Drivers							
HV809	Offline Driver	50	200	±50 to ±200	–	–	100
Single Lamp Drivers							
HV816	Single Lamp Driver	2.7	5.5	±180	–	Yes	42
HV823	Single Lamp Driver	2	9.5	±90	6	Yes	23
HV825	Single Lamp Driver	1	1.6	±56	15	No	3
HV830	Single Lamp Driver	2	9.5	±100	4	Yes	25
HV833	Single Lamp Driver	1.8	6.5	±90	4	Yes	12
HV850	Single Inductorless Lamp Driver	3	4.2	±70	–	Yes	1.5
HV852	Single Inductorless Lamp Driver	2.4	5	±80	–	Yes	1.5
HV853	Single Inductorless Lamp Driver	3.2	5	±80	–	Yes	1.5
HV857	Single Lamp Driver	1.8	5	±95	6	Yes	5
HV857L	Single Lamp Driver	1.8	5	±95	6	Yes	5
HV859	Single Lamp Driver	1.8	5	±105	6	Yes	5
HV860	Single Lamp Driver	2.5	4.5	±110	6	Yes	5
MIC4826	Single Lamp Driver	1.8	5.5	±80	7	Yes	3
MIC4827	Single Lamp Driver	1.8	5.5	±90	7	Yes	3
MIC4830	Single Lamp Driver	1.8	5.5	±90	7	Yes	4
MIC4832	Single Lamp Driver	1.8	5.5	±110	7	Yes	3
Dual Lamp Drivers							
HV861	Dual Lamp Drivers	2.5	4.5	±90	7	Yes	5
MIC4833	Dual Lamp Drivers	2.3	5.8	±110	12	Yes	4

DISPLAY AND LED DRIVERS: LED Drivers						
Part #	Application	Topology	Input Voltage (V)	Ouput Current	Dimming	
Automotive (AEC-Q100 Certified) LED Drivers						
AT9917	Auto	Boost, Sepic	5.3–40	External FET	PWM/Linear	24- pin TS
AT9919	Auto	Buck	4.5–40	External FET	PWM	8-pin DFN
AT9932	Auto	Boost-Buck (Ŧik)	5.3–40	External FET	PWM/Linear	24-pin TS
AT9933	Auto	Boost-Buck (Ŧik)	9.0–75	External FET	PWM	8-pin SO
MAQ3203	Auto	Buck	4.5-42	External FET	PWM	8-pin SO

General Purpose LED Drivers									
Part #	Topology	Input Voltage (V)	Dimming	I _o Typ. (mA)	Switching Frequency (Hz)	Switching MOSFET	Dithered	I _{LED} Accuracy	V _{FB}
HV9801A	Buck	15–450	4-Level Switch	1.0	100K	External FET	–	N/A	0.2
HV9803B	Buck	7–13.2	PWM/Linear	1.5	100K	External FET	–	±2%	0.2
HV9805	2-Stage	102–265	–	2.5	370K	0.7A FET	–	N/A	1.2
HV98100	Buck-Boost	9.5–17.5	–	0.2	320K	External FET	–	±5%	0.2
HV98101	Buck-Boost	9.5–17.5	–	0.2	320K	External FET	–	±5%	0.2
HV9861A	Buck	15–450	PWM/Linear	1.5	100K	External FET	–	±3%	0.2
HV9910B	Buck	8–450	PWM/Linear	1.0	100K	External FET	–	±5%	0.2

DISPLAY AND LED DRIVERS: LED Drivers (Continued)

Part #	Topology	Input Voltage (V)	Dimming	I _Q Typ. (mA)	Switching Frequency (Hz)	Switching MOSFET	Dithered	ILED Accuracy	V _F
General Purpose LED Drivers (Continued)									
HV9910C	Buck	15–450	PWM/Linear	1.0	100K	External FET	–	±5%	0.8
HV9918	Buck	4.5–40	PWM	1.5	2M	0.7A FET	–	±5%	0.8
HV9919B	Buck	4.5–40	PWM	1.5	2M	External FET	–	±5%	0.8
HV9921	Buck	20–400	–	0.2	100K	20 mA	–	N/A	0.8
HV9922	Buck	20–400	–	0.2	100K	50 mA	–	N/A	0.8
HV9923	Buck	20–400	–	0.2	100K	30 mA	–	N/A	0.8
HV9925	Buck	20–400	PWM	0.3	100K	20–50 mA	–	N/A	0.8
HV9930	Çuk	8–200	PWM	1.0	Variable	External FET	–	N/A	0.8
HV9931	Buck	8–450	PWM	1.0	100K	External FET	–	N/A	0.8
MIC3201	Buck	6–20	PWM	1.2	Hyst to 1.0M	1A FET	–	±5%	0.8
MIC3202	Buck	6–37	PWM	1.2	Hyst to 1.0M	1A FET	✓	±5%	0.8
MIC3202-1	Buck	6–37	PWM	1.2	Hyst to 1.0M	1A FET	–	±5%	0.8
MIC3203	Buck	4.5–42	PWM	1.0	Hyst to 1.5M	External FET	✓	±5%	0.8
MIC3203-1	Buck	4.5–42	PWM	1.0	Hyst to 1.5M	External FET	–	±5%	0.8
MIC3205	Buck	4.5–40	PWM	1.3	Hyst to 1M	External FET	–	±5%	0.8
MIC3230	Boost	6–45	PWM	3.2	100K–1.0M	External FET	–	±3%	0.8
MIC3231	Boost	6–45	PWM	3.2	100K–1.0M	External FET	✓	±3%	0.8
MIC3232	Boost	6–45	PWM	3.2	400K	External FET	–	±3%	0.8

Backlight LED Drivers

Part #	Topology	Input Voltage (V)	Dimming	I _Q Typ. (mA)	Output Current	Int. Diode	V _{FB} (V)	Frequency
HV9803	Buck	7–13.2	PWM/Linear	1.5	External FET	N/A	0.8	100K
HV9911	Boost, SEPIC, Buck-Boost	9–250	PWM /Linear	N/A	External FET	N/A	0.45	100K
HV9912	Boost, SEPIC, Buck-Boost	9–100	PWM /Linear	N/A	External FET	N/A	0.45	100K
HV9961	Buck	8–450	PWM/Linear	3.5	External FET	N/A	0.27	100K
HV9963	Boost, SEPIC, Buck-Boost	8–40	PWM/Linear	N/A	External FET	N/A	N/A	100K
HV9967B	Buck	8–60	PWM/Linear	N/A	1A FET	N/A	0.24	100K
HV9980	Buck	100–160	PWM/Linear	3.0	0.07A FET	N/A	N/A	500K
HV9985	Boost, SEPIC, Buck	10–40	PWM/Linear	1.5	External FET	N/A	N/A	500K
MIC2282	Boost	0.9–15	N/A	0.12	1A BJT	N/A	0.22	20K
MIC2287	Boost	2.5–10	PWM/Analog	2.5	2A BJT	N/A	0.095	1.2M
MIC2287C	Boost	2.5–10	PWM/Analog	2.5	2A BJT	N/A	0.095	1.2M
MIC2289	Boost	2.5–10	PWM/Analog	2.5	2A BJT	Yes	0.095	1.2M
MIC2289C	Boost	2.5–10	PWM/Analog	2.5	2A BJT	Yes	0.095	1.2M
MIC2291	Boost	2.5–10	PWM/Analog	2.8	2A BJT	N/A	0.095	1.2M
MIC2292	Boost	2.5–10	PWM/Analog	2.5	2A BJT	Yes	0.095	1.6M
MIC2292C	Boost	2.5–10	PWM/Analog	2.5	2A BJT	Yes	0.095	1.6M
MIC2293	Boost	2.5–10	PWM/Analog	2.5	2A BJT	Yes	0.095	2.0M
MIC2293C	Boost	2.5–10	PWM/Analog	2.5	2A BJT	Yes	0.095	2.0M
MIC2297	Boost	2.5–10	PWM/Analog	4	3A BJT	N/A	0.2	600K
MIC2298	Boost	2.5–10	PWM/Analog	15	6A BJT	N/A	0.2	1.0M
MIC2299	Boost	2.5–10	PWM/Analog	15	8A BJT	N/A	0.2	2.0M
MIC3223	Boost	4.5–20	PWM	2.1	10A FET	N/A	0.2	1.0M
MIC3263	Boost	6–40	PWM	6.5	2A BJT	N/A	2.36	400K–1.8M
MIC3287	Boost	2.8–6.5	PWM/Analog	2.1	1A BJT	N/A	0.25	1.2M
MIC3289	Boost	2.5–6.5	1-Wire	1.4	2A BJT	Yes	0.25	1.2M

DISPLAY AND LED DRIVERS: LED Drivers (Continued)

Part #	Input Voltage (V)	# of White LEDs	Dimming	I _o Typ. (mA)	V Dropout LED @ 20 mA	ILED Matching	Ext. LDOs	V _{DROPOUT}	IQLDO
Linear LED Drivers									
MIC2841A	3–5.5	4 @ 20 mA	PWM (200 Hz–500 kHz)	1.4	40 mV	±1.5%	–	–	–
MIC2842A	3–5.5	4 @ 20 mA	1-Wire, 48-Steps	1.4	40 mV	±1.5%	–	–	–
MIC2843A	3–5.5	6 @ 20 mA	PWM (200 Hz–500 kHz)	1.4	40 mV	±1.5%	–	–	–
MIC2844A	3–5.5	6 @ 20 mA	1-Wire, 48-Steps	1.4	40 mV	±1.5%	–	–	–
MIC2846A	3–5.5	6 @ 20 mA	1-Wire, 48-Steps	1.4	40 mV	±1.5%	2	150	35
MIC2860-2D	3–5.5	2 @ 30.2 mA	1-Wire, 32-Steps	0.7	52 mV	±0.5%	–	–	–
MIC2860-2P	3–5.5	2 @ 30.2 mA	PWM down to 250Hz	0.7	52 mV	±0.5%	–	–	–
MIC4811	3–5.5	6 @ 50 mA	PWM (200 Hz–500 kHz)	1.7	100 mV @ 50 mA	±1.0%	–	–	–
MIC4812	3–5.5	6 @ 100 mA	PWM (200 Hz–500 kHz)	3.2	190 mV @ 100 mA	±1.0%	–	–	–
MIC4801	3–5.5	1 @ 600 mA	PWM (200 Hz–500 kHz)	2.2	130 mV @ 400 mA	N/A	–	–	–
MIC4802	3–5.5	1 @ 800 mA	PWM (200 Hz–500 kHz)	4.1	280 mV @ 800 mA	N/A	–	–	–

Linear Regulators

Part #	Input Voltage (V)	Output Voltage (V)	Output Current (mA)	Dimming	Parallelable	Packages
CL2	5.0–90	5.0–90	20	External FET	Yes	3-pin TO-252, 3-pin TO-92, 3-pin SOT-23
CL25	5.0–90	5.0–90	25	External FET	Yes	3-pin TO-92, 3-pin SOT-89
CL220	5.0–220	5.0–220	20	External FET	Yes	3-pin TO-252, 3-pin TO-220
CL320	6.5–90	4.0–90	20	PWM	Yes	8-bit SOIC with Heat Slug
CL325	6.5–90	4.0–90	25	PWM	Yes	8-bit SOIC with Heat Slug
CL330	6.5–90	4.0–90	30	PWM	Yes	8-bit SOIC with Heat Slug
CL520	4.75–90	1.0–90	20	–	Yes	3-pin TO-252, 3-pin TO-92
CL525	4.75–90	1.0–90	25	–	Yes	3-pin TO-252, 3-pin TO-92
CL6	6.5–90	4.0–90	100	No	Yes	3-pin TO-252, 3-pin TO-220
CL7	6.5–90	4.0–90	100	PWM	Yes	8-pin SOIC with Heat Slug

Display LED Drivers

Part #	Input Voltage (V)	Sink Current (mA)	Segments	LEDs	Description
MIC5400	4.75–5.5	30	N/A	2 banks of 8	Driving Large LED Array
MM5450	4.75–11	15	34	N/A	7-Segment LED Driver
MM5451	4.75–11	15	35	N/A	7-Segment LED Driver

Sequential Linear LED Drivers

Part #	V _{IN} (V)	V _{OUT} (V)	Output Current (mA)	Dimming	Parallelable	Features	
CL8800	90–275	70–350	115	External Dimmer	Yes	6-Stage	33-pin
CL8801	90–275	70–350	200	External Dimmer	Yes	4-Stage	33-pin
CL88020	90–135	70–190	115	External Dimmer	Yes	4-Tap	8-pin
CL88030	90	320	N/A	External	Yes	10-Id QFN (3mm x 3mm)	4-Tap
CL88031	90	320	N/A	External	Yes	10-Id QFN (3mm x 3mm)	6-Tap

Camera Flash LED Drivers

Part #	Input Voltage (V)	# of LED Channels	Max. LED Current (mA)	Standby Current (mA)	Switch Frequency (MHz)	Peak Efficiency (%)	Current Accuracy (%)
MIC2870	2.7–5	2	1500	0.90	2	94	±10
MIC2871	2.7–5.5	1	1200	0.23	2	94	±5
MIC2873	2.7–5.5	1	1200	0.17	2	92	±8
MIC2874	2.7–5.5	1	1200	0.17	4	92	±8

HIGH-VOLTAGE INTERFACE

HIGH-VOLTAGE INTERFACE: Driver Arrays

Part #	Output Channels	V _{out} Operating (V) Transient	V _{out} Operating (V) Sustained	Input Structure	Description
Sink					
HV5122	32	250	225	Serial	Serial to parallel converter with output enable and strobe
HV5222	32	250	225	Serial	Serial to parallel converter with output enable and strobe
HV5522	32	230	220	Serial	Serial to parallel converter with latches, polarity, and blanking
HV5523	32	230	220	Serial	Serial to parallel converter with latches, polarity, and blanking
HV5530	32	315	300	Serial	Serial to parallel converter with latches, polarity, and blanking
HV5622	32	230	220	Serial	Serial to parallel converter with latches, polarity, and blanking
HV5623	32	250	220	Serial	Serial to parallel converter with latches, polarity, and blanking
HV5630	32	315	300	Serial	Serial to parallel converter with latches, polarity, and blanking
MIC5800	4	50	50	Parallel	4.4 MHz (min.) Data at 5V, Higher at 12V; TTL/CMOS/PMOS Logic; Integrated clamp diodes; CLR/Strobe/Enable Out
MIC5801	8	50	50	Parallel	4.4 MHz (min.) Data at 5V, Higher at 12V; TTL/CMOS/PMOS Logic; Integrated clamp diodes; CLR/Strobe/Enable Out
MIC5821	8	50	35	Serial	Similar to MIC5801, Adds thermal Shutdown, UVLO, OCP
MIC5822	8	80	50	Serial	8-bit SRs (Cascadable), Operable with split supply (to –20V), 3.3 MHz (min.) Data at 5V, TTL/CMOS/PMOS/NMOS Logic
MIC5841	8	50	35	Serial	8-bit SRs (Cascadable), Operable with split supply (to –20V), 3.3 MHz (min.) Data at 5V, Higher at 12V, TTL/CMOS/PMOS Logic
MIC5842	8	80	50	Serial	8-bit SRs (Cascadable), Operable with split supply (to –20V), 3.3 MHz (min.) Data at 5V, Higher at 12V, Low Power Logic; Down Res's
MIC58P01	8	80	80	Parallel	8-bit SRs (Cascadable), Operable w/Split Supply (to –20V), 3.3 MHz (min.) Data at 5V, Higher at 12V, Low Power Logic; TTL/CMOS/PMOS Logic
MIC58P42	8	80	50	Serial	Similar to MIC5842, adds thermal shutdown, UVLO, OCP
MIC59P50	8	80	80	Parallel	Similar to MIC58P01, with added error flag output
MIC59P60	8	80	50	Serial	Similar to MIC58P42, with added error flag output
Source					
HV57009	64	95	85	Serial	Current controlled driver with latches and blanking, two 32-bit shift registers
MIC2981/82	8	50	35	Parallel	8-Ch. driver with parallel I/Os; TTL/CMOS/PMOS Logic; Integrated clamp diodes; V _{IN} <12V
MIC5891	8	50	35	Serial	8-bit SRs (Cascadable), Operable with split supply (to –20V), 5 MHz (min.) Data at 5V, Integrated clamp diodes; TTL/CMOS/PMOS Logic
Source-Sink					
HV3418	64	200	180	Serial	Serial to parallel converter with latches, polarity, and blanking
HV507	64	320	300	Serial	Serial to parallel converter with latches, polarity, and blanking
HV508	2	60	45	Parallel	H-Bridge output with two output voltage level selections and polarity; Specially targeted as LCD shutter driver
HV513	8	275	250	Serial	Serial to parallel converter with latches, polarity, and blanking HI-Z and short circuit detect
HV518	32	90	80	Serial	Serial to parallel converter with latches, enable, and strobe; Specially targeted as vacuum-fluorescent display drive
HV5308	32	90	80	Serial	Serial to parallel converter with latches, and output enable
HV5408	32	90	80	Serial	Serial to parallel converter with latches, and output enable
HV574	80	90	80	Serial	Serial to parallel converter with latches, polarity, and blanking
HV57708	64	90	80	Serial	Polarity, and blanking with four 16-bit shift registers
HV57908	64	90	80	Serial	Latches, blanking, polarity, and single shift register
HV5812	20	90	80	Serial	Serial to parallel converter with latches, blanking and strobe
HV582	96	85	80	Serial	96-Channel, with high-voltage CMOS Outputs, 80V
HV583	128	90	80	Serial	128-Channel, with high-voltage CMOS Outputs, 80V
HV66	32	70	60	Serial	Serial to parallel converter with latches, polarity and blanking
HV6810	10	90	80	Serial	Serial to parallel converter with data latches and channel polarity select
HV7022	34	250	230	Serial	Serial to parallel converter with direction, enable, and polarity select; particularly useful for ACTFEL displays
HV7224	40	260	240	Serial	Serial to parallel converter with latches, and output enable
HV7620	32	225	200	Serial	Serial to parallel converter with latches, channel polarity select, and blanking
HV9308	32	90	80	Serial	Serial to parallel converter latches and output enable, CW directional shift
HV9408	32	90	80	Serial	Serial to parallel converter latches and output enable; CCW directional shift
HV9808	32	90	80	Serial	Serial to parallel converter latches, polarity, and output enable; CCW directional shift

HIGH-VOLTAGE INTERFACE: Amplifiers and MEMS Drivers

Part #	Output Channels	Slew Rate (V/ μ s)	Closed Loop Gain (V/V)	Feedback Resistance (M Ω)	Source Current (Max. μ A)	Sink Current (Max. μ A)	Output Cap
HV254	32	3	50	12	300	300	
HV256	32	2	72	12	715	715	
HV257	32	2	72	12	500	500	
HV264	4	9	66.7	5.3	3000	3000	
HV265	4	0.02	82	4.9	3000		

HIGH-VOLTAGE INTERFACE: MOSFETs – Interface

Part #	BV _{Dsx} Min. (V)	R _{Ds(on)} Max. (Ω)	V _{GS(OFF)} Min. (V)	V _{GS(OFF)} Max. (V)	
Depletion-Mode N-Channel					
LND01	9	1.4	−0.8	−3	5-pin S
DN1509	90	6	−1.8	−3.5	3-pin S
DN2625	250	3.5	−1.5	−2.1	8-pin V
DN3525	250	6	−1.5	−3.5	3-pin S
DN2530	300	12	−1	−3.5	3-pin T
DN3535	350	10	−1.5	−3.5	3-pin S
DN2535	350	25	−1.5	−3.5	3-pin T
DN3135	350	35	−1.5	−3.5	3-pin S
DN2540	400	25	−1.5	−3.5	3-pin T
DN3545	450	20	−1.5	−3.5	3-pin T
DN3145	450	60	−1.5	−3.5	3-pin S
DN2450	500	10	−1.5	−3.5	3-pin D
LND150	500	1000	−1	−3	3-pin T
LND250	500	1000	−1	−3	3-pin S
DN3765	650	8	−1.5	−3.5	3-pin D
DN2470	700	42	−1.5	−3.5	3-pin D

Enhancement-Mode N-Channel

Part #	BV _{DSS} Min. (V)	R _{Ds(on)} Max. (Ω)	C _{iss} Max. (pF)	V _{GS(TH)} Max. (V)	
TN2501	18	2.5	110	1.0	3-pin S
TN0702	20	1.3	200	1.0	3-pin T
VN0300	30	1.2	190	2.5	3-pin T
TN0604	40	0.8	190	1.6	3-pin T
TN2504	40	1.0	125	1.6	3-pin S
TN0104	40	2.0	70	1.6	3-pin T
VN0104	40	3.0	65	2.4	3-pin T
VN3205	50	0.3	300	2.4	3-pin T
TN0606	60	1.5	150	2.0	3-pin T
TN2106	60	2.5	50	2.0	3-pin T
2N6660	60	3.0	50	2.0	3-pin T
TN0106	60	3.0	60	2.0	3-pin T
VN0106	60	3.0	65	2.4	3-pin T
VN0606	60	3.0	50	2.0	3-pin T
VN2106	60	4.0	50	2.4	3-pin T
2N7000	60	5.0	60	3.0	3-pin T
2N7002	60	7.5	50	2.5	3-pin S
2N7008	60	7.5	50	2.5	3-pin T
VN2222L	60	7.5	60	2.5	3-pin T

HIGH-VOLTAGE INTERFACE: MOSFETs – Interface (Continued)

Part #	BV _{DSS} Min. (V)	R _{DS(on)} Max. (Ω)	C _{iss} Max. (pF)	V _{GS(TH)} Max. (V)	
Enhancement-Mode N-Channel (Continued)					
VN0808	80	4.0	50	2.0	3-pin T
VN0109	90	3.0	65	2.4	3-pin T
2N6661	90	4.0	50	2.0	3-pin T
VN2210	100	0.4	500	2.4	3-pin T
TN0610	100	1.5	150	2.0	3-pin S
TN2510	100	1.5	125	2.0	3-pin S
TN0110	100	3.0	60	2.0	3-pin T
VN2110	100	4.0	50	2.4	3-pin S
VN1206	120	6.0	125	2.0	3-pin T
TN0620	200	6.0	150	1.6	3-pin T
VN2224	240	1.3	350	3.0	3-pin T
TN2524	240	6.0	125	2.0	3-pin S
VN2406	240	6.0	125	2.0	3-pin T
VN2410	240	10.0	125	2.0	3-pin T
TN2124	240	15.0	50	2.0	3-pin S
TN2425	250	3.5	200	2.0	3-pin S
TN5325	250	7.0	110	2.0	3-pin T
TN2130	300	25.0	50	2.4	3-pin S
TN2435	350	6.0	200	0.8 (min)	3-pin S
TN5335	350	15.0	110	2.0	3-pin S
TN2640	400	5.0	225	2.0	3-pin D
TN2540	400	12.0	125	2.0	3-pin T
VN4012	400	12.0	110	1.8	3-pin T
VN2450	500	13.0	150	4.0	3-pin T
VN0550	500	60.0	55	4.0	3-pin T
VN2460	600	20.0	150	4.0	3-pin T
Enhancement-Mode P-Channel					
LP0701	–16.5	1.5	250	–1.0	3-pin T
TP2502	–20	2.0	125	–2.4	3-pin S
VP3203	–30	0.6	300	–3.5	3-pin T
TP0604	–40	2.0	150	–2.4	3-pin T
TP2104	–40	6.0	60	–2.0	3-pin T
VP0104	–40	8.0	60	–3.5	3-pin T
VP2206	–60	0.9	450	–3.5	3-pin T
VP0106	–60	8.0	60	–3.5	3-pin T
VP2106	–60	12.0	60	–3.5	3-pin T
VP0808	–80	5.0	150	–4.5	3-pin T
VP0109	–90	8.0	60	–3.5	3-pin T
TP2510	–100	3.5	125	–2.4	3-pin S
VP2110	–100	12.0	60	–3.5	3-pin S
TP0620	–200	12.0	150	–2.4	3-pin T
TP2520	–200	12.0	125	–2.0	3-pin S
TP2522	–220	12.0	125	–2.4	3-pin S
TP5322	–220	12.0	110	–2.4	3-pin S
TP2424	–240	8.0	200	–2.4	3-pin S
TP2435	–350	15.0	200	–2.4	3-pin S

HIGH-VOLTAGE INTERFACE: MOSFETs – Interface (Continued)

Part #	BV _{DSS} Min. (V)	R _{DS(on)} Max. (Ω)	C _{iss} Typ. (pF)	V _{GS(th)} Max. (V)	
Enhancement-Mode P-Channel (Continued)					
TP2635	–350	15.0	300	–2.0	3-pin T
TP2535	–350	25.0	125	–2.4	3-pin T
TP5335	–350	30.0	110	–2.4	3-pin S
TP2640	–400	15.0	300	–2.0	3-pin T
TP2540	–400	25.0	125	–2.4	3-pin T
VP2450	–500	30.0	190	–3.5	3-pin T
VP0550	–500	125.0	70	–4.5	3-pin T
TN2501	18	2.5	110	1.0	3-pin S
TN0702	20	1.3	200	1.0	3-pin T
VN0300	30	1.2	190	2.5	3-pin T
TN0604	40	0.8	190	1.6	3-pin T
TN2504	40	1.0	125	1.6	3-pin S
TN0104	40	2.0	70	1.6	3-pin T
VN0104	40	3.0	65	2.4	3-pin T
VN3205	50	0.3	300	2.4	3-pin T
TN0606	60	1.5	150	2.0	3-pin T
TN2106	60	2.5	50	2.0	3-pin T
2N6660	60	3.0	50	2.0	3-pin T
TN0106	60	3.0	60	2.0	3-pin T
VN0106	60	3.0	65	2.4	3-pin T
VN0606	60	3.0	50	2.0	3-pin T
VN2106	60	4.0	50	2.4	3-pin T
2N7000	60	5.0	60	3.0	3-pin T
2N7002	60	7.5	50	2.5	3-pin S
2N7008	60	7.5	50	2.5	3-pin T
VN2222L	60	7.5	60	2.5	3-pin T
VN0808	80	4.0	50	2.0	3-pin T
VN0109	90	3.0	65	2.4	3-pin T
2N6661	90	4.0	50	2.0	3-pin T
VN2210	100	0.4	500	2.4	3-pin T
N-Channel (Enhancement-Mode MOSFET Arrays)					
TD9944	240	6	65	2	8-pin S

Complimentary (Enhancement-Mode MOSFET Arrays)

Part #	BV _{DSS} N-Channel (V)	BV _{DSS} P-Channel (V)	R _{DS(on)} N-Channel Max. (Ω)	R _{DS(on)} P-Channel Max. (Ω)	V _{GS(th)} Max. (V)	Details
TC1550	500	–500	60.0	125.0	4.0	N- and P-Channel F
TC2320	200	–200	7.0	12.0	2.0	N- and P-Channel F
TC6215	150	–150	4.0	7.0	2.0	N- and P-Channel F
TC6320	200	–200	7.0	8.0	2.0	N- and P-Channel F
TC6321	200	–200	7.0	8.0	2.0	N- and P-Channel F
TC7920	200	–200	7.0	8.0	2.0	2 N- and P-Channel F
TC8020	200	–200	8.0	9.5	3.0	6 N- and P-Channel F
TC8220	200	–200	5.3	6.5	2.0	2 N- and P-Channel F

HIGH-VOLTAGE INTERFACE: Application Specific

Part #	DC/DC	Input Voltage Min. (V)	Input Voltage Max. (V)	Output Voltage Min. (V _{RMS})	Output Voltage Max. (V _{RMS})	Load Min. (pF)
Liquid Lens Driver						
HV892	Internal Charge Pump	2.65	5.5	10	60	100

Complimentary MOSFET Level Translator and Driver

Part #	# of Channels	Input Voltage Low (V)	Input Voltage High (V)	Output Voltage Low (V)	Output Voltage High (V)	Input to Output Isolation (V)
HT0440	2	3.15	5.5	6	10	±400
HT0740	1	3.15	5.5	4.5	8.5	±400

High-Side Current Monitor

Part #	V _{IN} (V)	Gain	Rise and Fall Time (μs)	V _{SENSE} Max. (mV)	Quiescent Current Max. (mA)
HV7800	8.0–450	Fixed, 1	0.7–2.0	500	50
HV7801	8.0–450	Fixed, 5	0.7–2.0	500	50
HV7802	8.0–450	Adjustable	0.7–1.4	500	50

Fault Protection

Part #	Voltage (V)	# of Channels	R _{ON} (Ω)	V _{OFF} (V)
FP0100	100	1	4.5	4.5

Relay Driver and Controller

Part #	V _{IN} Min. (V)	V _{IN} Max. (V)	I _{IN} Max. (mA)	Oscillator Frequency Min. (kHz)	Oscillator Frequency Max. (kHz)	Oscillator Frequency f _{SYNC} Min. (kHz)	Max Output Duty Cycle (%)	Typical Current Sense Pull-In (V)	Typical Current Sense Hold	External Adjustable Regulator Output Voltage (V)	Ext. Resistor
HV9901	10	450	2	20	140	150	99.5	0.883	Adjustable	2.0–5.5	

LINEAR

LINEAR: Op Amps

Part #	# Per Package	GBWP	I _O Typical (μA)	V _{OS} Max (mV)	Typical Input Bias Current (pA)	Input Voltage Noise Density (nV/√Hz)	Operating Voltage (V)	Temperature Range (°C)	Features	
MCP6441	1	9 kHz	0.45	4.5	1	190 ⁽¹⁾	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	5-pin S
MCP6442	2	9 kHz	0.45	4.5	1	190 ⁽¹⁾	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin S
MCP6444	4	9 kHz	0.45	4.5	1	190 ⁽¹⁾	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	14-pin S
MCP6031	1	10 kHz	0.9	0.15	1	165 ⁽¹⁾	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output	8-pin S
MCP6032	2	10 kHz	0.9	0.15	1	165 ⁽¹⁾	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output	8-pin S
MCP6033	1	10 kHz	0.9	0.15	1	165 ⁽¹⁾	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Chip select	8-pin S
MCP6034	4	10 kHz	0.9	0.15	1	165 ⁽¹⁾	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output	14-pin S
MCP6041	1	14 kHz	0.6	3	1	170 ⁽¹⁾	1.4 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin PL
MCP6042	2	14 kHz	0.6	3	1	170 ⁽¹⁾	1.4 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin PL
MCP6043	1	14 kHz	0.6	3	1	170 ⁽¹⁾	1.4 to 6.0	–40 to +125	Rail-to-Rail Input/Output, Chip select	8-pin PL
MCP6044	4	14 kHz	0.6	3	1	170 ⁽¹⁾	1.4 to 6.0	–40 to +125	Rail-to-Rail Input/Output	14-pin PL
MIC7111	1	25 kHz	20	7	1	110	1.8 to 11	–40 to +85	Rail-to-Rail Input/Output	5-pin S

Legend: S = Standard Pinout; R = Reverse Pinout; U = Alternative Pinout

Note 1: Values are typical at 1 kHz **2:** Values are typical at 10 kHz

LINEAR: Op Amps (Continued)

Part #	# Per Package	GBWP	I _Q Typical (μA)	V _{OS} Max (mV)	Typical Input Bias Current (pA)	Input Voltage Noise Density (nV/√Hz)	Operating Voltage (V)	Temperature Range (°C)	Features	
MCP6421	1	90 kHz	4.4	1	1	95 ⁽¹⁾	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection	5-pin S
MCP6422	2	90 kHz	4.4	1	1	95 ⁽¹⁾	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection	8-pin S
MCP6424	4	90 kHz	4.4	1	1	95 ⁽¹⁾	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection	14-pin S
MCP6141	1	100 kHz	0.6	3	1	170 ⁽¹⁾	1.4 to 6.0	–40 to +125	Rail-to-Rail Input/Output, G >10 stable	5-pin S
MCP6142	2	100 kHz	0.6	3	1	170 ⁽¹⁾	1.4 to 6.0	–40 to +125	Rail-to-Rail Input/Output, G >10 stable	8-pin S
MCP6143	1	100 kHz	0.6	3	1	170 ⁽¹⁾	1.4 to 6.0	–40 to +125	Rail-to-Rail Input/Output, G >10 stable, Chip select	8-pin S
MCP6144	4	100 kHz	0.6	3	1	170 ⁽¹⁾	1.4 to 6.0	–40 to +125	Rail-to-Rail Input/Output, G >10 stable	14-pin S
MCP606	1	155 kHz	19	0.25	1	38 ⁽¹⁾	2.5 to 6.0	–40 to +85	Rail-to-Rail Output	8-pin S
MCP607	2	155 kHz	19	0.25	1	38 ⁽¹⁾	2.5 to 6.0	–40 to +85	Rail-to-Rail Output	8-pin S
MCP608	1	155 kHz	19	0.25	1	38 ⁽¹⁾	2.5 to 6.0	–40 to +85	Rail-to-Rail Output, Chip select	8-pin S
MCP609	4	155 kHz	19	0.25	1	38 ⁽¹⁾	2.5 to 6.0	–40 to +85	Rail-to-Rail Output	14-pin S
MCP616	1	190 kHz	19	0.15	15000	32 ⁽¹⁾	2.3 to 5.5	–40 to +85	Rail-to-Rail Output, PNP input	8-pin S
MCP617	2	190 kHz	19	0.15	15000	32 ⁽¹⁾	2.3 to 5.5	–40 to +85	Rail-to-Rail Output, PNP input	8-pin S
MCP618	1	190 kHz	19	0.15	15000	32 ⁽¹⁾	2.3 to 5.5	–40 to +85	Rail-to-Rail Output, Chip select, PNP input	8-pin S
MCP619	4	190 kHz	19	0.15	15000	32 ⁽¹⁾	2.3 to 5.5	–40 to +85	Rail-to-Rail Output, PNP input	14-pin S
MCP6231	1	300 kHz	20	5	1	52 ⁽¹⁾	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin S 5-pin S
MCP6232	2	300 kHz	20	5	1	52 ⁽¹⁾	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin S
MCP6234	4	300 kHz	20	5	1	52 ⁽¹⁾	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	14-pin S
MCP6051	1	385 kHz	30	0.15	1	34 ⁽²⁾	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin S
MCP6052	2	385 kHz	30	0.15	1	34 ⁽²⁾	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin S
MCP6054	4	385 kHz	30	0.15	1	34 ⁽²⁾	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	14-pin S
MIC861	1	400 kHz	4.6	10	20	–	2.43 to 5.25	–40 to +85	Rail-to-Rail Output	5-pin S
MIC863	2	450 kHz	4.2	6.0	10	–	2.0 to 5.25	–40 to +85	Rail-to-Rail Output	8-pin S
LMC7101	1	500 kHz	500	6	1	37	2.7 to 12	–40 to +85	Rail-to-Rail Input/Output	5-pin S
MIC7300	1	500 kHz	1000	9	0.5	37	2.2 to 10	–40 to +85	Rail-to-Rail Input/Output, High Output Drive	5-pin S
MCP6241	1	550 kHz	50	5	1	45 ⁽¹⁾	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output	8-pin S 5-pin S
MCP6242	2	550 kHz	50	5	1	45 ⁽¹⁾	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output	8-pin S
MCP6244	4	550 kHz	50	5	1	45 ⁽¹⁾	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output	14-pin S
MCP6061	1	730 kHz	60	0.15	1	25 ⁽²⁾	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin S
MCP6062	2	730 kHz	60	0.15	1	25 ⁽²⁾	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin S
MCP6064	4	730 kHz	60	0.15	1	25 ⁽²⁾	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	14-pin S
MIC7122	2	750 kHz	800	9	1	37	2.2 to 15	–40 to +85	Rail-to-Rail Input/Output	8-pin S
MCP6001	1	1 MHz	100	4.5	1	28 ⁽¹⁾	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	5-pin S
MCP6002	2	1 MHz	100	4.5	1	28 ⁽¹⁾	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin S
MCP6004	4	1 MHz	100	4.5	1	28 ⁽¹⁾	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	14-pin S
MCP6401	1	1 MHz	45	4.5	1	28 ⁽¹⁾	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	5-pin S
MCP6402	2	1 MHz	45	4.5	1	28 ⁽¹⁾	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin S
MCP6404	4	1 MHz	45	4.5	1	28 ⁽¹⁾	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	14-pin S
MCP6411	1	1 MHz	47	1	1	38 ⁽¹⁾	1.7 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection	5-pin S
MCP6L01	1	1 MHz	85	5	2	24 ⁽²⁾	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	5-pin S
MCP6L02	2	1 MHz	85	5	2	24 ⁽²⁾	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin S
MCP6L04	4	1 MHz	85	5	2	24 ⁽²⁾	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	14-pin S

Legend: S = Standard Pinout; R = Reverse Pinout; U = Alternative Pinout
Note 1: Values are typical at 1 kHz **2:** Values are typical at 10 kHz

LINEAR: Op Amps (Continued)

Part #	# per Package	GBWP	I _Q Typical (μA)	V _{OS} Max (mV)	Typical Input Bias Current (pA)	Input Voltage Noise Density (nV/√Hz)	Operating Voltage (V)	Temperature Range (°C)	Features	
MCP6071	1	1.2 MHz	110	0.15	1	19 ⁽²⁾	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin
MCP6072	2	1.2 MHz	110	0.15	1	19 ⁽²⁾	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin
MCP6074	4	1.2 MHz	110	0.15	1	19 ⁽²⁾	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	14-pin
MCP6H01	1	1.2 MHz	135	3.5	10	35 ⁽¹⁾	Single Supply: 3.5 to 16 Dual Supply: ±1.75 to ±8	–40 to +125	Rail-to-Rail Output	8-pin 5-pin
MCP6H02	2	1.2 MHz	135	3.5	10	35 ⁽¹⁾	Single Supply: 3.5 to 16 Dual Supply: ±1.75 to ±8	–40 to +125	Rail-to-Rail Output	8-pin
MCP6H04	4	1.2 MHz	135	3.5	10	35 ⁽¹⁾	Single Supply: 3.5 to 16 Dual Supply: ±1.75 to ±8	–40 to +125	Rail-to-Rail Output	14-pin
MCP6271	1	2 MHz	170	3	1	20 ⁽¹⁾	2.0 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin
MCP6272	2	2 MHz	170	3	1	20 ⁽¹⁾	2.0 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin
MCP6273	1	2 MHz	170	3	1	20 ⁽¹⁾	2.0 to 6.0	–40 to +125	Rail-to-Rail Input/Output, Chip select	8-pin
MCP6274	4	2 MHz	170	3	1	20 ⁽¹⁾	2.0 to 6.0	–40 to +125	Rail-to-Rail Input/Output	14-pin
MCP6275	2	2 MHz	150	3	1	20 ⁽¹⁾	2.0 to 6.0	–40 to +125	Rail-to-Rail Input/Output, Dual connected, Chip select	8-pin
MCP6471	1	2 MHz	100	1.5	1	27 ⁽¹⁾	2.0 to 5.5	–40 to +125	Rail-to-Rail Input/Output	5-pin
MCP6472	2	2 MHz	100	1.5	1	27 ⁽¹⁾	2.0 to 5.5	–40 to +125	Rail-to-Rail Input/Output	8-pin
MCP6474	4	2 MHz	100	1.5	1	27 ⁽¹⁾	2.0 to 5.5	–40 to +125	Rail-to-Rail Input/Output	14-pin
MCP6L71	1	2 MHz	150	4	1	19 ⁽²⁾	2.0 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin
MCP6L72	2	2 MHz	150	4	1	19 ⁽²⁾	2.0 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin
MCP6L74	4	2 MHz	150	4	1	19 ⁽²⁾	2.0 to 6.0	–40 to +125	Rail-to-Rail Input/Output	14-pin
MIC6211	1	2.5 MHz	1200	7	50000	–	4.0 to 32	–40 to +85	–	5-pin
MCP6H71	1	2.7 MHz	480	4	10	28 ⁽¹⁾	Single Supply: 3.5 to 12 Dual Supply: ±1.75 to ±6	–40 to +125	Rail-to-Rail Output	8-pin
MCP6H72	2	2.7 MHz	480	4	10	28 ⁽¹⁾	Single Supply: 3.5 to 12 Dual Supply: ±1.75 to ±6	–40 to +125	Rail-to-Rail Output	8-pin
MCP6H74	4	2.7 MHz	480	4	10	28 ⁽¹⁾	Single Supply: 3.5 to 12 Dual Supply: ±1.75 to ±6	–40 to +125	Rail-to-Rail Output	14-pin
MCP601	1	2.8 MHz	230	2	1	29 ⁽¹⁾	2.7 to 6.0	–40 to +125	Rail-to-Rail Output	8-pin
MCP602	2	2.8 MHz	230	2	1	29 ⁽¹⁾	2.7 to 6.0	–40 to +125	Rail-to-Rail Output	8-pin
MCP603	1	2.8 MHz	230	2	1	29 ⁽¹⁾	2.7 to 6.0	–40 to +125	Rail-to-Rail Output, Chip select	8-pin
MCP604	4	2.8 MHz	230	2	1	29 ⁽¹⁾	2.7 to 6.0	–40 to +125	Rail-to-Rail Output	14-pin
MCP6L1	1	2.8 MHz	200	3	1	21 ⁽²⁾	2.7 to 6.0	–40 to +125	Rail-to-Rail Output	8-pin
MCP6L2	2	2.8 MHz	200	3	1	21 ⁽²⁾	2.7 to 6.0	–40 to +125	Rail-to-Rail Output	8-pin
MCP6L4	4	2.8 MHz	200	3	1	21 ⁽²⁾	2.7 to 6.0	–40 to +125	Rail-to-Rail Output	14-pin
MIC862	2	3.0 MHz	31	6	10	–	2.0 to 5.25	–40 to +85	Rail-to-Rail Output	8-pin
MCP6286	1	3.5 MHz	540	1.5	1	5.4 ⁽²⁾	2.2 to 5.5	–40 to +125	Rail-to-Rail Output, Low noise	5-pin
MIC860	1	4.0 MHz	33	20	20	–	2.43 to 5.25	–40 to +85	Rail-to-Rail Output	5-pin
MCP6481	1	4 MHz	240	1.5	1	23 ⁽¹⁾	2.2 to 5.5	–40 to +125	Rail-to-Rail Input/Output	5-pin
MCP6482	2	4 MHz	240	1.5	1	23 ⁽¹⁾	2.2 to 5.5	–40 to +125	Rail-to-Rail Input/Output	8-pin
MCP6484	4	4 MHz	240	1.5	1	23 ⁽¹⁾	2.2 to 5.5	–40 to +125	Rail-to-Rail Input/Output	14-pin
MCP6281	1	5 MHz	445	3	1	16 ⁽¹⁾	2.2 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin
MCP6282	2	5 MHz	445	3	1	16 ⁽¹⁾	2.2 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin
MCP6283	1	5 MHz	445	3	1	16 ⁽¹⁾	2.2 to 6.0	–40 to +125	Rail-to-Rail Input/Output, Chip select	8-pin
MCP6284	4	5 MHz	445	3	1	16 ⁽¹⁾	2.2 to 6.0	–40 to +125	Rail-to-Rail Input/Output	14-pin

Legend: S = Standard Pinout; R = Reverse Pinout; U = Alternative Pinout

Note 1: Values are typical at 1 kHz **2:** Values are typical at 10 kHz

LINEAR: Op Amps (Continued)

Part #	# per Package	GBWP	I _Q Typical (μA)	V _{OS} Max (mV)	Typical Input Bias Current (pA)	Input Voltage Noise Density (nV/rtHz)	Operating Voltage (V)	Temperature Range (°C)	Features	
MCP6285	2	5 MHz	400	3	1	16 ⁽¹⁾	2.2 to 6.0	–40 to +125	Rail-to-Rail Input/Output, Dual connected, Chip select	8-pin
MCP6H81	1	5.5 MHz	700	4	10	23 ⁽¹⁾	Single Supply: 3.5 to 12 Dual Supply: ±1.75 to ±6	–40 to +125	Rail-to-Rail Output	8-pin
MCP6H82	2	5.5 MHz	700	4	10	23 ⁽¹⁾	Single Supply: 3.5 to 12 Dual Supply: ±1.75 to ±6	–40 to +125	Rail-to-Rail Output	8-pin
MCP6H84	4	5.5 MHz	700	4	10	23 ⁽¹⁾	Single Supply: 3.5 to 12 Dual Supply: ±1.75 to ±6	–40 to +125	Rail-to-Rail Output	14-pin
MCP6491	1	7.5 MHz	530	1.5	1	19 ⁽¹⁾	2.4 to 5.5	–40 to +125	Rail-to-Rail Input/Output	5-pin
MCP6492	2	7.5 MHz	530	1.5	1	19 ⁽¹⁾	2.4 to 5.5	–40 to +125	Rail-to-Rail Input/Output	8-pin
MCP6494	4	7.5 MHz	530	1.5	1	19 ⁽¹⁾	2.4 to 5.5	–40 to +125	Rail-to-Rail Input/Output	14-pin
MCP6021	1	10 MHz	1000	0.5	1	8.7 ⁽²⁾	2.5 to 5.5	–40 to +125	Rail-to-Rail Input/Output, 1/2 V _{CC} V _{REF}	8-pin
MCP6022	2	10 MHz	1000	0.5	1	8.7 ⁽²⁾	2.5 to 5.5	–40 to +125	Rail-to-Rail Input/Output	8-pin
MCP6023	1	10 MHz	1000	0.5	1	8.7 ⁽²⁾	2.5 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Chip select, 1/2 V _{CC} V _{REF}	8-pin
MCP6024	4	10 MHz	1000	0.5	1	8.7 ⁽²⁾	2.5 to 5.5	–40 to +125	Rail-to-Rail Input/Output	14-pin
MCP6291	1	10 MHz	1000	3	1	8.7 ⁽²⁾	2.4 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin
MCP6292	2	10 MHz	1000	3	1	8.7 ⁽²⁾	2.4 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin
MCP6293	1	10 MHz	1000	3	1	8.7 ⁽²⁾	2.4 to 6.0	–40 to +125	Rail-to-Rail Input/Output, Chip select	8-pin
MCP6294	4	10 MHz	1000	3	1	8.7 ⁽²⁾	2.4 to 6.0	–40 to +125	Rail-to-Rail Input/Output	14-pin
MCP6295	2	10 MHz	1100	3	1	8.7 ⁽²⁾	2.4 to 6.0	–40 to +125	Rail-to-Rail Input/Output, Dual connected, Chip select	8-pin
MCP6H91	1	10 MHz	2000	4	10	23 ⁽¹⁾	Single Supply: 3.5 to 12 Dual Supply: ±1.75 to ±6	–40 to +125	Rail-to-Rail Output	8-pin
MCP6H92	2	10 MHz	2000	4	10	23 ⁽¹⁾	Single Supply: 3.5 to 12 Dual Supply: ±1.75 to ±6	–40 to +125	Rail-to-Rail Output	8-pin
MCP6H94	4	10 MHz	2000	4	10	23 ⁽¹⁾	Single Supply: 3.5 to 12 Dual Supply: ±1.75 to ±6	–40 to +125	Rail-to-Rail Output	14-pin
MCP6L91	1	10 MHz	850	4	1	9.4 ⁽²⁾	2.4 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin
MCP6L92	2	10 MHz	850	4	1	9.4 ⁽²⁾	2.4 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin
MCP6L94	4	10 MHz	850	4	1	9.4 ⁽²⁾	2.4 to 6.0	–40 to +125	Rail-to-Rail Input/Output	14-pin
MCP621	1	20 MHz	2500	0.2	5	13 ⁽³⁾	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, Chip select, mCal Technology	8-pin
MCP621S	1	20 MHz	2500	0.2	5	13 ⁽³⁾	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, mCal Technology	5-pin
MCP622	2	20 MHz	2500	0.2	5	13 ⁽³⁾	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, mCal Technology	8-pin
MCP623	1	20 MHz	2500	0.2	5	13 ⁽³⁾	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, Chip select, mCal Technology	6-pin
MCP624	4	20 MHz	2500	0.2	5	13 ⁽³⁾	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, mCal Technology	14-pin
MCP625	2	20 MHz	2500	0.2	5	13 ⁽³⁾	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, Chip selects, mCal Technology	10-pin
MCP629	4	20 MHz	2500	0.2	5	13 ⁽³⁾	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, Chip selects, mCal Technology	16-pin
MCP631	1	24 MHz	2500	8	4	10 ⁽³⁾	2.5 to 5.5	–40 to +125	Rail-to-Rail Output	8-pin
MCP632	2	24 MHz	2500	8	4	10 ⁽³⁾	2.5 to 5.5	–40 to +125	Rail-to-Rail Output	8-pin
MCP633	1	24 MHz	2500	8	4	10 ⁽³⁾	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, Chip select	8-pin
MCP634	4	24 MHz	2500	8	4	10 ⁽³⁾	2.5 to 5.5	–40 to +125	Rail-to-Rail Output	14-pin
MCP635	2	24 MHz	2500	8	4	10 ⁽³⁾	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, Chip selects	10-pin
MCP639	4	24 MHz	2500	8	4	10 ⁽³⁾	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, Chip selects	16-pin

Legend: S = Standard Pinout; R = Reverse Pinout; U = Alternative Pinout

Note 1: Values are typical at 1 kHz **2:** Values are typical at 10 kHz **3:** Values are typical at 1 MHz

LINEAR: Op Amps (Continued)

Part #	# per Package	GBWP	I _o Typical (μA)	V _{os} Max (mV)	Typical Input Bias Current (pA)	Input Voltage Noise Density (nV/√Hz)	Operating Voltage (V)	Temperature Range (°C)	Features	
MCP651	1	50 MHz	6000	0.2	6	7.5 ⁽³⁾	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, Chip select, mCal Technology	8-pin
MCP651S	1	50 MHz	6000	0.2	6	7.5 ⁽³⁾	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, mCal Technology	5-pin
MCP652	2	50 MHz	6000	0.2	6	7.5 ⁽³⁾	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, mCal Technology	8-pin
MCP653	1	50 MHz	6000	0.2	6	7.5 ⁽³⁾	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, Chip select, mCal Technology	6-pin
MCP654	4	50 MHz	6000	0.2	6	7.5 ⁽³⁾	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, mCal Technology	14-pin
MCP655	2	50 MHz	6000	0.2	6	7.5 ⁽³⁾	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, Chip selects, mCal Technology	10-pin
MCP659	4	50 MHz	6000	0.2	6	7.5 ⁽³⁾	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, Chip selects, mCal Technology	16-pin
MCP660	3	60 MHz	6000	8	6	6.8 ⁽³⁾	2.5 to 5.5	–40 to +125	Rail-to-Rail Output	14-pin
MCP661	1	60 MHz	6000	8	6	6.8 ⁽³⁾	2.5 to 5.5	–40 to +125	Rail-to-Rail Output	8-pin
MCP662	2	60 MHz	6000	8	6	6.8 ⁽³⁾	2.5 to 5.5	–40 to +125	Rail-to-Rail Output	8-pin
MCP663	1	60 MHz	6000	8	6	6.8 ⁽³⁾	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, Chip select	8-pin
MCP664	4	60 MHz	6000	8	6	6.8 ⁽³⁾	2.5 to 5.5	–40 to +125	Rail-to-Rail Output	14-pin
MCP665	2	60 MHz	6000	8	6	6.8 ⁽³⁾	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, Chip selects	10-pin
MCP669	4	60 MHz	6000	8	6	6.8 ⁽³⁾	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, Chip selects	16-pin
MIC920	1	80 MHz	550	5	260000	10	5.0 to 18	–40 to +85	High Output Drive, High Slew Rate	5-pin

Legend: S = Standard Pinout; R = Reverse Pinout; U = Alternative Pinout

Note 1: Values are typical at 1 kHz **2:** Values are typical at 10 kHz **3:** Values are typical at 1 MHz

LINEAR: Zero-Drift Operational Amplifiers

Part #	# per Package	GBWP	I _o Max (mA)	V _{os} Max (μV)	V _{os} Drift Max (μV/°C)	Operating Voltage (V)	Temperature Range (°C)	Features
MCP6V11	1	80 kHz	0.011	8	0.05	1.6 to 5.5	–40 to +125	Rail-to-Rail Input/Output
MCP6V12	2	80 kHz	0.011	8	0.05	1.6 to 5.5	–40 to +125	Rail-to-Rail Input/Output
MCP6V14	4	80 kHz	0.011	8	0.05	1.6 to 5.5	–40 to +125	Rail-to-Rail Input/Output
MCP6V16	1	80 kHz	0.011	25	0.15	1.6 to 5.5	–40 to +125	Rail-to-Rail Input/Output
MCP6V17	2	80 kHz	0.011	25	0.15	1.6 to 5.5	–40 to +125	Rail-to-Rail Input/Output
MCP6V19	4	80 kHz	0.011	25	0.15	1.6 to 5.5	–40 to +125	Rail-to-Rail Input/Output
MCP6V31	1	300 kHz	0.034	8	0.05	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output
MCP6V32	2	300 kHz	0.034	8	0.05	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output
MCP6V34	4	300 kHz	0.034	8	0.05	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output
MCP6V36	1	300 kHz	0.034	25	0.15	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output
MCP6V37	2	300 kHz	0.034	25	0.15	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output
MCP6V39	4	300 kHz	0.034	25	0.15	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output
TC7652	1	0.4 MHz	3	5	0.05	5 to 16	0 to +70	Single and Split Supply, Low Noise
MCP6V61	1	1 MHz	0.13	8	0.015	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection
MCP6V62	2	1 MHz	0.13	8	0.015	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection
MCP6V64	4	1 MHz	0.13	8	0.015	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection
MCP6V01	1	1.3 MHz	0.4	2	0.05	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output
MCP6V02	2	1.3 MHz	0.4	2	0.05	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output
MCP6V03	1	1.3 MHz	0.4	2	0.05	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Chip select
MCP6V06	1	1.3 MHz	0.4	3	0.05	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output

LINEAR: Zero-Drift Operational Amplifiers (Continued)

Part #	# per Package	GBWP	I _o Max (mA)	V _{os} Max (μV)	V _{os} Drift Max (μV/°C)	Operating Voltage (V)	Temperature Range (°C)	Features
MCP6V07	2	1.3 MHz	0.4	3	0.05	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output
MCP6V08	1	1.3 MHz	0.4	3	0.05	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Chip select
TC913A/B	2	1.5 MHz	1.1	15	0.15/0.30	7 to 16	0 to +70	Single and Split Supply
TC7650	1	2 MHz	3.5	5	0.05	4.5 to 16	0 to +70	Single and Split Supply
MCP6V26	1	2 MHz	0.8	2	0.05	2.3 to 5.5	–40 to +125	Rail-to-Rail Input/Output
MCP6V27	2	2 MHz	0.8	2	0.05	2.3 to 5.5	–40 to +125	Rail-to-Rail Input/Output
MCP6V28	1	2 MHz	0.8	2	0.05	2.3 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Chip select
MCP6V51	1	2 MHz	0.59	15	0.038	4.5 to 45	–40 to +125	Rail-to-Rail Output, Enhanced EMI Rejection
MCP6V71	1	2 MHz	0.26	8	0.015	2.0 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection
MCP6V72	2	2 MHz	0.26	8	0.015	2.0 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection
MCP6V74	4	2 MHz	0.26	8	0.015	2.0 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection
MCP6V81	1	5 MHz	0.77	9	0.02	2.2 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection
MCP6V82	2	5 MHz	0.77	9	0.059	2.2 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection
MCP6V84	4	5 MHz	0.77	9	0.059	2.2 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection
MCP6V91	1	10 MHz	1.6	9	0.017	2.4 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection
MCP6V92	2	10 MHz	1.6	9	0.04	2.4 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection
MCP6V94	4	10 MHz	1.6	9	0.04	2.4 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection

LINEAR: Differential Amplifiers

Part #	# per Package	GBWP	Slew Rate (V/μs)	I _q Typical (mA)	V _{os} Max (μV)	Input Voltage Noise Density (nV/√Hz)	Operating Voltage (V)	Temperature Range (°C)	
MCP6D11	1	90 MHz	25	1.4	150	5	2.5 to 5.5	–40 to +125	Low noise po

LINEAR: Programmable Gain Amplifiers (PGA)

Part #	Channels	–3dB BW (MHz)	I _o Typ. (mA)	V _{os} (μV)	Operating Voltage (V)	Temperature Range (°C)	Features
MCP6S21	1	2 to 12	1.1	275	2.5 to 5.5	–40 to +85	SPI, Eight Gain steps, Software shutdown
MCP6S22	2	2 to 12	1.1	275	2.5 to 5.5	–40 to +85	SPI, Eight Gain steps, Software shutdown
MCP6S26	6	2 to 12	1.1	275	2.5 to 5.5	–40 to +85	SPI, Eight Gain steps, Software shutdown
MCP6S28	8	2 to 12	1.1	275	2.5 to 5.5	–40 to +85	SPI, Eight Gain steps, Software shutdown
MCP6S91	1	1 to 18	1.0	4000	2.5 to 5.5	–40 to +125	SPI, Eight Gain steps, Software shutdown, V _{REF}
MCP6S92	2	1 to 18	1.0	4000	2.5 to 5.5	–40 to +125	SPI, Eight Gain steps, Software shutdown
MCP6S93	2	1 to 18	1.0	4000	2.5 to 5.5	–40 to +125	SPI, Eight Gain steps, Software shutdown, V _{REF} , SO

LINEAR: Selectable Gain Amplifiers (SGA)

Part #	Channels	–3dB BW (kHz)	I _o (μA)	V _{os} (mV)	Operating Voltage (V)	Temperature Range (°C)	Gain Steps (V/V)	Features
MCP6G01	1	900	110	4.5	1.8 to 5.5	–40 to +125	1, 10, 50	Tri-State control pin
MCP6G02	2	900	110	4.5	1.8 to 5.5	–40 to +125	1, 10, 50	Tri-State control pin
MCP6G03	1	900	110	4.5	1.8 to 5.5	–40 to +125	1, 10, 50	Tri-State control pin, chip select
MCP6G04	4	900	110	4.5	1.8 to 5.5	–40 to +125	1, 10, 50	Tri-State control pin

LINEAR: Instrumentation Amplifiers

Part #	# Per Package	Bandwidth (kHz)	I _o Max (mA)	Max V _{os} (μV)	V _{os} Drift Max (μV/°C)	Operating Voltage (V)	Temperature Range (°C)	Features
MCP6N11	1	500	1.1	350	2.7	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output, mCal Te
MCP6N16	1	500	1.6	17	0.06	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Enable F Enhanced EMI Rejection

LINEAR: Comparators

Part #	# Per Package	VREF (V)	Typical Propagation Delay (µs)	Io Typical (µA)	Vos Max (mV)	Operating Voltage (V)	Temperature Range (°C)	Features
MCP6541	1	–	4	1	5	1.6 to 5.5	–40 to +125	Push-Pull, Rail-to-Rail Input/Output
MCP6542	2	–	4	1	5	1.6 to 5.5	–40 to +125	Push-Pull, Rail-to-Rail Input/Output
MCP6543	1	–	4	1	5	1.6 to 5.5	–40 to +125	Push-Pull, Rail-to-Rail Input/Output, Chip select
MCP6544	4	–	4	1	5	1.6 to 5.5	–40 to +125	Push-Pull, Rail-to-Rail Input/Output
MCP6546	1	–	4	1	5	1.6 to 5.5	–40 to +125	Open-drain, 9V, Rail-to-Rail Input/Output
MCP6547	2	–	4	1	5	1.6 to 5.5	–40 to +125	Open-drain, 9V, Rail-to-Rail Input/Output
MCP6548	1	–	4	1	5	1.6 to 5.5	–40 to +125	Open-drain, 9V, Rail-to-Rail Input/Output, Chip select
MCP6549	4	–	4	1	5	1.6 to 5.5	–40 to +125	Open-drain, 9V, Rail-to-Rail Input/Output
MCP65R41	1	1.21/2.4	4	2.5	10	1.8 to 5.5	–40 to +125	Push-Pull, Rail-to-Rail Input/Output, VREF
MCP65R46	1	1.21/2.4	4	2.5	10	1.8 to 5.5	–40 to +125	Open Drain, Rail-to-Rail Input/Output, VREF
MCP6561	1	–	0.047	100	10	1.8 to 5.5	–40 to +125	Push-Pull, Rail-to-Rail Input/Output
MCP6562	2	–	0.047	100	10	1.8 to 5.5	–40 to +125	Push-Pull, Rail-to-Rail Input/Output
MCP6564	4	–	0.047	100	10	1.8 to 5.5	–40 to +125	Push-Pull, Rail-to-Rail Input/Output
MCP6566	1	–	0.047	100	10	1.8 to 5.5	–40 to +125	Open-Drain, Rail-to-Rail Input/Output
MCP6567	2	–	0.047	100	10	1.8 to 5.5	–40 to +125	Open-Drain, Rail-to-Rail Input/Output
MCP6569	4	–	0.047	100	10	1.8 to 5.5	–40 to +125	Open-Drain, Rail-to-Rail Input/Output
MIC6270	1	–	0.6	300	5	2.0 to 36	–40 to +85	Open Collector Output, High-Voltage
MIC7211	1	–	4	5	10	2.2 to 5.0	–40 to +85	Rail-to-Rail Input, Push-Pull Output
MIC7221	1	–	4	5	10	2.2 to 5.0	–40 to +85	Rail-to-Rail Input, Open-Drain Output
MIC833	1	1.25	5	1	–	1.5 to 5.5	–40 to +85	Windowed Comparator with Adjustable Hysteresis
MIC841	1	1.25	12	1.5	–	1.5 to 5.5	–40 to +85	Windowed Comparator with Adjustable Hysteresis, Push-Pull and Open-Drain Output Options
MIC842	1	1.25	12	1.5	–	1.5 to 5.5	–40 to +85	Windowed Comparator with Hysteresis, Push-Pull and Open-Drain Output Options

Legend: S = Standard Pinout; R = Reverse Pinout; U = Alternative Pinout

LINEAR: Current Sense Amplifiers

Part #	# per Package	Input Common-Mode Range (V)	Vos Max (µV)	Vos Drift Max (nV/°C)	Max Gain Error (%)	Bandwidth (kHz)	Iq Max (mA)	Operating Voltage (V)	Temperature Range (°C)	
MCP6C02	1	3 to 65	16 (G=20), 14 (G=50), 12 (G=100)	85 (G=20), 70 (G=50), 65 (G=100)	1.6	500 (G=20), 500 (G=50), 350 (G=100)	0.75	2 to 5.5	–40 to +125	Bidirectional
MCP6C04	1	3 to 52	30 (G=20), 27 (G=50), 24 (G=100)	180 (G=20), 140 (G=50), 130 (G=100)	1.6	500 (G=20), 500 (G=50), 350 (G=100)	0.84	2 to 5.5	–40 to +125	Bidirectional

MIXED SIGNAL

MIXED SIGNAL: SUCCESSIVE APPROXIMATION REGISTER (SAR) A/D CONVERTERS

Part #	Resolution (bits)	Maximum Sampling Rate (ksamples/sec)	# of Input Channels	Input Type	Interface	Input Voltage Range (V)	Max. Supply Current (µA)	Max. INL	Temperature Range (°C)	
MCP3021	10	22	1	Single-ended	I²C	2.7 to 5.5	250	±1 LSB	–40 to +125	5-pin
MCP3001	10	200	1	Single-ended	SPI	2.7 to 5.5	500	±1 LSB	–40 to +85	8-pin
MCP3002	10	200	2	Single-ended	SPI	2.7 to 5.5	650	±1 LSB	–40 to +85	8-pin
MCP3004	10	200	4	Single-ended	SPI	2.7 to 5.5	550	±1 LSB	–40 to +85	14-pin
MCP3008	10	200	8	Single-ended	SPI	2.7 to 5.5	550	±1 LSB	–40 to +85	16-pin
MCP3221	12	22	1	Single-ended	I²C	2.7 to 5.5	250	±2 LSB	–40 to +125	5-pin
MCP3201	12	100	1	Single-ended	SPI	2.7 to 5.5	400	±1 LSB	–40 to +85	8-pin

MIXED SIGNAL: SUCCESSIVE APPROXIMATION REGISTER (SAR) A/D CONVERTERS

Part #	Resolution (bits)	Maximum Sampling Rate (ksamples/sec)	# of Input Channels	Input Type	Interface	Input Voltage Range (V)	Max. Supply Current (μA)	Max. INL	Temperature Range (°C)	
MCP3202	12	100	2	Single-ended	SPI	2.7 to 5.5	550	±1 LSB	–40 to +85	8-p
MCP3204	12	100	4	Single-ended	SPI	2.7 to 5.5	400	±1 LSB	–40 to +85	14-p
MCP3208	12	100	8	Single-ended	SPI	2.7 to 5.5	400	±1 LSB	–40 to +85	16-p
MCP3301	13	100	1	Differential	SPI	2.7 to 5.5	450	±1 LSB	–40 to +85	8-p
MCP3302	13	100	2	Differential	SPI	2.7 to 5.5	450	±1 LSB	–40 to +85	14-p
MCP3304	13	100	4	Differential	SPI	2.7 to 5.5	450	±1 LSB	–40 to +85	16-p
MCP33141-05	12	500ksps	1	Single-Ended	SPI	0V to 5.1V	900		–40 to +125	10-p
MCP33141-10	12	1Msps	1	Single-Ended	SPI	0V to 5.1V	900		–40 to +125	10-p
MCP33141D-05	12	500ksps	1	Differential	SPI	±5.1V	900		–40 to +125	10-p
MCP33141D-10	12	1Msps	1	Differential	SPI	±5.1V	900		–40 to +125	10-p
MCP33151-05	14	500ksps	1	Single-Ended	SPI	0V to 5.1V	900	±1.5	–40 to +125	10-p
MCP33151-10	14	1Msps	1	Single-Ended	SPI	0V to 5.1V	900	±1.5	–40 to +125	10-p
MCP33151D-05	14	500ksps	1	Differential	SPI	±5.1V	900	±1.5	–40 to +125	10-p
MCP33151D-10	14	1Msps	1	Differential	SPI	±5.1V	900	±1.5	–40 to +125	10-p
MCP33111-05	12	500ksps	1	Single-Ended	SPI	0V to 5.1V	2400		–40 to +125	10-p
MCP33111-10	12	1Msps	1	Single-Ended	SPI	0V to 5.1V	2400		–40 to +125	10-p
MCP33111D-05	12	500ksps	1	Differential	SPI	±5.1V	2400		–40 to +125	10-p
MCP33111D-10	12	1Msps	1	Differential	SPI	±5.1V	2400		–40 to +125	10-p
MCP33121-05	14	500ksps	1	Single-Ended	SPI	0V to 5.1V	2400	±1.5	–40 to +125	10-p
MCP33121-10	14	1Msps	1	Single-Ended	SPI	0V to 5.1V	2400	±1.5	–40 to +125	10-p
MCP33121D-05	14	500ksps	1	Differential	SPI	±5.1V	2400	±1.5	–40 to +125	10-p
MCP33121D-10	14	1Msps	1	Differential	SPI	±5.1V	2400	±1.5	–40 to +125	10-p
MCP33131-05	16	500ksps	1	Single-Ended	SPI	0V to 5.1V	2400	±6	–40 to +125	10-p
MCP33131-10	16	1Msps	1	Single-Ended	SPI	0V to 5.1V	2400	±6	–40 to +125	10-p
MCP33131D-05	16	500ksps	1	Differential	SPI	±5.1V	2400	±6	–40 to +125	10-p
MCP33131D-10	16	1Msps	1	Differential	SPI	±5.1V	2400	±6	–40 to +125	10-p

MIXED SIGNAL: Delta-Sigma A/D Converters

Part #	Resolution (bits)	Maximum Sampling Rate (samples/sec)	# of Input Channels	Interface	Supply Voltage Range (V)	Typical Supply Current (μA)	Typical INL (ppm)	Temperature Range (°C)	Features
MCP3421	18 to 12	4 to 240	1 Diff	I ² C	2.7 to 5.5	155	10	–40 to +125	PGA, V _{REF}
MCP3422	18 to 12	4 to 240	2 Diff	I ² C	2.7 to 5.5	145	10	–40 to +125	PGA, V _{REF}
MCP3423	18 to 12	4 to 240	2 Diff	I ² C	2.7 to 5.5	145	10	–40 to +125	PGA, V _{REF} , Selectable I ² C addressing
MCP3424	18 to 12	4 to 240	4 Diff	I ² C	2.7 to 5.5	145	10	–40 to +125	PGA, V _{REF} , Selectable I ² C addressing
MCP3425	16 to 12	15 to 240	1 Diff	I ² C	2.7 to 5.5	155	10	–40 to +125	PGA, V _{REF}
MCP3426	16 to 12	15 to 240	2 Diff	I ² C	2.7 to 5.5	145	10	–40 to +125	PGA, V _{REF}
MCP3427	16 to 12	15 to 240	2 Diff	I ² C	2.7 to 5.5	145	10	–40 to +125	PGA, V _{REF} , Selectable I ² C addressing
MCP3428	16 to 12	15 to 240	4 Diff	I ² C	2.7 to 5.5	145	10	–40 to +125	PGA, V _{REF} , Selectable I ² C addressing
MCP3461	16	153.6k	1	SPI	2.7 to 3.6	930	7	–40 to +125	One Differential or Two Single-ended Channels, 153.6 kSPS, Low-Noise Sigma ADCs
MCP3462	16	153.6k	2	SPI	2.7 to 3.6	930	7	–40 to +125	Two Differential or Four Single-ended Channels, 153.6 kSPS, Low-Noise Sigma ADCs

MIXED SIGNAL: Delta-Sigma A/D Converters

Part #	Resolution (bits)	Maximum Sampling Rate (samples/sec)	# of Input Channels	Interface	Supply Voltage Range (V)	Typical Supply Current (μ A)	Typical INL (ppm)	Temperature Range ($^{\circ}$ C)	Features
MCP3464	16	153.6k	4	SPI	2.7 to 3.6	930	7	-40 to +125	Four Differential or Eight Single-ended Channels, 153.6 kSPS, Low-Noise Sigma ADCs
MCP3561	24	153.6k	1	SPI	2.7 to 3.6	930	7	-40 to +125	One Differential or Two Single-ended Channels, 153.6 kSPS, Low-Noise Sigma ADCs
MCP3562	24	153.6k	2	SPI	2.7 to 3.6	930	7	-40 to +125	Two Differential or Four Single-ended Channels, 153.6 kSPS, Low-Noise Sigma ADCs
MCP3564	24	153.6k	4	SPI	2.7 to 3.6	930	7	-40 to +125	Four Differential or Eight Single-ended Channels, 153.6 kSPS, Low-Noise Sigma ADCs
MCP3550-50	22	13	1 Diff	SPI	2.7 to 5.5	120	2	-40 to +125	50 Hz rejection
MCP3550-60	22	15	1 Diff	SPI	2.7 to 5.5	140	2	-40 to +125	60 Hz rejection
MCP3551	22	14	1 Diff	SPI	2.7 to 5.5	120	2	-40 to +125	Simultaneous 50/60 Hz rejection
MCP3553	20	60	1 Diff	SPI	2.7 to 5.5	140	2	-40 to +125	

MIXED SIGNAL: Pipelined A/D Converters

Part #	Resolution	Max Sample Rate (Msamples/sec)	# of Input Channels	Input Type	Interface	Supply Voltage (V)	Power Dissipation (mW)	Input Channel BW (MHz)	SNR (dB)	SFDR (dB)	Input Range (Vp-p)	Features
MCP37D31-200	16	200	1, 2, 4, 8	Differential	Serial DDR LVDS or Parallel CMOS	1.2, 1.8	490	500	74.7	90	2.98	Decimation down-conversion
MCP37231-200	16	200	1, 2, 4, 8	Differential	Serial DDR LVDS or Parallel CMOS	1.2, 1.8	490	500	74.7	90	2.98	Decimation down-conversion
MCP37D20-200	14	200	1	Differential	Serial DDR LVDS or Parallel CMOS	1.2, 1.8	348	650	67.8	96	1.8	Decimation down-conversion
MCP37220-200	14	200	1	Differential	Serial DDR LVDS or Parallel CMOS	1.2, 1.8	348	650	67.8	96	1.8	Decimation down-conversion
MCP37D21-200	14	200	1, 2, 4, 8	Differential	Serial DDR LVDS or Parallel CMOS	1.2, 1.8	490	500	74.2	90	2.98	Decimation down-conversion
MCP37221-200	14	200	1, 2, 4, 8	Differential	Serial DDR LVDS or Parallel CMOS	1.2, 1.8	490	500	74.2	90	2.98	Decimation down-conversion
MCP37D10-200	12	200	1	Differential	Serial DDR LVDS or Parallel CMOS	1.2, 1.8	338	650	67	96	1.8	Decimation down-conversion, shaping rejection
MCP37210-200	12	200	1	Differential	Serial DDR LVDS or Parallel CMOS	1.2, 1.8	338	650	67	96	1.8	Decimation down-conversion, shaping rejection
MCP37D11-200	12	200	1, 2, 4, 8	Differential	Serial DDR LVDS or Parallel CMOS	1.2, 1.8	468	500	71.3	90	2.98	Decimation down-conversion
MCP37211-200	12	200	1, 2, 4, 8	Differential	Serial DDR LVDS or Parallel CMOS	1.2, 1.8	468	500	71.3	90	2.98	Decimation down-conversion, shaping rejection

MIXED SIGNAL: Energy Metering and Power Monitoring ICs

Part #	Dynamic Range	Power System	Typical Accuracy	Input Channels	ADC Resolution	Event Monitoring	Zero-Cross Detection Pin	Output Type	V _{DD} (V)	Temperature Range (°C)	Features
MCP39F511	4000:1	Single Phase	0.1%	I, V, Temp.	24-bit	5	Yes	UART/ Single-wire	2.7 to 3.6	–40 to +125	Power monitoring IC with active, reactive and apparent power, energy, PF, RMS current/voltage, frequency, event notifications, EEPROM, PWM output
MCP39F521	4000:1	Single Phase	0.1%	I, V, Temp.	24-bit	4	Yes	I ² C	2.7 to 3.6	–40 to +125	Power monitoring IC with active, reactive and apparent power, energy, PF, RMS current/voltage, frequency, event notifications, EEPROM, PWM output
MCP39F511N	4000:1	Single Phase	0.5%	I1, I2, V	24-bit	6	Yes	UART	2.7 to 3.6	–40 to +125	Dual-channel power monitoring IC with active, reactive and apparent power, energy, PF, RMS current/voltage, frequency, event notifications, EEPROM, PWM output
MCP39F511A	4000:1	Single Phase	0.1%	I, V, Temp	24-bit	5	Yes	UART/ Single-wire	2.7 to 3.6	–40 to +125	AC & DC dual-mode power monitoring IC with active, reactive and apparent power, energy, PF, RMS current/voltage, frequency, event notifications, EEPROM, PWM output
MCP3905A/06A	500:1/ 1000:1	Single Phase	0.10%	I, V	16-bit	–	–	Active Power Pulse	4.5 to 5.5	–40 to +125	Active power calculation
ATM90E26	5000:1	Single Phase	0.1%	I, V, N	N/A	1	Yes	SPI/UART/ Pulse	2.8 to 3.6	–40 to +85	Single-phase energy meter IC with active, reactive energy, PF, RMS current/voltage, frequency, event notifications, temperature measurement
ATM90E32AS	6000:1	Poly-phase	0.1%	3xI, 3xV	N/A	8	Yes	SPI/Pulse	2.8 to 3.6	–40 to +85	Three-phase energy meter IC with active, reactive energy, PF, RMS current/voltage, frequency, event notifications, temperature measurement
ATM90E36A	6000:1	Poly-phase	0.1%	3xI, 3xV, N	N/A	5	Yes	SPI/Pulse	2.8 to 3.6	–40 to +85	Three-phase energy meter IC with active, reactive energy, PF, RMS current/voltage, frequency, event notifications, temperature measurement, harmonic measurement

MIXED SIGNAL: Energy Measurement AFEs

Part #	Dynamic Range	Typical Accuracy	ADC Channels	ADC Resolution	SINAD	Gain Selection	Output Type	V _{DD} (V)	Temperature Range (°C)	Features
MCP3918/10	10000:1	0.1%	1/2	24-bit	93.5	Up to 32	SPI/2-wire	2.7 to 3.6	–40 to +125	AFE with phase correction, Programmable data rate, 2-wire interface
MCP3919	10000:1	0.1%	3	24-bit	93.5	Up to 32	SPI/2-wire	2.7 to 3.6	–40 to +125	AFE with phase correction, Programmable data rate, 2-wire interface
MCP3912	10000:1	0.1%	4	24-bit	93.5	Up to 32	SPI	2.7 to 3.6	–40 to +125	AFE with phase correction, Programmable data rate, 2-wire interface
MCP3913/14	10000:1	0.1%	6/8	24-bit	94.5	Up to 32	SPI	2.7 to 3.6	–40 to +125	AFE with phase correction, Programmable data rate, 2-wire interface
ATSENSE101	3000:1	0.1%	3	16/32-bit	84	Up to 8	SPI	3.0 to 3.6	–40 to +85	Die temperature sensor
ATSENSE201(H)	3000:1	0.1%	4	16/32-bit	84	Up to 8	SPI	3.0 to 3.6	–40 to +85	Die temperature sensor
ATSENSE301(H)	3000:1	0.1%	7	16/32-bit	84	Up to 8	SPI	3.0 to 3.6	–40 to +85	Die temperature sensor

MIXED SIGNAL: DC Power Monitors

Part #	# of Current Sensors	Description	Full Scale Range (mV)	Current Measurement Max Accr (%)	Effective Sampling Interval Min to Max (msec)	Bus Voltage Range (V)	# of Temp. Monitors (Ambient, Remote)	Temp. Accuracy Typ/Max (°C)	Alert/ THERM
PAC1710	1	SMBus/I ² C Current/DC Power Sensor	10, 20, 40, 80	±1	2.5 to 2,600	0 to +40	–	–	1
PAC1720	2	Dual SMBus/I ² C Current/DC Power Sensor	10, 20, 40, 80	±1	2.5 to 2,600	0 to +40	–	–	1
PAC1921	2	SMBus/I ² C Current/Power Sensor with Analog Output	100	±1	2.5 to 2,900	0 to +32	–	–	–
PAC1931	1	SMBus/I²C Current/Power Sensor with Accumulator	100	±0.9	0.98 to 125	0 to +32	–	–	1
PAC1932	2	SMBus/I ² C Current/Power Sensor with Accumulator	100	±0.9	0.98 to 125	0 to +32	–	–	1
PAC1933	3	SMBus/I ² C Current/Power Sensor with Accumulator	100	±0.9	0.98 to 125	0 to +32	–	–	1
PAC1934	4	SMBus/I ² C Current/Power Sensor with Accumulator	100	±0.9	0.98 to 125	0 to +32	–	–	1
EMC1701-1	1	SMBus/I ² C Current/DC Power Sensor with Temperature Monitoring	10, 20, 40, 80	±1	2.5 to 2,600	+3 to +24	1, 0	±0.25/±1	2
EMC1701-2	1	SMBus/I ² C Current/DC Power Sensor with Temperature Monitoring	10, 20, 40, 80	±1	2.5 to 2,600	+3 to +24	1, 0	±0.25/±1	2
EMC1702-1	1	SMBus/I ² C Current/DC Power Sensor with Two Temperature Monitors	10, 20, 40, 80	±1	2.5 to 2,600	+3 to +24	1, 1	±0.25/±1	2
EMC1704-1	1	SMBus/I ² C Current/DC Power Sensor with Four Temperature Monitors	10, 20, 40, 80	±1	2.5 to 2,600	+3 to +24	1, 3	±0.25/±1	2
EMC1704-2	1	SMBus/I ² C Current/DC Power Sensor with Four Temperature Monitors	10, 20, 40, 80	±1	2.5 to 2,600	+3 to +24	1, 3	±0.25/±1	2

MIXED SIGNAL: Dual-Slope A/D Converters

Part #	Supply Voltage (V)	Input Voltage Range	Resolution	Sampling Rate (Conv/s)	Input Channels	Data Interface	Temperature Range (°C)	Features
TC500	±4.5 to ±7.5	V _{SS} + 1.5V to V _{DD} – 1.5V	Up to 16 bits	4 to 10	1	3-Wire	0 to +70	Differential input range, Programmable resolution/conversion time
TC500A	±4.5 to ±7.5	V _{SS} + 1.5V to V _{DD} – 1.5V	Up to 17 bits	4 to 10	1	3-Wire	0 to +70	Differential input range, Programmable resolution/conversion time
TC510	+4.5 to +5.5	V _{SS} + 1.5V to V _{DD} – 1.5V	Up to 17 bits	4 to 10	1	3-Wire	0 to +70	Differential input range, Programmable resolution/conversion time, Charge pump (–V) output pin
TC514	+4.5 to +5.5	V _{SS} + 1.5V to V _{DD} – 1.5V	Up to 17 bits	4 to 10	4	3-Wire	0 to +70	Differential input range, Programmable resolution/conversion time, Charge pump (–V) output pin
TC520A	+4.5 to +5.5	–	–	–	–	Serial port	0 to +70	Optional serial interface adapter for TC500/500A/510/514
TC7109	±4.5 to ±5.5	V _{SS} + 1.5V to V _{DD} – 1.0V	12 bits plus sign bit	2 to 10	1	Parallel or Serial port	–25 to +85	Differential input range
TC7109A	±4.5 to ±5.5	V _{SS} + 1.5V to V _{DD} – 1.0V	12 bits plus sign bit	2 to 10	1	Parallel or Serial port	–25 to +85	Differential input range

MIXED SIGNAL: Binary and BCD A/D Converters

Part #	Description	Supply Voltage (V)	Input Voltage Range	Resolution (Digits)	Resolution (Counts)	Max Power (mW)	Data Interface	Temperature Range (°C)	Features
TC850	Binary A/D	±5	V _{SS} + 1.5V to V _{DD} – 1.5V	15-bit	±32,768	35	8-bit parallel	–25 to +70	Highest conversion speed (40 conv/s)
TC14433	BCD A/D	±4.5 to ±8	±199.9 mV to 1.999V	3½	±2,000	20	MUXed BCD	–40 to +85	For DMM, DPM, Data loggers
TC14433A	BCD A/D	±4.5 to ±8	±199.9 mV to 1.999V	3½	±2,000	20	MUXed BCD	–40 to +85	For DMM, DPM, Data loggers

MIXED SIGNAL: Display A/D Converters

Part #	Display Type	Supply Voltage (V)	Resolution (Digits)	Resolution (Counts)	Power (mW)	Temperature Range (°C)	Features
TC7106	LCD	9	3½	±2,000	10	–25 to +85	For DMM, DPM, Data logger applications
TC7106A	LCD	9	3½	±2,000	10	–25 to +85	For DMM, DPM, Data logger applications
TC7107	LED	±5	3½	±2,000	10	–25 to +85	For DMM, DPM, Data logger applications
TC7107A	LED	±5	3½	±2,000	10	–25 to +85	For DMM, DPM, Data logger applications
TC7116	LCD	9	3½	±2,000	10	–25 to +85	Hold function
TC7116A	LCD	9	3½	±2,000	10	–25 to +85	Hold function
TC7117	LED	±5	3½	±2,000	10	–25 to +85	Hold function
TC7117A	LED	±5	3½	±2,000	10	–25 to +85	Hold function
TC7126	LCD	9	3½	±2,000	0.5	–25 to +85	Low-power TC7106
TC7126A	LCD	9	3½	±2,000	0.5	–25 to +85	Low-power TC7106
TC7129	LCD	9	4½	±20,000	4.5	0 to +70	Lowest noise ±3 mV sensitivity

MIXED SIGNAL: Digital Potentiometers

Part #	# of Taps	Memory	# Per Package	Interface	Resistance (kOhms)	INL (Max)	DNL (Max)	Temperature Range (°C)	Comments	
MCP4011	64	Volatile	1	Up/Down	2.1, 5, 10, 50	0.5	0.5	-40 to +125	Potentiometer mode	8-pin SOIC
MCP4012	64	Volatile	1	Up/Down	2.1, 5, 10, 50	0.5	0.5	-40 to +125	Rheostat mode	6-pin SOT
MCP4013	64	Volatile	1	Up/Down	2.1, 5, 10, 50	0.5	0.5	-40 to +125	Potentiometer to Vss	6-pin SOT
MCP4014	64	Volatile	1	Up/Down	2.1, 5, 10, 50	0.5	0.5	-40 to +125	Rheostat to Vss	5-pin SOT
MCP4017	128	Volatile	1	I ² C	5, 10, 50, 100	0.5	0.25	-40 to +125	7-bit, Volatile, I ² C digital potentiometer	6-pin SC-74
MCP4018	128	Volatile	1	I ² C	5, 10, 50, 100	0.5	0.25	-40 to +125	7-bit, Volatile, I ² C digital potentiometer	6-pin SC-74
MCP4019	128	Volatile	1	I ² C	5, 10, 50, 100	0.5	0.25	-40 to +125	7-bit, Volatile, I ² C digital potentiometer	5-pin SC-74
MCP40D17	128	Volatile	1	I ² C	5, 10, 50, 100	0.5	0.25	-40 to +125	7-bit, Volatile, I ² C digital potentiometer	6-pin SC-74
MCP40D18	128	Volatile	1	I ² C	5, 10, 50, 100	0.5	0.25	-40 to +125	7-bit, Volatile, I ² C digital potentiometer	6-pin SC-74
MCP40D19	128	Volatile	1	I ² C	5, 10, 50, 100	0.5	0.25	-40 to +125	7-bit, Volatile, I ² C digital potentiometer	5-pin SC-74
MCP4021	64	Nonvolatile	1	Up/Down	2.1, 5, 10, 50	0.5	0.5	-40 to +125	Potentiometer mode, Shutdown, WiperLock™ Technology	8-pin SOIC
MCP4022	64	Nonvolatile	1	Up/Down	2.1, 5, 10, 50	0.5	0.5	-40 to +125	Rheostat mode, Shutdown, WiperLock Technology	6-pin SOT
MCP4023	64	Nonvolatile	1	Up/Down	2.1, 5, 10, 50	0.5	0.5	-40 to +125	Potentiometer to Vss, WiperLock Technology	6-pin SOT
MCP4024	64	Nonvolatile	1	Up/Down	2.1, 5, 10, 50	0.5	0.5	-40 to +125	Rheostat to Vss, Shutdown, WiperLock Technology	5-pin SOT
MCP4141	128	Nonvolatile	1	SPI	5, 10, 50, 100	0.5	0.25	-40 to +125	Potentiometer mode, Shutdown	8-pin PDIP
MCP4142	128	Nonvolatile	1	SPI	5, 10, 50, 100	0.8	0.25	-40 to +125	Rheostat mode, Shutdown	8-pin PDIP
MCP4241	128	Nonvolatile	2	SPI	5, 10, 50, 100	0.5	0.25	-40 to +125	Potentiometer mode, Shutdown, WiperLock Technology	14-pin PDIP
MCP4242	128	Nonvolatile	2	SPI	5, 10, 50, 100	0.8	0.25	-40 to +125	Rheostat mode, Shutdown	10-pin MSOP
MCP4131	129	Volatile	1	SPI	5, 10, 50, 100	0.5	0.25	-40 to +125	Potentiometer mode, Shutdown	8-pin PDIP
MCP41HV31	128	Volatile	1	SPI	5, 10, 50, 100	0.5	0.125	-40 to +125	7-bit Volatile digital potentiometer with specified operation from 10V to 36V and SPI interface	14-pin TSOP
MCP4132	129	Volatile	1	SPI	5, 10, 50, 100	0.8	0.25	-40 to +125	Rheostat mode, Shutdown	8-pin PDIP
MCP4231	128	Volatile	2	SPI	5, 10, 50, 100	0.5	0.25	-40 to +125	Potentiometer mode, Shutdown, WiperLock Technology	14-pin PDIP
MCP4232	128	Volatile	2	SPI	5, 10, 50, 100	0.8	0.25	-40 to +125	Rheostat mode, Shutdown	10-pin MSOP
MCP41010	256	Volatile	1	SPI	10	1	1	-40 to +85	Potentiometer mode, Shutdown	8-pin PDIP
MCP41050	256	Volatile	1	SPI	50	1	1	-40 to +85	Potentiometer mode, Shutdown	8-pin PDIP
MCP41100	256	Volatile	1	SPI	100	1	1	-40 to +85	Potentiometer mode, Shutdown	8-pin PDIP
MCP4151	256	Volatile	1	SPI	5, 10, 50, 100	1	0.5	-40 to +125	Potentiometer mode, Shutdown	8-pin PDIP
MCP41HV51	256	Volatile	1	SPI	5, 10, 50, 100	1	0.25	-40 to +125	8-bit Volatile digital potentiometer with specified operation from 10V to 36V and SPI interface.	14-pin TSOP
MCP4152	256	Volatile	1	SPI	5, 10, 50, 100	1	0.5	-40 to +125	Rheostat mode, Shutdown	8-pin PDIP
MCP4161	256	Nonvolatile	1	SPI	5, 10, 50, 100	1	0.5	-40 to +125	Potentiometer mode, Shutdown	8-pin PDIP
MCP4162	256	Nonvolatile	1	SPI	5, 10, 50, 100	1	0.5	-40 to +125	Rheostat mode, Shutdown	8-pin PDIP
MCP42010	256	Volatile	2	SPI	10	1	1	-40 to +85	Potentiometer mode, Shutdown	14-pin PDIP
MCP42100	256	Volatile	2	SPI	100	1	1	-40 to +85	Potentiometer mode, Shutdown	14-pin PDIP
MCP4251	256	Volatile	2	SPI	5, 10, 50, 100	1	0.5	-40 to +125	Potentiometer mode, Shutdown, WiperLock Technology	14-pin PDIP
MCP4252	256	Volatile	2	SPI	5, 10, 50, 100	1	0.5	-40 to +125	Rheostat mode, Shutdown	10-pin MSOP
MCP4261	256	Nonvolatile	2	SPI	5, 10, 50, 100	1	0.5	-40 to +125	Potentiometer mode, Shutdown, WiperLock Technology	14-pin PDIP
MCP4262	256	Nonvolatile	2	SPI	5, 10, 50, 100	1	0.5	-40 to +125	Rheostat mode, Shutdown	10-pin MSOP
MCP4341	129	Nonvolatile	4	SPI	5, 10, 50, 100	0.8	0.375	-40 to +125	7-bit, Volatile potentiometer with an SPI interface	20-pin TSOP
MCP4342	129	Nonvolatile	4	SPI	5, 10, 50, 100	0.8	0.375	-40 to +125	7-bit, Volatile rheostat with an SPI interface	14-pin TSOP
MCP4361	257	Nonvolatile	4	SPI	5, 10, 50, 100	1	0.5	-40 to +125	8-bit, Non-volatile potentiometer with an SPI interface	20-pin TSOP
MCP4362	257	Nonvolatile	4	SPI	5, 10, 50, 100	1	0.5	-40 to +125	8-bit, Non-volatile rheostat with an SPI interface	14-pin TSOP
MCP4331	129	Volatile	4	SPI	5, 10, 50, 100	0.8	0.375	-40 to +125	7-bit, Volatile potentiometer with an SPI interface	20-pin TSOP
MCP4332	129	Volatile	4	SPI	5, 10, 50, 100	0.8	0.5	-40 to +125	7-bit, Volatile rheostat with an SPI interface	14-pin TSOP
MCP4351	257	Volatile	4	SPI	5, 10, 50, 100	1	0.5	-40 to +125	8-bit, Non-volatile potentiometer with an SPI interface	20-pin TSOP
MCP4352	257	Volatile	4	SPI	5, 10, 50, 100	1	0.5	-40 to +125	8-bit, Non-volatile rheostat with an SPI interface	14-pin TSOP
MCP4441	129	Nonvolatile	4	I ² C	5, 10, 50, 100	0.5	0.25	-40 to +125	Potentiometer mode, WiperLock™ Technology	20-pin TSOP
MCP4442	129	Nonvolatile	4	I ² C	5, 10, 50, 100	0.8	0.375	-40 to +125	Rheostat mode, WiperLock Technology	14-pin TSOP
MCP4461	257	Nonvolatile	4	I ² C	5, 10, 50, 100	1	0.5	-40 to +125	Potentiometer mode, WiperLock Technology	8-pin MSOP
MCP4462	257	Nonvolatile	4	I ² C	5, 10, 50, 100	1	0.5	-40 to +125	Rheostat mode, WiperLock Technology	14-pin TSOP
MCP4531	128	Volatile	1	I ² C	5, 10, 50, 100	0.5	0.25	-40 to +125	Potentiometer mode	14-pin TSOP
MCP45HV31	128	Volatile	1	I ² C	5, 10, 50, 100	0.5	0.125	-40 to +125	7-bit volatile digital potentiometer with specified operation from 10V to 36V and I ² C interface	14-pin TSOP
MCP45HV51	256	Volatile	1	I ² C	5, 10, 50, 100	1	0.25	-40 to +125	7-bit volatile digital potentiometer with specified operation from 10V to 36V and I ² C interface	8-pin MSOP

MIXED SIGNAL: Digital Potentiometers

Part #	# of Taps	Memory	# Per Package	Interface	Resistance (kOhms)	INL (Max)	DNL (Max)	Temperature Range (°C)	Comments	
MCP4631	128	Volatile	2	I ² C	5, 10, 50, 100	0.5	0.25	–40 to +125	Potentiometer mode	14-pin TSOP
MCP4541	128	Nonvolatile	1	I ² C	5, 10, 50, 100	0.5	0.25	–40 to +125	Potentiometer mode, WiperLock Technology	8-pin MSOP
MCP4641	128	Nonvolatile	2	I ² C	5, 10, 50, 100	0.5	0.25	–40 to +125	Potentiometer mode, WiperLock Technology	14-pin TSOP
MCP4651	256	Volatile	2	I ² C	5, 10, 50, 100	1	0.5	–40 to +125	Potentiometer mode	14-pin TSOP
MCP4561	256	Nonvolatile	1	I ² C	5, 10, 50, 100	1	0.5	–40 to +125	Potentiometer mode, WiperLock Technology	8-pin MSOP
MCP4661	256	Nonvolatile	2	I ² C	5, 10, 50, 100	1	0.5	–40 to +125	Potentiometer mode, WiperLock Technology	14-pin TSOP
MCP4532	128	Nonvolatile	1	I ² C	5, 10, 50, 100	0.8	0.375	–40 to +125	Rheostat mode	8-pin MSOP
MCP4632	128	Nonvolatile	2	I ² C	5, 10, 50, 100	0.8	0.375	–40 to +125	Rheostat mode	10-pin MSOP
MCP4542	128	Nonvolatile	1	I ² C	5, 10, 50, 100	0.8	0.375	–40 to +125	Rheostat mode, WiperLock Technology	8-pin MSOP
MCP4552	256	Volatile	1	I ² C	5, 10, 50, 100	1	0.5	–40 to +125	Rheostat mode	8-pin MSOP
MCP4652	256	Nonvolatile	2	I ² C	5, 10, 50, 100	1	0.5	–40 to +125	Rheostat mode	10-pin MSOP
MCP4562	256	Nonvolatile	1	I ² C	5, 10, 50, 100	1	0.5	–40 to +125	Rheostat mode, WiperLock Technology	8-pin MSOP
MCP4662	256	Nonvolatile	2	I ² C	5, 10, 50, 100	1	0.5	–40 to +125	Rheostat mode, WiperLock Technology	10-pin MSOP

MIXED SIGNAL: Frequency-to-Voltage/Voltage-to-Frequency Converters

Part #	Frequency Range (kHz)	Full Scale (ppm FS/°C)	Non-linearity (%FS)	Temperature Range (°C)	
TC9400	100	±40	±0.05	–40 to +85	14-pin TSOP
TC9401	100	±40	±0.02	–40 to +85	14-pin TSOP
TC9402	100	±100	±0.25	–40 to +85	14-pin TSOP

MIXED SIGNAL: D/A Converters

Part #	Resolution (Bits)	DAC Channels	Interface	Memory	Voltage Reference	Output Setting Time (μs)	DNL (LSB)	INL (LSB)	Max Operating Current (μA)	Temperature Range (°C)	
MCP47CMB01	8	1	I ² C	MTP	V _{DD} , Ext, Int	16	0.1	0.1	700	–40 to +125	10-pin MSOP
MCP47CMB02	8	2	I ² C	MTP	V _{DD} , Ext, Int	16	0.1	0.1	700	–40 to +125	10-pin MSOP
MCP47CMB11	10	1	I ² C	MTP	V _{DD} , Ext, Int	16	0.25	0.25	700	–40 to +125	10-pin MSOP
MCP47CMB12	10	2	I ² C	MTP	V _{DD} , Ext, Int	16	0.25	0.25	700	–40 to +125	10-pin MSOP
MCP47CMB21	12	1	I ² C	MTP	V _{DD} , Ext, Int	16	0.1	0.1	700	–40 to +125	10-pin MSOP
MCP47CMB22	12	2	I ² C	MTP	V _{DD} , Ext, Int	16	0.1	0.1	700	–40 to +125	10-pin MSOP
MCP47CVB01	8	1	I ² C	Volatile	V _{DD} , Ext, Int	16	0.1	0.1	700	–40 to +125	10-pin MSOP
MCP47CVB02	8	2	I ² C	Volatile	V _{DD} , Ext, Int	16	0.1	0.1	700	–40 to +125	10-pin MSOP
MCP47CVB11	10	1	I ² C	Volatile	V _{DD} , Ext, Int	16	±0.25	±0.25	700	–40 to +125	10-pin MSOP
MCP47CVB12	10	2	I ² C	Volatile	V _{DD} , Ext, Int	16	±0.25	±0.25	700	–40 to +125	10-pin MSOP
MCP47CVB21	12	1	I ² C	Volatile	V _{DD} , Ext, Int	16	1	1	700	–40 to +125	10-pin MSOP
MCP47CVB22	12	2	I ² C	Volatile	V _{DD} , Ext, Int	16	1	1	700	–40 to +125	10-pin MSOP
MCP48CMB01	8	1	I ² C	MTP	V _{DD} , Ext, Int	16	0.1	0.1	700	–40 to +125	10-pin MSOP
MCP48CMB02	8	2	I ² C	MTP	V _{DD} , Ext, Int	16	0.1	0.1	700	–40 to +125	10-pin MSOP
MCP48CMB11	10	1	I ² C	MTP	V _{DD} , Ext, Int	16	0.25	0.25	700	–40 to +125	10-pin MSOP
MCP48CMB12	10	2	I ² C	MTP	V _{DD} , Ext, Int	16	0.25	0.25	700	–40 to +125	10-pin MSOP
MCP48CMB21	12	1	I ² C	MTP	V _{DD} , Ext, Int	16	1	1	700	–40 to +125	10-pin MSOP
MCP48CMB22	12	2	I ² C	MTP	V _{DD} , Ext, Int	16	1	1	700	–40 to +125	10-pin MSOP
MCP48CVB01	8	1	I ² C	Volatile	V _{DD} , Ext, Int	16	0.1	0.1	700	–40 to +125	10-pin MSOP
MCP48CVB02	8	2	I ² C	Volatile	V _{DD} , Ext, Int	16	0.1	0.1	700	–40 to +125	10-pin MSOP
MCP48CVB11	10	1	I ² C	Volatile	V _{DD} , Ext, Int	16	0.25	0.25	700	–40 to +125	10-pin MSOP
MCP48CVB12	10	2	I ² C	Volatile	V _{DD} , Ext, Int	16	0.25	0.25	700	–40 to +125	10-pin MSOP
MCP48CVB21	12	1	I ² C	Volatile	V _{DD} , Ext, Int	16	1	1	700	–40 to +125	10-pin MSOP
MCP48CVB22	12	2	I ² C	Volatile	V _{DD} , Ext, Int	16	1	1	700	–40 to +125	10-pin MSOP
MCP48FEB01	8	1	SPI	EEPROM	V _{DD} , V _{REF} , V _{BG}	7.8	0.25	0.5	180	–40 to +125	8-pin MSOP
MCP48FEB11	10	1	SPI	EEPROM	V _{DD} , V _{REF} , V _{BG}	7.8	0.5	1.5	180	–40 to +125	8-pin MSOP
MCP48FEB21	12	1	SPI	EEPROM	V _{DD} , V _{REF} , V _{BG}	7.8	1	6	180	–40 to +125	8-pin MSOP
MCP48FEB02	8	2	SPI	EEPROM	V _{DD} , V _{REF} , V _{BG}	7.8	0.25	0.5	380	–40 to +125	8-pin MSOP

MIXED SIGNAL: D/A Converters

Part #	Resolution (Bits)	DAC Channels	Interface	Memory	Voltage Reference	Output Setting Time (µs)	DNL (LSB)	INL (LSB)	Max Operating Current (µA)	Temperature Range (°C)	
MCP48FEB12	10	2	SPI	EEPROM	VDD, VREF, VBG	7.8	0.5	1.5	380	−40 to +125	8-pin MSOP
MCP48FEB22	12	2	SPI	EEPROM	VDD, VREF, VBG	7.8	1	6	380	−40 to +125	8-pin MSOP
MCP48FVB01	8	1	SPI	Volatile	VDD, VREF, VBG	7.8	0.25	0.5	180	−40 to +125	8-pin MSOP
MCP48FVB11	10	1	SPI	Volatile	VDD, VREF, VBG	7.8	0.5	1.5	180	−40 to +125	8-pin MSOP
MCP48FVB21	12	1	SPI	Volatile	VDD, VREF, VBG	7.8	1	6	180	−40 to +125	8-pin MSOP
MCP48FVB02	8	2	SPI	Volatile	VDD, VREF, VBG	7.8	0.25	0.5	380	−40 to +125	8-pin MSOP
MCP48FVB12	10	2	SPI	Volatile	VDD, VREF, VBG	7.8	0.5	1.5	380	−40 to +125	8-pin MSOP
MCP48FVB22	12	2	SPI	Volatile	VDD, VREF, VBG	7.8	1	6	380	−40 to +125	8-pin MSOP
MCP47FEB01	8	1	I ² C	EEPROM	VDD, VREF, VBG	6	0.25	0.5	180	−40 to +125	8-pin MSOP
MCP47FEB11	10	1	I ² C	EEPROM	VDD, VREF, VBG	6	0.5	1.5	180	−40 to +125	8-pin MSOP
MCP47FEB21	12	1	I ² C	EEPROM	VDD, VREF, VBG	6	1	6	180	−40 to +125	8-pin MSOP
MCP47FEB02	8	2	I ² C	EEPROM	VDD, VREF, VBG	6	0.25	0.5	380	−40 to +125	8-pin MSOP
MCP47FEB12	10	2	I ² C	EEPROM	VDD, VREF, VBG	6	0.5	1.5	380	−40 to +125	8-pin MSOP
MCP47FEB22	12	2	I ² C	EEPROM	VDD, VREF, VBG	6	1	6	380	−40 to +125	8-pin MSOP
MCP47FVB01	8	1	I ² C	Volatile	VDD, VREF, VBG	6	0.25	0.5	180	−40 to +125	8-pin MSOP
MCP47FVB11	10	1	I ² C	Volatile	VDD, VREF, VBG	6	0.5	1.5	180	−40 to +125	8-pin MSOP
MCP47FVB21	12	1	I ² C	Volatile	VDD, VREF, VBG	6	1	6	180	−40 to +125	8-pin MSOP
MCP47FVB02	8	2	I ² C	Volatile	VDD, VREF, VBG	6	0.25	0.5	380	−40 to +125	8-pin MSOP
MCP47FVB12	10	2	I ² C	Volatile	VDD, VREF, VBG	6	0.25	1.5	380	−40 to +125	8-pin MSOP
MCP47FVB22	12	2	I ² C	Volatile	VDD, VREF, VBG	6	1	6	380	−40 to +125	8-pin MSOP
MCP47DA1	6	1	I ² C	Volatile	VREF	6	0.35	0.7	160	−40 to +125	6-pin SC70
MCP4706	8	1	I ² C	EEPROM	VDD, VREF	6	0.05	0.907	400	−40 to +125	6-pin SC70
MCP4716	10	1	I ² C	EEPROM	VDD, VREF	6	0.188	3.625	400	−40 to +125	6-pin SC70
MCP4726	12	1	I ² C	EEPROM	VDD, VREF	6	0.75	14.5	400	−40 to +125	6-pin SC70
MCP4725	12	1	I ² C	EEPROM	VDD	6	0.75	14.5	400	−40 to +125	6-pin SC70
MCP4728	12	4	I ² C	EEPROM	VDD, VBG	6	0.75	13	1400	−40 to +125	10-pin MSOP
MCP4801	8	1	SPI	Volatile	VBG	4.5	0.5	1	400	−40 to +125	8-pin MSOP
MCP4811	10	1	SPI	Volatile	VBG	4.5	0.5	3.5	400	−40 to +125	8-pin MSOP
MCP4821	12	1	SPI	Volatile	VBG	4.5	0.75	12	400	−40 to +125	8-pin MSOP
MCP4802	8	2	SPI	Volatile	VBG	4.5	0.5	1	400	−40 to +125	8-pin MSOP
MCP4812	10	2	SPI	Volatile	VBG	4.5	0.5	3.5	400	−40 to +125	8-pin MSOP
MCP4822	12	2	SPI	Volatile	VBG	4.5	0.75	12	400	−40 to +125	8-pin MSOP
MCP4901	8	1	SPI	Volatile	VBG	4.5	0.5	1	350	−40 to +125	8-pin MSOP
MCP4911	10	1	SPI	Volatile	VBG	4.5	0.5	3.5	350	−40 to +125	8-pin MSOP
MCP4921	12	1	SPI	Volatile	VBG	4.5	0.75	12	350	−40 to +125	8-pin MSOP
MCP4902	8	2	SPI	Volatile	VBG	4.5	0.5	1	350	−40 to +125	8-pin MSOP
MCP4912	10	2	SPI	Volatile	VBG	4.5	0.5	3.5	350	−40 to +125	8-pin MSOP
MCP4922	12	2	SPI	Volatile	VBG	4.5	0.75	12	350	−40 to +125	8-pin MSOP

INTERFACE AND NETWORKING

INTERFACE AND NETWORKING: CAN Products

Part #	Description and Features	Operating Voltage (V)	Temperature Range (°C)	Tx Buffers	Rx Buffers	Filters	Masks	Interf. Out
ATA6560	CAN Transceiver with stand-by and silent mode, 5V I/O, CAN FD ready, 5 Mbps, AECQ100 Grade 1	4.5 to 5.5	–40 to +125	N/A	N/A	N/A	N/A	N/A
ATA6561	CAN Transceiver with stand-by mode, compatible with 3.3V and 5V microcontroller, CAN FD ready, 5 Mbps, AECQ100 Grade 1	4.5 to 5.5	–40 to +125	N/A	N/A	N/A	N/A	N/A
ATA6562	CAN Transceiver with stand-by and silent mode, 5V I/O, wake up pattern, CAN FD ready, 5 Mbps, AECQ100 Grade 0, 1	4.5 to 5.5	–40 to +125/+150	N/A	N/A	N/A	N/A	N/A
ATA6563	CAN Transceiver with stand-by mode, compatible with 3.3V and 5V microcontroller, wake up pattern, CAN FD ready, 5 Mbps, AECQ100 Grade 0, 1	4.5 to 5.5	–40 to +125/+150	N/A	N/A	N/A	N/A	N/A
ATA6564	CAN Transceiver with silent mode, compatible with 3.3V and 5V microcontroller, CAN FD ready, 5 Mbps, AECQ100 Grade 0, 1	4.5 to 5.5	–40 to +125/+150	N/A	N/A	N/A	N/A	N/A
ATA6565	Dual CAN Transceiver with stand-by mode, 5V I/O, wake up pattern, CAN FD ready, 5 Mbps, AECQ100 Grade 0, 1	4.5 to 5.5	–40 to +125/+150	N/A	N/A	N/A	N/A	N/A
ATA6566	CAN Transceiver with stand-by mode, compatible with 3.3V and 5V microcontroller, CAN FD ready, 2 Mbps, AECQ100 Grade 0, 1, suitable for the Japanese market	4.5 to 5.5	–40 to +125/+150	N/A	N/A	N/A	N/A	N/A
ATA6570	CAN Partial Networking Transceiver with Wake pin and Window Watchdog, compatible with 3.3V and 5V microcontroller, wake up frame, CAN FD ready, 5 Mbps, AECQ100 Grade 0, 1	4.55 to 28	–40 to +125/+150	N/A	N/A	N/A	N/A	N/A
MCP2515	External CAN 2.0B Controller with SPI Interface	2.7 to 5.5	–40 to +125	3	2	6	2	Y
MCP2517FD	External CAN FD Controller with SPI Interface, ISO 11898-1:2015 Compliant, 32-bit Time Stamp, Supports CAN 2.0B and CAN FD, Highly Configurable 31 FIFOs and 32 Filters	2.7 to 5.5	–40 to +150	Up to 32	Up to 32	32	32	1
MCP2518FD	External CAN FD Controller with SPI Interface, ISO 11898-1:2015 Compliant, 32-bit Time Stamp, Supports CAN 2.0B and CAN FD, Highly Configurable 31 FIFOs and 32 Filters	2.7 to 5.5	–40 to +150	Up to 32	Up to 32	32	32	1
MCP25625	Integrated High-Speed CAN Transceiver and CAN 2.0B Controller	2.7 to 5.5	–40 to +125	3	2	6	2	

INTERFACE AND NETWORKING: LIN Products

Part #	Description	V _{REG} Output Voltage (V)	Operating Temp. Range (°C)	V _{REG} Output Current (mA)	Supply Voltage Range (V)	Max Baud Rate	LIN Sp
ATA663211	LIN Transceiver	–	–40 to +125	–	5 to 28	20 kbaud	2.0, 2.1
ATA6625	LIN Transceiver with integrated V _{REG}	5.0	–40 to +125	85	5 to 28	20 kbaud	2.0, 2.1
ATA663201	LDO, pin compatible with ATA663231 LIN SBC	3.3	–40 to +125	85	5 to 28	–	–
ATA663203	LDO, pin compatible with ATA663254 LIN SBC	5.0	–40 to +125	85	5 to 28	–	–
ATA663231	LIN Transceiver with integrated V _{REG}	3.3	–40 to +125	85	5 to 28	20 kbaud	2.0, 2.1
ATA663232	LIN Transceiver with integrated V _{REG} and Wake Pin	3.3	–40 to +125	85	5 to 28	20 kbaud	2.0, 2.1
ATA663254	LIN Transceiver with integrated V _{REG}	5.0	–40 to +125	85	5 to 28	20 kbaud	2.0, 2.1
ATA663255	LIN Transceiver with integrated V _{REG} and Wake Pin	5.0	–40 to +125	85	5 to 28	20 kbaud	2.0, 2.1
ATA663331	LIN Transceiver with integrated V _{REG} and 2 relay driver	3.3	–40 to +125	85	5 to 28	20 kbaud	2.0, 2.1
ATA663354	LIN Transceiver with integrated V _{REG} and 2 relay driver	5.0	–40 to +125	85	5 to 28	20 kbaud	2.0, 2.1
ATA663431	LIN Transceiver with integrated V _{REG} , WWDT	3.3	–40 to +125	85	5 to 28	20 kbaud	2.0, 2.1
ATA663454	LIN Transceiver with integrated V _{REG} , WWDT	5.0	–40 to +125	85	5 to 28	20 kbaud	2.0, 2.1
ATSAMHA1G16A-MBT-B	LIN SiP with V _{REG} , LIN TRX and uC, 64K Flash memory	3.3	–40 to +85	85	5 to 28	20 kbaud	2.0, 2.1
ATSAMHA1G15A-MBT-B	LIN SiP with V _{REG} , LIN TRX and uC, 32K Flash memory	3.3	–40 to +85	85	5 to 28	20 kbaud	2.0, 2.1
ATSAMHA1G14A-MBT-B	LIN SiP with V _{REG} , LIN TRX and uC, 16K Flash memory	3.3	–40 to +85	85	5 to 28	20 kbaud	2.0, 2.1

INTERFACE AND NETWORKING: LIN Products							
Part #	Description	V _{REG} Output Voltage (V)	Operating Temp. Range (°C)	V _{REG} Output Current (mA)	Supply Voltage Range (V)	Max Baud Rate	LIN Sp
ATSAMHA0G16A-MZT-B	LIN SiP with V _{REG} , LIN TRX and uC, 64K Flash memory	3.3	−40 to +105	85	5 to 28	20 kbaud	2.0, 2.1
ATSAMHA0G15A-MZT-B	LIN SiP with V _{REG} , LIN TRX and uC, 32K Flash memory	3.3	−40 to +105	85	5 to 28	20 kbaud	2.0, 2.1
ATSAMHA0G14A-MZT-B	LIN SiP with V _{REG} , LIN TRX and uC, 16K Flash memory	3.3	−40 to +105	85	5 to 28	20 kbaud	2.0, 2.1
ATSAMHA1E16A-MBT-B	LIN SiP with V _{REG} , LIN TRX and uC, 64K Flash memory	3.3	−40 to +85	85	5 to 28	20 kbaud	2.0, 2.1
ATSAMHA1E15A-MBT-B	LIN SiP with V _{REG} , LIN TRX and uC, 32K Flash memory	3.3	−40 to +85	85	5 to 28	20 kbaud	2.0, 2.1
ATSAMHA1E14A-MBT-B	LIN SiP with V _{REG} , LIN TRX and uC, 16K Flash memory	3.3	−40 to +85	85	5 to 28	20 kbaud	2.0, 2.1
ATSAMHA0E16A-MZT-B	LIN SiP with V _{REG} , LIN TRX and uC, 64K Flash memory	3.3	−40 to +105	85	5 to 28	20 kbaud	2.0, 2.1
ATSAMHA0E15A-MZT-B	LIN SiP with V _{REG} , LIN TRX and uC, 32K Flash memory	3.3	−40 to +105	85	5 to 28	20 kbaud	2.0, 2.1
ATSAMHA0E14A-MZT-B	LIN SiP with V _{REG} , LIN TRX and uC, 16K Flash memory	3.3	−40 to +105	85	5 to 28	20 kbaud	2.0, 2.1

INTERFACE AND NETWORKING: Ethernet products

Product	Bandwidth	Interface (Upstream)	Wake-On-LAN	EEE	Temperature*	
Ethernet Controllers						
ENC28J60	10	SPI	–	–	I	28-pin SP
ENC624J600	10/100	SPI/Parallel	–	–	I	24-pin TQ
LAN9217	10/100	16-bit Host Bus/MII	–	–	–	100-pin TQ
LAN9218	10/100	32-bit Host Bus	–	–	I	100-pin TQ
LAN9220/1	10/100	16-bit Host Bus	–	–	I	56-pin QFI
LAN9250	10/100	SPI, SQI™, HBI	✓	✓	I	64-pin QFI
LAN9420	10/100	32-bit PCI 3.0	–	–	I	128-pin V
LAN89218	10/100	32-bit Host Bus	–	–	A, I	100-pin TQ
KSZ8851	10/100	8-/16-/32-bit or SPI	✓	–	A, I	32-pin QFI
KSZ8852	10/100	8-/16-/32-bit	✓	✓	I	64-pin LQ
KSZ8441	10/100	8-/16-/32-bit or SPI	✓	✓	I	64-pin LQ
Ethernet Bridges						
LAN9500A	10/100	USB 2.0	✓	–	I	56-pin QFI
LAN9730	10/100	USB 2.0 (HSIC)/MII	–	–	I	56-pin QFI
LAN9512/13/14	10/100	USB 2.0	–	–	I	64-pin QFI
LAN89530	10/100	USB 2.0	✓	–	A, I	56-pin QFI
LAN89730	10/100	HSIC	✓	–	I	56-pin QFI
LAN7430	Gigabit	PCIe 3.1	✓	✓	I	48-pin VQ
LAN7431	Gigabit	PCIe 3.1 RGMII	–	✓	A	72-pin VQ
LAN7500	Gigabit	USB 2.0	✓	–	I	56-pin QFI
LAN7800/01/50	Gigabit	USB 3.1/USB 2.0/HSIC	✓	✓	A, I	48-pin SQ
Ethernet Transceivers (PHYs)						
KSZ9031	Gigabit	MII/RMII/RGMII	✓	–	A, I	48-/64-pin
LAN8810	Gigabit	GMII	–	–	I	72-pin QFI
LAN8820	Gigabit	RGMII	–	–	I	56-pin QFI
KSZ8061	10/100	MII/RMII	✓	✓	A, I	32-/48-pin
KSZ8081	10/100	MII/RMII	–	–	I	24-/32-pin
KSZ8091	10/100	MII/RMII	✓	✓	I	24-/32-pin
KSZ8051	10/100	MII/RMII	–	–	A, I	32-pin QFI
LAN8710A	10/100	MII/RMII	–	–	I	32-pin QFI
LAN8720A	10/100	RMII	–	–	I	24-pin QFI
LAN8740A	10/100	MII/RMII	✓	✓	I	32-pin QFI
LAN8741A	10/100	MII/RMII	–	✓	I	32-pin QFI
LAN8742A	10/100	RMII	✓	–	I	24-pin QFI
LAN88730	10/100	MII/RMII	–	–	A, I	32-pin QFI

INTERFACE AND NETWORKING: Ethernet products

Product	Bandwidth	Ports	Interface (Upstream)	1588-v2	Cable Diags	100 Fx	Temperat
EtherCAT® Controllers							
LAN9252	10/100	2/3	SPI, SQI™, 8-/16-/32-bit host bus	Clock Sync.	✓	✓	I

INTERFACE AND NETWORKING: Ethernet products

Product	Bandwidth	Ports	Interface (Upstream)	1588-v2	Cable Diags	100 Fx	Temperat
Ethernet Switches							
LAN9352	10/100	2	SPI/SQI/HBI	✓	✓	–	I
LAN9303	10/100	3	MII/RMII/Turbo MII	–	–	✓	I
LAN89303	10/100	3	MII/RMII/Turbo MII	–	–	✓	A, I
LAN9353	10/100	3	MII/RMII/Turbo MII	✓	✓	✓	I
LAN9354	10/100	3	RMII	✓	✓	✓	I
LAN9355	10/100	3	MII/RMII/Turbo MII	✓	✓	✓	I
KSZ8863	10/100	3	MII/RMII	–	✓	✓	I
KSZ8873	10/100	3	MII/RMII	–	✓	✓	A, I
KSZ8463	10/100	3	MII/RMII	✓	✓	✓	I
KSZ8864	10/100	4	MII/RMII	–	✓	–	A, I
KSZ8794	10/100	4	MII/GMII/RGMII	–	✓	–	I
KSZ8795	10/100	5	GMII/RGMII/MII/RMII	–	✓	–	I
KSZ8775	10/100	5	MII/GMII/RGMII	–	✓	–	I
KSZ8765	10/100	5	MII/GMII/RGMII	–	✓	✓	I
KSZ8895	10/100	5	MII/RMII	–	✓	–	I
KSZ8567	10/100	5, 7	SGMII/RGMII/MII/RMII	✓	LinkMD+ with signal quality indicator	with SGMII	A, I
KSZ9563	10/100/1000	3	RGMII/MII/RMII	✓	✓	–	I
KSZ9893	10/100/1000	3	RGMII/MII/RMII	–	✓	–	I
KSZ8563	10/100	3	RGMII/MII/RMII	✓	✓	–	I
KSZ9897	10/100/1000	6, 7	SGMII/RGMII/MII/RMII	–	✓	with SGMII	I
KSZ9567	10/100/1000	7	SGMII/RGMII/MII/RMII	✓	LinkMD+ with signal quality indicator	with SGMII	I
KSZ9477	10/100/1000	7	SGMII/RGMII/MII/RMII	1588 + HSR/ DLR	LinkMD+ with signal quality indicator	with SGMII	I

Note: All products above are supported with 3.3V operating voltage *A = Automotive temperature range, (–40° to +105°C) I = Industrial temperature range (–40° to +85°C)

INTERFACE AND NETWORKING: Serial Peripherals

Part #	Description	Operating Voltage (V)	Operating Temp. Range (°C)	Bus Type	Max Bus Frequency (kHz)	Features	
MCP23008	8-bit I/O Port Expander	1.8 to 5.5	–40 to +85	I²C	1700	Three HW address pins, HW interrupt, 25 mA source/sink capability per I/O	18-pin PDIP
MCP23S08	8-bit I/O Port Expander	1.8 to 5.5	–40 to +85	SPI	10000	Two HW address pins, HW interrupt, 25 mA source/sink capability per I/O	18-pin PDIP
MCP23009	8-bit I/O Port Expander	1.8 to 5.5	–40 to +125	I²C	3400	One HW address pin, HW interrupt, 25 mA source/sink per I/O, 100 kHz, 400 kHz and 3.4 MHz I²C supported	18-pin PDIP
MCP23S09	8-bit I/O Port Expander	1.8 to 5.5	–40 to +125	SPI	10000	HW interrupt, 25 mA source/sink per I/O	18-pin PDIP
MCP23016	16-bit I/O Port Expander	2.0 to 5.5	–40 to +85	I²C	400	Three HW address inputs, HW interrupt, 25 mA source/sink capability per I/O	28-pin PDIP
MCP23017	16-bit I/O Expander	1.8 to 5.5	–40 to +125	I²C	1700	Three HW address pins, 25 mA sink/source per I/O, 100 kHz, 400 kHz and 3-4 MHz I²C supported, Interrupt output	28-pin PDIP
MCP23S17	16-bit I/O Expander	1.8 to 5.5	–40 to +125	SPI	10000	Three HW address pins, 25 mA sink/source per I/O, Interrupt output	28-pin PDIP
MCP23018	16-bit I/O Port Expander	1.8 to 5.5	–40 to +125	I²C	3400	One HW address pin, 2 HW interrupts, 25 mA source/sink per I/O, 100 kHz, 400 kHz and 3.4 MHz I²C supported	24-pin SSO
MCP23S18	16-bit I/O Port Expander	1.8 to 5.5	–40 to +125	SPI	10000	Two HW interrupts, 25 mA source/sink per I/O	28-pin SOIC

INTERFACE AND NETWORKING: Wi-Fi® Modules

Part #	Radio	Pin Count	Antenna	Frequency Range (GHz)	Sensitivity (dBm)	Power Output (dBm)	Power Consumption (mA)		Sleep	MAC Features	Protocols	E
							Tx	Rx				
MRF24WG0MA	802.11 b/g	36	PCB	2.412–2.484	–95	+18	240	156	0.1 mA ⁽¹⁾	802.11b/g, Wi-Fi Direct, SoftAP, WPS	Wi-Fi Connection Manager, Announce, DNS, DDNS, DHCP, FTP, HTTP, NBNS, SNMP, SNTP, SSL, TCP, UDP, ZeroConf ⁽²⁾	WPA PSK ENT
WINC1500-MR210PB	802.11 b/g/n	28	PCB, U.FL	2.412–2.472	–94	+18.5	250	57	380 µA	802.11b/g/n, SoftAP, Wi-Fi Direct	TCP, UDP, DHCP, ARP, HTTP, SSL, DNS	WEP Secu

INTERFACE AND NETWORKING: Wi-Fi® Modules

Part #	Radio	Pin Count	Antenna	Frequency Range (GHz)	Sensitivity (dBm)	Power Output (dBm)	Power Consumption (mA)		Sleep	MAC Features	Protocols	E
							Tx	Rx				
SAMW25	802.11 b/g/n	51	–	2.412–2.472	–94	+17	250	57	380 µA	802.11b/g/n, SoftAP, Wi-Fi Direct, station mode	DHCP, DNS, TCP/IP (IPv4), UDP, HTTP, HTTPS	WEF Pers

Note 1: Indicates "off" current **Note 2:** Supported in the provided stack

INTERFACE AND NETWORKING: High-Linearity 2.4-GHz Amplifiers

Part Number	Freq (GHz)	802.11 Standard	Description	Gain (dB)	Linear Po (dBm)	EVM (%)	Vcc (V)	Current
LX5511	2.3–2.5	n	PA + PDET	26.0	20	3.0	3.3	
LX5535	2.4–2.5	n	PA + PDET	32.0	24.5	3.0	3.3–5	
LX5518	2.4–2.5	n	PA + PDET	30.0	26	3.0	3.3–5	
LX5602	2.4–2.5	n	PA, Filtering, PDET	30.0	26	3.0	5	
LX5533	2.4–2.5	ac	PA, Filtering, PDET	30.0	24	1.8	5	

INTERFACE AND NETWORKING: High-Linearity 5-GHz Amplifiers

LX5530	4.9–5.9	n	PA + PDET	28.0	22	3.0	3.3–5	
LX5531	5.15–5.85	n	PA, Filtering, PDET	33.0	25	3.0	5	
		ac			23	1.8	5	

INTERFACE AND NETWORKING: Low-Noise Amplifiers

Part Number	Freq (GHz)	802.11 Standard	Description	Gain (dB)	Noise Figure (dB)	IIP3 (dBm)	Current @ Po (mA)	Vcc (V)
LX5561	2.4–2.5	b/g/n/ac	LNA	13	1.5	6.5	10.5	
LX5560	4.9–6.0	a/n/ac	LNA	12	1.7	6	9.5	
LX5563	2.4–2.5	b/g/n/ac	LNA + Bypass	14	1.3	7.5	9	
LX5575	5.15–5.85	a/n/ac	LNA + Bypass	12	1.7	12	9	

INTERFACE AND NETWORKING: Dual-Band Front-End Modules

Part Number	Freq (GHz)	802.11 Standard	Description	Gain (dB)	Linear Po (dBm)	EVM (%)	Vcc (V)
LX5591	2.4–2.5	n	Dual-Band PA + PDET + LNA with Bypass + SPDT	30	18	3.0	3.3
		ac			16	1.8	
	5.15–5.85	n		27	18	3.0	3.3
		ac			16	1.8	

INTERFACE AND NETWORKING: Single-Band, High-Linearity Front-End Modules

Part Number	Freq (GHz)	802.11 Standard	Description	Gain (dB)	Linear Po (dBm)	EVM (%)	Vcc (V)	Current
LX5551	2.4–2.5	n	PA + SPDT + PDET	27	18	3.0	3.3	
LX5584A	2.4–2.5	n	PA + Log DET + LNA with Bypass + SP3T	30	19	3.0	3.3	
		ac			18	1.8	3.3	
LX5584B	2.4–2.5	n	PA + Log DET + LNA with Bypass + SP3T	33	21	3.0	5.0	
		ac			20	1.8	5.0	
LX5584H	2.4–2.5	n	PA + Log DET + LNA with Bypass + SP3T	33	21	3.0	5.0	
		ac			20	1.8	5.0	
LX5586	5.15–5.85	n	PA + PDET + LNA with Bypass + SPDT	27	17.0	3.0	3.3	
		ac			16.0	1.8	3.3	
LX5586A	5.15–5.85	n	PA + PDET + LNA with Bypass + SPDT	27	17.5	3.0	3.3	
		ac			16.5	1.8	3.3	
LX5586H	5.15–5.85	n	PA + PDET + LNA with Bypass + SPDT	27	20	3.0	5.0	
		ac			19	1.8	5.0	
LX5589A	5.15–5.85	n	PA + Log DET + LNA with Bypass + SPDT	30	18	3.0	3.3	
		ac			17	1.8	3.3	
LX5589H	5.15–5.85	n	PA + Log DET + LNA with Bypass + SPDT	32	22	3.0	5.0	
		ac			20	1.8	5.0	
LX5589B	5.15–5.85	n	PA + Log DET + LNA with Bypass + SPDT	32	22	3.0	5.0	
		ac			20	1.8	5.0	

INTERFACE AND NETWORKING: Bluetooth® Modules

Part #	Bluetooth Spec	Module Type	No Shield Option	Rx Sensitivity (dBm)	Power Output (dBm) (typ.)	Sleep	Profiles	Interface
BM62	5.0	Stereo Audio	Yes	–90	2	–	HFP, HSP, A2DP, AVRCP, SPP	UART
BM63	5.0	Stereo Audio	No	–89	2	–	HFP, HSP, A2DP, AVRCP, SPP	UART
BM64	5.0	Stereo Audio	Yes	–90	15	–	HFP, HSP, A2DP, AVRCP, SPP	UART, I²C
BM20	5.0	Audio	Yes	–91	4	System Off 2 µA	HFP, HSP, A2DP, AVRCP, SPP, PCAP	Analog audio out, mic in, I²S, UART
BM23	5.0	Audio	Yes	–91	4	System Off 2 µA	HFP, HSP, A2DP, AVRCP, SPP, PCAP	I²S Digital audio out, mic in, I²S, UART
RN4870	5.0	BLE	Yes	–90	0	–	L2CAP, ATT, GATT, GAP, Integrated Public Profiles	UART, I²C
RN4871	5.0	BLE	Yes	–90	0	–	L2CAP, ATT, GATT, GAP, Integrated public profiles	UART, I²C, SPI
RN4678	5.0	Data, Dual-Mode	Yes	–90 BR/EDR –92 LE	2	Deep Power Down 130 µA	BT3.0: GAP, SPP, SPD, RFCOMM, L2CAP BT4.2: GAP, GATT, ATT, SMP, L2CAP	UART, I²C
BM70	5.0	Data, Single-Mode BLE	Yes	–90	0	Power saving 1 µA	GAP, GATT, SM, L2CAP, Integrated public profiles	UART, I²C, SPI, ADC, PWM, GPIOs
BM71	5.0	Data, Single-Mode BLE	Yes	–90	0	Power saving 1 µA	GAP, GATT, SM, L2CAP, Integrated public profiles	UART, I²C, SPI, ADC, PWM, GPIOs
RN4020	4.1	Data, Single-Mode BLE	No	–92.5	7	Dormant < 700 nA, deep sleep < 5.0 µA	GAP, GATT, SM, L2CAP, integrated public profiles	UART, PIO, AIO, SPI
BM78	5.0	Data, Dual-Mode	Yes	–90 (BR/EDR) –92 LE	2	Deep Power Down 130 µA	BT3.0: GAP, SPP, SPD, RFCOMM, L2CAP BT4.2: GAP, GATT, ATT, SMP, L2CAP	UART, I²C, GPIOs
SAMB11-MR210CA	5.0	BLE	No	–95	1.15 µA	2 µA	L2CAP, ATT, GATT, GAP, Integrated public profiles	UART, I²C, SPI
BTLC1000-MR110CA	5.0	BLE	No	–95	1.15 µA	1 µA	L2CAP, ATT, GATT, GAP, Integrated public profiles	UART, I²C, SPI

INTERFACE AND NETWORKING: IEEE 802.15.4 zigbee® RF Transceiver Products

Part #	Pin Count	Antenna	Frequency Range (GHz)	Sensitivity (dBm)	Power Output (dBm)	RSSI	Tx Power Consumption (mA)	Rx Power Consumption (mA)	Clock (MHz)	Sleep	MAC	MAC Features
MRF24J40	40	–	2.405 to 2.48	–95	0	Yes	23	19	20	2 µA	Yes	CSMA-C
MRF24J40MA	12	PCB	2.405 to 2.48	–94	0	Yes	23	19	20	2 µA	Yes	CSMA-C
MRF24J40MD	12	PCB	2.405 to 2.48	–104	+19	Yes	140	32	20	10 µA	Yes	CSMA-C
MRF24J40ME	12	U.FL	2.405 to 2.48	–104	+19	Yes	140	32	20	10 µA	Yes	CSMA-C

INTERFACE AND NETWORKING: Sub-GHz Transceivers/Modules

Part #	Pin Count	Frequency Range (MHz)	Sensitivity (dBm)	Power Output (dBm)	RSSI	Tx Power Consumption (mA)	Rx Power Consumption (mA)	Clock (MHz)
MRF89XA	32	868/915/950	–113	+12.5	Yes	25 mA @ +10 dBm	3	12.8 MHz
MRF89XAM8A	12	868	–113	+12.5	Yes	25 mA @ +10 dBm	3	12.8 MHz
MRF89XAM9A	12	915	–113	+12.5	Yes	25 mA @ +10 dBm	3	12.8 MHz

INTERFACE AND NETWORKING: Sub-GHz Transmitters

Part #	Pin Count	Frequency Range (MHz)	Modulation	Data Rate (Kbps)	Tx Power (dBm)	Operating Voltage (V)
MICRF114	6	285–445	OOK	115.2 (NRZ), 57.6 (Manchester Encoded)	10	1.8–3.0
MICRF113	6	300–450	ASK	20	10	1.8–3.0
MICRF112	10	300–450	ASK/FSK	50 (ASK), 10 (FSK)	10	1.8–3.0

INTERFACE AND NETWORKING: Sub-GHz Receivers

Part #	Pin Count	Frequency Range (MHz)	Modulation	Data Rate (Kbps)	Sensitivity (dBm)	RSSI	Rx Power Consumption (mA)	Sleep Current (µA)
MICRF219A	16	300–450	ASK/OOK	20	–110	Yes	4.3	15 µA
MICRF220	16	300–450	ASK/OOK	20	–110	Yes	4.3	N/A
MICRF221	16	850–950	ASK/OOK	10	–109	Yes	9	15 µA
MICRF229	16	400–450	ASK/OOK	20	–112	Yes	6	15 µA
MICRF230	16	400–450	ASK/OOK	20	–112	Yes	6	N/A

INTERFACE AND NETWORKING: MCU Transmitters

Part #	Pin Count	Frequency Range (MHz)	Program Memory (Bytes)	EEPROM (bytes)	RAM (bytes)	Digital Timer	Watch Dog Timer	Max Speed (MHz)	ICSP	Modulation	Data Rate (kbps)	Output Power (dBm)
PIC12F529T39A	6	310–928	2.3K	64	201	1	1	8	Yes	OOK/FSK	100	10
PIC12LF1840T39A	6	310–928	7.1K	256	256	2	1	32	Yes	OOK/FSK	100	10
PIC16LF1824T39A	20	310–928	4K	256	256	1	1	32	Yes	OOK/FSK	100	10
rPIC12F675F	6	380–450	1.7K	128	64	1	1	20	Yes	ASK/FSK	40	10
rPIC12F675H	6	850–930	1.7K	128	64	1	1	20	Yes	ASK/FSK	40	10
rPIC12F675K	6	290–350	1.7K	128	64	1	1	20	Yes	ASK/FSK	40	10

INTERFACE AND NETWORKING: USB Bridge Devices

Part #	USB Speed	USB Compliant	PHY	MCU Interface	Tx/Rx Buffer Size (bytes)	Number of GPIO	Operating Voltage (V)	Other Features
MCP2200	Full-Speed USB (12 Mb/s), Low-Speed USB (1.5 Mb/s)	Yes	Yes	UART	128/128	8	2.7 to 5.5	20-pin
MCP2210	Full-Speed USB (12 Mb/s), Low-Speed USB (1.5 Mb/s)	Yes	Yes	SPI	64	9	3.3 to 5.5	20-pin
MCP2221	Full-Speed USB (12 Mb/s), Low-Speed USB (1.5 Mb/s)	Yes	Yes	I²C	64	4	3.0 to 5.5	14-pin

INTERFACE AND NETWORKING: USB Products

Part #	Description	Processor Interface	# of Downstream Ports	Card Format
USB Hub Controllers				
USB2412	Hi-Speed USB 2.0 2-Port Hub	USB 2.0	2	–
USB2422	Small-footprint, 2-Port Value Hub, Commercial and Industrial Temperature with USB Battery Charging 1.1	USB 2.0	2	–

INTERFACE AND NETWORKING: USB Products				
Part #	Description	Processor Interface	# of Downstream Ports	Card Forma
USB251XB/ USB2517	Hi-Speed USB 2.0 Hub with Battery Charger Detection	USB 2.0	2, 3, 4, 7 port options	–
USB2524	4-Port Hi-Speed USB 2.0 Multi-Switch Hub	USB 2.0 × 2	4	–
USB3503	3-Port Hi-Speed USB 2.0 HSIC Hub for Mobile Applications	HSIC	3	–
USB3803	3-Port Hi-Speed USB 2.0 Hub for Mobile Applications	USB 2.0	3	–
USB3X13	3-Port Hi-Speed USB 2.0 Smart Hub for Mobile Applications	USB 2.0 or HSIC	3 (USB 2.0 × 2/HSIC × 1)	–
USB253X	Hi-Speed USB 2.0 Controller Hub with Battery Charger Detection	USB 2.0	2, 3, 4 port options	–
USB46X4	Hi-Speed USB 2.0 Controller Hub with USB and HSIC Interfaces	USB 2.0 or HSIC	4 (USB 2.0 × 4 or USB 2.0 × 2/HSIC × 2)	–
USB553XB	SuperSpeed USB 3.0 Hub with Battery Charger Detection	USB 3.0	2, 3, 4 or 7 port options	–
USB5734	SuperSpeed USB 3.1 Gen1 Smart Hub Controller with I/O Bridging and FlexConnect	USB 3.1 Gen1	4	–
USB5744	SuperSpeed USB 3.1 Gen1 Small Form Factor Hub Controller	USB 3.1 Gen1	4	–
USB-C™ Power and Charging				
UTC200X	USB-C Controller	I/O	1 DFP or 1 UFP	–
USB Transceivers/Switches				
USB333X	Mobile Hi-Speed USB 2.0 Transceiver with Multi-frequency Support	ULPI	–	–
USB334X	Hi-Speed USB 2.0 Transceiver with Multi-frequency Support	ULPI	–	–
USB3300	Hi-Speed USB 2.0 Transceiver (24 MHz reference clock support)	ULPI	–	–
USB3740B	Hi-Speed USB 2.0 Switch with Extremely Low Power	USB 2.0	–	–
USB375XA-X	Hi-Speed USB 2.0 Port Protection with Switch and Charger Detection	USB 2.0	–	–

INTERFACE AND NETWORKING: USB Products (Continued)					
Part #	Description	Processor Interface	# of Downstream Ports	Card Formats	Industrial
USB Flash Media Controllers					
USB224X	Hi-Speed USB 2.0 Multi-Format Flash Media Controller	USB 2.0	–	SD™/MMC/eMMC™/MS/xD	✓
USB225X	Hi-Speed USB 2.0 Multi-Format Flash Media Controller	USB 2.0	–	SD/MMC/eMMC/MS/xD/CF	✓
USB264X	Hi-Speed USB 2.0 Multi-Format Flash Media Hub Controller	USB 2.0	2	SD/MMC/eMMC/MS/xD	✓ (Autom
USB2660	Hi-Speed USB 2.0 Multi-Format Flash Media Hub Controller	USB 2.0	2	SD/MMC/eMMC/MS/xD (× 2)	✓
USB4640	Hi-Speed USB 2.0 Multi-Format Flash Media HSIC Hub Controller	HSIC	2	SD/MMC/eMMC/MS/xD	✓
USB Security					
SEC1110	Smart Card Controller	USB 2.0	–	Smart Card	✓
SEC1210	Smart Card Controller with Multi-Interface Support	USB 2.0	–	Smart Card × 2	✓

INTERFACE AND NETWORKING: Real-Time Clock/Calendar (RTCC)														
Bus	Product	Pins	Timing Features				Memory ⁽¹⁾			Power		Unique Features ⁽²⁾	5 ku Pricing†	
			Digital Trimming (Adj./Range)	Alarm Settings	WDT	Outputs	SRAM (Bytes)	EEPROM (Kbits)	Protected EEPROM (bits)	Min Vcc	Min I _{BAT}			
I ² C	MCP7940M	8	±127 ppm	1 sec.	–	IRQ/CLK	64	0	0	1.8	–	–	\$0.46	SOIC (SN),
	MCP7940N	8	±127 ppm	1 sec.	–	IRQ/CLK	64	0	0	1.8	1.3	Power Fail Timestamp	\$0.59	SOIC (SN),
	MCP7940X	8	±127 ppm	1 sec.	–	IRQ/CLK	64	0	64	1.8	1.3	Power Fail Timestamp	\$0.66	SOIC (SN),
	MCP7941X	8	±127 ppm	1 sec.	–	IRQ/CLK	64	1	64	1.8	1.3	Power Fail Timestamp	\$0.72	SOIC (SN),
SPI	MCP7951X	10	±255 ppm	0.01 sec.	–	IRQ/CLK	64	1	128	1.8	1.3	Power Fail Timestamp	\$0.90	SOIC (SL),
	MCP7952X	10	±255 ppm	0.01 sec.	–	IRQ/CLK	64	2	128	1.8	1.3	Power Fail Timestamp	\$0.96	MSOP (MS),
	MCP795W1X	14	±255 ppm	0.01 sec.	✓	1. CLK, 2. IRQ, 3. WDT RST	64	1	128	1.8	1.3	Power Fail Timestamp, Event Detects (× 2)	\$1.22	SOIC (SL),
	MCP795W2X	14	±255 ppm	0.01 sec.	✓	1. CLK, 2. IRQ, 3. WDT RST	64	2	128	1.8	1.3	Power Fail Timestamp, Event Detects (× 2)	\$1.28	SOIC (SL),

Note 1: All part numbers with an "X" have three protected EEPROM programming options: [0 = Blank ID], [1 = EUI-48™ MAC Address], [2 =EUI-64™ MAC Address]
2: The Power Fail Timestamp in all RTCCs occur at Battery Switchover.

CO AND SMOKE DETECTOR ICS

CO AND SMOKE DETECTOR ICS: Photoelectric Smoke Detector ICS

Part #	Horn Driver Alarm Pattern	Alarm Memory	Low Battery Detection	Chamber Test	Alarm Interconnect	Sensitivity Timer	Internal POR	Alternate Diagnostic Mode	Temp
RE46C140	NFPA Temporal	No	Yes	Yes	Yes	Yes	Yes	–	–
RE46C141	NFPA Temporal	No	Yes	Yes	Yes	–	Yes	–	–
RE46C143	Continuous Tone	No	Yes	Yes	Yes	–	Yes	–	–
RE46C144	Continuous Tone	No	Yes	Yes	Yes	Yes	Yes	–	–
RE46C145	NFPA Temporal	No	Yes	Yes	Yes	Yes	Yes	Yes	–
RE46C165	NFPA Temporal	Yes	Yes	Yes	Yes	Yes	Yes	Yes	–
RE46C166	Continuous Tone	Yes	Yes	Yes	Yes	Yes	Yes	Yes	–
RE46C167	NFPA Temporal	Yes	Yes	Yes	Yes	Yes	Yes	Yes	–
RE46C168	Continuous Tone	Yes	Yes	Yes	Yes	Yes	Yes	Yes	–
RE46C190	NFPA Temporal or Continuous Tone	Yes	Yes	Yes	Yes	Yes	Yes	–	–
RE46C191	NFPA Temporal or Continuous Tone	Yes	Yes	Yes	Yes	Yes	Yes	No	–
RE46C194	NFPA Temporal or Continuous Tone	Yes	Yes	Yes	Yes	Yes	Yes	No	–
RE46C200	NFPA Temporal or Continuous Tone	Yes	Yes	Yes	Yes	Yes	Yes	No	–

CO AND SMOKE DETECTOR ICS: Ionization Smoke Detector ICS

Part #	Horn Driver Alarm Pattern	Alarm Memory	Low Battery Detection	Reverse Battery Protection	Alarm Interconnect	Hush Timer	Power-up Low Battery Test	Operating Temp. Range (°C)
RE46C120	NFPA Temporal or Continuous Tone	No	Yes	Yes	–	–	–	–10 to +60
RE46C121	NFPA Temporal	No	Yes	Yes	Yes	–	–	–10 to +60
RE46C122	NFPA Temporal	No	Yes	Yes	Yes	Yes	Yes	–10 to +60
RE46C126	Continuous Tone	No	Yes	Yes	Yes	–	–	–10 to +60
RE46C127	Continuous Tone	No	Yes	Yes	Yes	Yes	Yes	–10 to +60
RE46C128	NFPA Temporal	No	Yes	Yes	Yes	–	Yes	–10 to +60
RE46C129	Continuous Tone	No	Yes	Yes	Yes	–	Yes	–10 to +60
RE46C152	NFPA Temporal or Continuous Tone	No	Yes	Yes	Yes	Yes	Yes	–10 to +60
RE46C162	NFPA Temporal or Continuous Tone	Yes	Yes	Yes	Yes	Yes	Yes	–10 to +60
RE46C163	NFPA Temporal or Continuous Tone	Yes	Yes	Yes	Yes	Yes	Yes	–10 to +60
RE46C180	NFPA Temporal or Continuous Tone	Yes	Yes	No	Yes	Yes	Yes	–10 to +60

CO AND SMOKE DETECTOR ICS: Ionization Smoke Detector Front Ends

Part #	Microprocessor Compatible Output	Output Options	Typical Application	Operating Temperature Range (°C)
RE46C112	Yes	V _{OUT} 1/4 of V _{DD} or V _{OUT} 1/4 of Detect Input	3V or 3.3V Microprocessor	–10 to +60
RE46C114	Yes	V _{OUT} 1/2 of V _{DD} or V _{OUT} 1/2 of Detect Input	5V Microprocessor	–10 to +60
RE46C311	Yes	Op Amp	Ionization Smoke Detector Front End	–10 to +60
RE46C312	Yes	Op Amp	Ionization Smoke Detector Front End	–10 to +60

CO AND SMOKE DETECTOR ICS: CO Detectors

Part #	Operating Voltage (V _{CC})	Voltage Regulator (V _{CC})	LED Driver	Horn Driver	Interconnect	Low Battery Detection	Brown Out	Boost Regulator	Op Amp V _{OS} Max (μV)	Op Amp I _b Max (pA)	Op Amp GBWP (kHz)	Op Amp A _{OL} (dB)	Op Amp Slew Rate (V/μS)	Op Amp Unity Gain Stable
RE46C800	2 to 12	3.3	Yes	Yes	Yes	Yes	Yes	Yes	1000	200	10	115	0.003	Yes

CO AND SMOKE DETECTOR ICS: Piezoelectric Horn Drivers

Part #	Operating Voltage (V)	LED Driver	Voltage Regulator (V)	Low Battery Detection	Interconnect	Power Good	Operating Temp.
RE46C100	6 to 16	–	–	–	–	–	–40 to +85
RE46C101	6 to 16	Yes	–	–	–	–	–40 to +85
RE46C104	4 to 8	–	–	–	–	–	0 to +50
RE46C105	6 to 12	Yes	3.3 or 5	Yes	–	–	–40 to +85
RE46C107	2 to 5	Yes	3 or 3.3	Yes	–	–	0 to +50
RE46C108	6 to 12	–	3.3 or 5	–	–	–	–40 to +85
RE46C109	6 to 12	–	3	Yes	Yes	Yes	–40 to +85
RE46C117	2 to 5	–	–	–	–	–	0 to +50
RE46C119	6 to 12	–	3	Yes	Yes	Yes	–40 to +85
RE46C317	2 to 5	–	–	–	–	–	–10 to +60
RE46C318	2 to 5	–	–	–	–	–	–10 to +60

ULTRASOUND**ULTRASOUND: High-Voltage Analog Multiplexers**

Part #	# of Ch. and Configuration	Bleed Resistor	V _{PP} -V _{NN}	R _{ON} (Ω)	C _{SG} On/Off (pF)	I _{sw} (A)	Features
HV20220	8 SPST	No	200V	22	38/12	3	5V–12V Logic Input, 5 MHz clock frequency
HV20320	8 SPST	No	200V	22	38/12	3	5V–12V Logic Input, 5 MHz clock frequency
HV232	8 SPST	Yes	200V	22	38/12	3	5V–12V Logic Input, 5 MHz clock frequency
HV219	8 SPST	No	200V	11	50/20	3	5V–12V Logic Input, 5 MHz clock frequency
HV2201	8 SPST	No	200V	22	38/12	3	3.3V–5V Logic input, 20 MHz clock frequency
HV2301	8 SPST	Yes	200V	22	38/12	3	3.3V–5V Logic input, 20 MHz clock frequency
HV2221	8 SPST	No	V _{PP} range = +15V to +50V, V _{NN} range = –190V to –225V	15	70/18	4	3.3V–5V Logic input, 20 MHz clock frequency
HV2321	8 SPST	Yes	V _{PP} range = +15V to +50V, V _{NN} range = –190V to –225V	15	70/18	4	3.3V–5V Logic input, 20 MHz clock frequency
HV209	6 × 2:1 Mux	Yes	200V	22	38/12	3	5V–12V Logic Input, 5 MHz clock frequency
HV20822	2 Banks of 8 channel	No	220V	22	38/12	3	5V–12V Logic Input, 5 MHz clock frequency
HV238	2 Banks of 8 channel	Yes	220V	22	38/12	3	5V–12V Logic Input, 5 MHz clock frequency
HV2601	16 SPST	No	200V	22	38/12	3	3.3V–5V Logic input, 20 MHz clock frequency
HV2701	16 SPST	No	200V	22	38/12	3	3.3V–5V Logic input, 20 MHz clock frequency
HV2605	16 SPST	No	200V	22	13/10	3	3.3V–5V Logic input, 20 MHz clock frequency
HV2705	16 SPST	Yes	200V	22	13/10	3	3.3V–5V Logic input, 20 MHz clock frequency
HV2631	2 Banks of 8 channel	No	220V	22	38/12	2	3.3V–5V Logic input, 20 MHz clock frequency
HV2731	2 Banks of 8 channel	Yes	220V	22	38/12	2	3.3V–5V Logic input, 20 MHz clock frequency
HV2803	32 SPST	No	±6V	10	27/9	3	3.3V Input Logic, 66 MHz Clock Frequency
HV2903	32 SPST	Yes-2	±6V	10	27/9	3	3.3V Input Logic, 66 MHz Clock Frequency
HV2904	32 SPST	Yes-1	±6V	10	27/9	3	3.3V Input Logic, 66 MHz Clock Frequency
HV2070	32 SPST	No	±6V	4.5	20/11	3.7	3.3V Input Logic, 66 MHz Clock Frequency
HV2733	8 SPDT	Yes	200V	22	38/12	2	3.3V–5V Logic input, 20 MHz clock frequency
HV2661	8 × 3:1 Mux	No	200V	22	30/9	2	3.3V–5V Logic input, 20 MHz clock frequency
HV2761	8 × 3:1 Mux	Yes	200V	22	30/9	2	3.3V–5V Logic input, 20 MHz clock frequency
HV2662	24 SPST	No	200V	22	12/9	2	3.3V–5V Logic input, 20 MHz clock frequency
HV2762	24 SPST	Yes	200V	22	12/9	2	3.3V–5V Logic input, 20 MHz clock frequency
HV2808	2 Banks of 16 SPDT	No	200V	22	23/9	3	3.3V–5V Logic, A/B bar Control pin
HV2809	2 Bank of 16	No	200V	22	23/9	3	3.3V -5V Logic, A/B bar + EN Control pins
HV2801	16 × 2:1 Mux	No	200V	22	23/9	3	3.3V–5V Logic input, 20 MHz clock frequency
HV2901	16 × 2:1 Mux	Yes	200V	22	23/9	3	3.3V–5V Logic input, 20 MHz clock frequency
HV2802	32 SPST	No	200V	22	13/10	3	3.3V–5V Logic input, 20 MHz clock frequency
HV2902	32 SPST	Yes	200V	22	13/10	3	3.3V–5V Logic input, 20 MHz clock frequency
HV2621	16 SPST	No	300V	22	18/10	3	3.3V–5V logic input, 33 MHz clock frequency
HV2721	16 SPST	Yes-2	300V	22	18/10	3	3.3V–5V logic input, 33 MHz clock frequency
HV2722	16 SPST	Yes-1	300V	22	18/10	3	3.3V–5V logic input, 33 MHz clock frequency

ULTRASOUND: Ultrasound MOSFET Drivers

Part #	# of Channels	Input Voltage Min. (V)	Input Voltage Max. (V)	Output Voltage Bipolar (V)	Output Voltage Unipolar (V)	Output Rise/Fall Time	Peak Current	Application Circuit
MD1210	2	1.2	5.0	NA	0–12	6 ns/6 ns	±2A	Pair with 1 × TC6320
MD1211	2	1.8	5.0	NA	0–12	10 ns/10 ns	±2A	Pair with 1 × TC6320
MD1213	2	1.8	5.0	±5	0–12	6 ns/6 ns	±2A	Pair with 1 × TC6320
MD1711	12	1.8	3.3	NA	0–12	8 ns/8 ns	±2A	Pair with 6 × TC6320 to form a 2-Channel 5-Level Pulser
MD1712	12	1.8	3.3	NA	0–12	8 ns/8 ns	±2A	Pair with 6 × TC6320 to form a 2-Channel 5-Level Pulser
MD1715	12	1.8	3.3	NA	0–12	6.5 ns/6.5 ns	±2A	Pair with 1 × TC8020 to form a 2-Channel 5-Level Pulser
MD1716	12	1.8	3.3	NA	0–12	6.5 ns/6.5 ns	±2A	Pair with 1 × TC8020 to form a 3-Channel 3-Level Pulser
MD1810	4	1.8	5	±5	0–12	6 ns/6 ns	±2A	Pair with 2 × TC6320 to form a 1-Channel 4-Level Pulser/2 Channel 2 Level Pulser/1 C
MD1811	4	1.8	5	±5	0–12	6 ns/6 ns	±2A	Pair with 2 × TC6320 to form a 2-Channel 2-Level Pulser
MD1812	5	1.8	5	±5	0–12	6 ns/6 ns	±2A	Pair with 1 × TC6320 and 1 × TC2320 to form a 1-Channel 3-Level Pulser
MD1813	5	1.8	5	±5	0–12	6 ns/6 ns	±2A	Pair with 1 × TC6320 and 1 × TC2320 to form a 1-Channel 3-Level Pulser
MD1820	4	1.8	5	±5	0–12	7 ns/7 ns	±2A	Pair with 2 × TC6320 to form a 1-Channel 4-Level Pulser/2-Channel 2 Level Pulser/1 C
MD1821	4	1.8	5	±5	0–12	7 ns/7 ns	±2A	Pair with 2 × TC6320 to form a 2-Channel 2-Level Pulser
MD1822	4	1.8	5	±5	0–12	7 ns/7 ns	±2A	Pair with 2 × TC6320 to form a 1-Channel 3Level Pulser

ULTRASOUND: Ultrasound TR Switches

Part #	# of Channels	Noise (per $\sqrt{\text{Hz}}$)	Features
MD0100	1/2	0.7 nV/ $\sqrt{\text{Hz}}$	±100V Ultrasound T/R Switches
MD0101	4	0.8 nV/ $\sqrt{\text{Hz}}$	±100V Ultrasound T/R Switches with Clamp Diode
MD0105	4	0.8 nV/ $\sqrt{\text{Hz}}$	±130V Ultrasound T/R Switches

ULTRASOUND: Arbitrary Waveform Generators

Part #	Output	Sampling Frequency	Features
MD2131	Push-Pull Source Drive	250 MHz	8-bit DAC, 48-step phase, PWM, 8-bit Apodization DAC
MD2134	Push-Pull Source Drive	250 MHz	8-bit DAC, 7-bit PAM, 16-Level

ULTRASOUND: Ultrasound Transmitters

Part #	Output Voltage (V)	Output Current (A)	Number of Channels	Features
HV748	±75	±1.25	4	4-Channel 2-Level RTZ
HV7360	±100	±2.5	1 or 2	1-Channel 3-Level or 2-Channel 2-Level
HV7361	±100	±2.5	1 or 2	1-Channel 3-Level or 2-Channel 2-Level with integrated T/R
HV7355	150	±1.5	8	8-Channel Unipolar Active RTZ
HV7350	±60	±1.0	8	8-Channel 3-Level
HV7351	±70	±3.0	8	8-Channel 3-Level with Built-in Digital Beamformer
HV7321	±80	±2.5	4	4-Channel 5-level RTZ, HD2 –44 dB @ 5 MHz
HV7322	±80	±2.0	8	8-Channel 7-level with dual T/R
HV7358	±80	±1.6	16	16-Channel 3-Level with Built-in Digital Beamformer and T/R

Featured Analog Development Tools

For a complete list of development tools, please visit www.microchip.com/development_tools.

Thermal Management Products



MCP9600 Evaluation Board (ADM00665)

The MCP9600 Evaluation Board is used to digitize the Thermocouple EMF voltage to degree Celsius with $\pm 1.5^{\circ}\text{C}$ accuracy. You can easily evaluate all device features using a Type K thermocouple. The device also supports Types J, T, N, E, B, S and R. Each of these types are evaluated by replacing the Type K Thermocouple connector with the corresponding connectors (not included).



Thermocouple Reference Design (TMPSNSRD-TCPL1)

This reference design demonstrates how to instrument a thermocouple and accurately sense temperature over the entire thermocouple measurement range. This solution uses the MCP3421 18-bit Analog-to-Digital Converter (ADC) to measure voltage across the thermocouple.

Sensor Products



Linear Sensor Kit (LXK3301AL003)

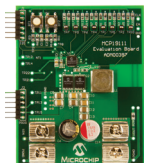
This 100 mm linear position sensor evaluation kit comes with all you need to test out inductive technology for a linear sensor. The kit includes a 100 mm linear sensor evaluation board, a programmer that is run from our Integrated Programming and Calibration Environment (IPCE) GUI and applicable cables.



Rotary Sensor Kit (LXK3301AR001)

This 18 mm 120° rotary position sensor evaluation kit comes with all you need to test out inductive technology for a rotary sensor. The kit includes a rotary position sensor evaluation board, a programmer that is run from our Integrated Programming and Calibration Environment (IPCE) GUI and applicable cables.

Power Management Products



MCP19111 Evaluation Board (ADM00397)

The MCP19111 is a digitally-enhanced PWM controller. It combines a pure-analog PWM controller with a supervisory MCU making it a fast, cost-effective and configurable power conversion solution. The MCP19111 is ideal for standard power conversion, LED drivers and battery charging applications. This board demonstrates how the device operates in a synchronous buck topology over a wide input voltage and load range.



MCP16251 and MCP1640B Synchronous Boost Converters Evaluation Board (ADM00458)

This board demonstrates the MCP16251/MCP1640B in two boost-converter applications with multiple output voltages and was developed to help reduce product design cycle time. Three common output voltages can be selected: 2.0V, 3.3V and 5.0V.



MIC33M650 6A Step Down Module Evaluation Board (DT100107)

The boards are intended to provide a platform allowing customers to easily evaluate the features of the new MIC33M650 6A Power Modules in a buck converter application with adjustable output voltage through pin-strapping using on board jumpers. These boards are ideal for powering core supply voltages and also high-power single-cell Li-ion battery powered applications.



MIC33M656 6A Step Down Module Evaluation Board (DT100108)

The boards are intended to provide a platform allowing customers to easily evaluate the features of the new MIC33M656 6A Power Modules in a buck converter application with output voltage and other settings via I2C. These boards are ideal for powering core supply voltages and also high power single-cell Li-ion battery-powered applications.

For a complete list of development tools, please visit www.microchip.com/development_tools.

Power Management Products (continued)



MIC23350 3A Synch Buck Regulator Evaluation Board (ADM00880)

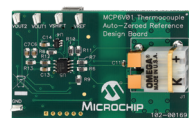
The MIC23350 Evaluation Board is developed to evaluate and demonstrate Microchip Technology's MIC23350 product. The board features the MIC23350 in a typical Buck application supplied from an external source, between 2.4V–5.5V. Nine output voltage levels can be set via two Voltage Select pins. Test connectors allow probing, while the board can be loaded up to 3A.



MIC23650 6A Synch Buck Regulator Evaluation Board (ADM00885)

The MIC23650 Evaluation Board is developed to evaluate and demonstrate Microchip Technology's MIC23650 product. The board features the MIC23650 in a typical Buck application supplied from an external source, between 2.4V–5.5V. Nine output voltage levels can be set via two Voltage Select pins. Test connectors allow probing, while the board can be loaded up to 6A.

Linear Products



MCP6V01 Thermocouple Auto-Zeroed Reference Design Board (MCP6V01RD-TCPL)

The MCP6V01 design board demonstrates how to use a difference amplifier system to measure Electromotive Force (EMF) voltage at the cold junction of thermocouple to accurately measure temperature of the thermocouple bead. This can be done by using the MCP6V01 auto-zeroed op amp because of its ultra-low offset voltage (V_{os}) and high Common Mode Rejection Ratio (CMRR).



MCP6N16 Evaluation Board (ADM00640)

This board is designed to provide an easy and flexible platform when evaluating the MCP6N16, a zero-drift instrumentation amplifier designed for low-voltage operation featuring rail-to-rail input and output performance. The board is populated with the MCP6N16-100, which is optimized for gains for 100V/V or higher.



MCP6421 EMIRR Evaluation Board (ADM00443)

The MCP6421 EMIRR Evaluation Board is intended to support the Electromagnetic Interference Rejection Ratio (EMIRR) measurement and to show the Electromagnetic Interference (EMI) rejection capability of the MCP6421 op amp.

Mixed Signal Products



MCP37X3X-200 16-bit 200 Msps ADC VTLA Evaluation Board (ADM00505)

This board provides the opportunity to evaluate the performance of the MCP37X3X-200 device family. With the on-board MCP37D31-200 16-bit 200 Msps pipelined ADC, it allows you to evaluate the functionality of the 16-bit 200 Msps ADCs and the digital signal processing features. With the help of a compatible data capture card, the evaluation board can provide you with performance analysis features through the PC GUI.



PAC1921 High-Side Power and Current Monitor Evaluation Board (ADM00592)

The PAC1921 is a dedicated power monitoring device with a configurable analog output. This device is unique in that all power-related information is available on the 2-wire/I²C-compatible interface and power, current or voltage is available on the analog output. This evaluation board provides you with the means to exercise device functionality while connected either to target systems or while utilizing on-board sources.



MCP39F511 Power Monitor Demonstration Board (ARM00667)

The MCP39F511 Power Monitor Demonstration Board is a fully functional single-phase power monitor and energy monitoring system. The system calculates and displays active power, reactive power, RMS current, RMS voltage, active energy (both import and export) and four quadrant reactive energy. The Power Monitor Utility Software enables you to easily experiment with all system configuration settings such as zero-cross detection, PWM output frequencies, event configurations and calibration setup.

Featured Analog Development Tools

For a complete list of development tools, please visit www.microchip.com/development_tools.

Interface Products



UCS81003 Evaluation Board (ADM00561)

This board provides the ability to evaluate the features of the UCS81003 Automotive USB Port Power Controller with Charger Emulation. It allows the UCS81003 to be tested in different configurations by populating jumpers on specific header locations. The Evaluation Board contains the MCP2221 USB to I²C bridge, which allows communication via USB between the UCS81003 and the GUI running on the PC.



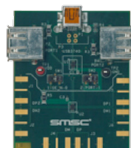
LAN9252 EtherCAT® Slave Controller Evaluation Kit with HBI PDI Interface (EVB-LAN9252-HBI)

This kit is a standalone platform to develop an EtherCAT slave device. It offers flexibility to explore different host bus interfaces such as 8-bit and 16-bit parallel bus, SPI and SQI™.



LAN874X 10/100 Ethernet Transceiver with EEE and Wake-On-LAN (EVB8740)

The EVB8740 is a PHY evaluation board for our LAN874X family, which integrates Energy Efficient Ethernet and Wake-on-LAN features. It interfaces to a MAC controller via a standard MII or RMII interface.



USB3740 Hi-Speed USB 2.0 2-Port Switch (EVB-USB3740)

The EVB-USB3740 is used to evaluate our USB3740 USB 2.0 compliant 2-port switch. Some applications require a single USB port to be shared with other functions. The USB3740 is a small and simple 2-port switch providing system design flexibility.



UTC2000 Basic USB Type-C™ Controller Evaluation Kit (EVK-UTC2000)

The EVK-UTC2000 is a complete kit to evaluate our UTC2000 basic USB-C controller. It includes a downstream-facing port dongle which can connect to any standard host, an upstream-facing port board to mimic a USB-C device, as well as a USB-C cable.



USB5734 USB 3.1 Gen1 Controller Hub Evaluation Board (EVB-USB5734)

This board is a demonstration and evaluation platform that provides the necessary requirements and interface options for evaluating the USB5734 Smart Hub on a 4-layer RoHS-compliant PCB. This will allow you to gain an understanding of the product and accelerate integration into your design.



USB5926 USB 3.1 Gen1 Smart Hub with 2:1 USB-C MUX Evaluation Board (EVB-USB5926)

This board demonstrates implementation of USB Type-C ports using Microchip's UTC2000 CC pin interface controller and the USB5926's built-in 2:1 Muxes. The board supports two downstream facing USB Type-C ports along with an upstream facing USB Type-C port. The USB5926 also supports two additional downstream Type A ports for legacy purposes.



MCP2515 CAN Bus Monitor Demo Board (MCP2515DM-BM)

The MCP2515 CAN Bus Monitor Demo board kit contains two identical boards that can be connected together to create a simple two-node Controller Area Network (CAN) bus, which can be controlled and/or monitored via the included PC interface. The board(s) can also be connected to an existing CAN bus.



USB to UART Converter Evaluation Board (MCP2200EV-VCP)

The MCP2200EV-VCP is a USB-to-RS232 development and evaluation board for the MCP2200 USB-to-UART device. The board allows for easy demonstration and evaluation of the MCP2200. The accompanying software allows the special device features to be configured and controlled. The board is powered from USB and has a test point associated with each GPIO pin. In addition, two of these pins are connected to LEDs which can be used to indicate USB-to-UART traffic when the associated pins are configured as TxLED and RxLED pins respectively.

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