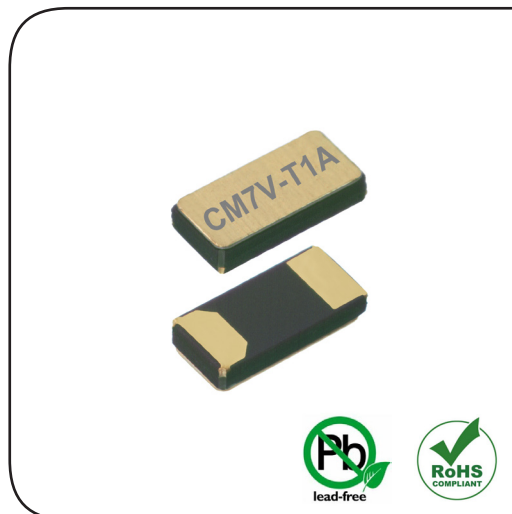




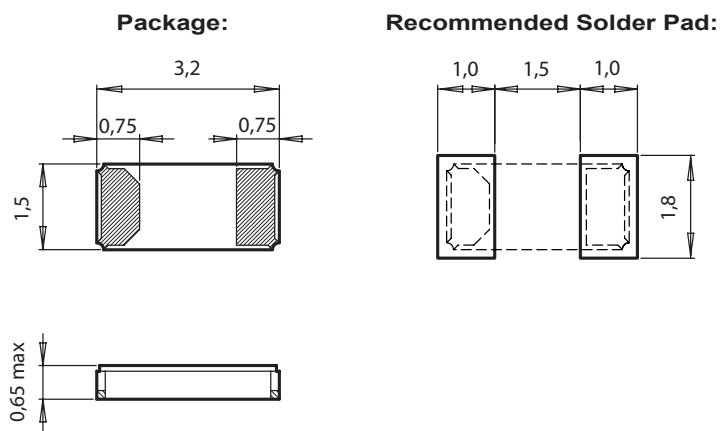
THE DATASHEET OF CM7V-T1A-32.768KHZ-6PF-20PPM-TA-QC

CM7V-T1A

Tuning Fork Crystal 32.768 kHz



DIMENSIONS



All dimensions in mm typical

APPLICATIONS

IoT
Metering
Industrial
Automotive
Health Care
Wearables, Portables

DESCRIPTION

The CM7V-T1A is a low frequency SMT Quartz Crystal Unit that incorporates a tuning fork Quartz Crystal Resonator. It operates under vacuum in a hermetically sealed ceramic package with metal lid.

FEATURES

Outstanding hermetic sealing with gold-tin preform.
High stability and low aging guaranteed by hermetic sealing.
Available for extended operating temperature range.
Small size, low profile, lightweight (10.3 mg).
High shock and vibration resistant.
100% Pb-free, RoHS-compliant.
Automotive qualification according to AEC-Q200 available.

ELECTRICAL CHARACTERISTICS AT 25°C

Standard Frequencies 32.768 kHz / 100.000 kHz ¹⁾	F _L	32.768	kHz
Load capacitance ²⁾	C _L	6.0 / 7.0 / 9.0 / 12.5	pF
Frequency tolerance ³⁾	ΔF/F	±20	ppm
	ΔF/F	±100	ppm
Series resistance typ./max.	R _S	50 / 70	kΩ
Motional capacitance typ.	C ₁	3.7	fF
Static capacitance typ.	C ₀	1.2	pF
Drive level max.	P	1.0	μW
Insulation resistance min.	R _i	500	MΩ
Aging first year max.	ΔF/F	±3	ppm
Turnover temperature	T ₀	25 ±5	°C
Frequency vs. temperature	ΔF/F ₀	−0.035 ppm/°C ² (T - T ₀) ² ±10%	ppm

- 1) Other frequencies on request.
2) Other load capacitances on request.
3) Tighter frequency tolerances on request.

STANDARD FREQUENCIES

Frequencies
32.768 kHz / 100.000 kHz
Other frequencies on request

ENVIRONMENTAL CHARACTERISTICS

		Conditions	Max. Dev.
Storage temp. range		-55 to +125°C	
TA Operating temperature range		-40 to +85°C	
TB Extended oper. temp. range		-40 to +125°C	
TC Extended oper. temp. range		-55 to +125°C	
Shock resistance	$\Delta F/F$	5000 g, 0.3 ms, 1/2 sine	±5 ppm
Vibration resistance	$\Delta F/F$	20 g / 10–2000 Hz	±5 ppm

TERMINATIONS AND PROCESSING

Type	Termination	Processing
CM7V-T1A	For SMT mounting Au flashed pads	IPC/JEDEC J-STD-020C 260°C / 20 - 40 s

ORDERING INFORMATION

C	M	7	V	-	1	A	32.768 kHz	12.5 pF	±20 ppm	TA	QC
Ceramic package							Frequency F_L				
Metal lid							Load capacitance C_L				
Package size							6.0 pF				
7 = 3.2 x 1.5 x 0.65 mm							7.0 pF				
Tuning fork							9.0 pF				
SMT Package							12.5 pF				
Au flashed pads							Other C_L on request				
Pads on both ends							Frequency tolerance				
							±20 ppm				
							±100 ppm				
							Tighter freq. tolerances on request				
							Temperature range				
							TA = -40 to +85°C (Standard)				
							TB = -40 to +125°C				
							TC = -55 to +125°C				
							Qualification				
							QC = Commercial Grade (Standard)				
							QA = Automotive Grade AEC-Q200				

A unique part number will be generated for each product specification, i.e:	
20xxx-MG01	1'000 pcs (in 12 mm tape on 7" reel)
20xxx-MG03	3'000 pcs (in 12 mm tape on 7" reel)
20xxx-PG14	14'000 pcs (in 12 mm tape on 13" reel)

All specifications subject to change without notice.

Looking for pricing, stock, or lifecycle information?

Click below to explore more details on WIN SOURCE:

- ⊖ View [CM7V-T1A-32.768KHZ-6PF-20PPM-TA-QC](#) on WIN SOURCE
- ⊖ [Micro Crystal AG](#) Information

Optimize Your Supply Chain with WIN SOURCE Solutions

- ✓ Global Sourcing Solution
- ✓ Obsolete Management
- ✓ Cost Control Management
- ✓ Shortage Management
- ✓ Alternative Solution
- ✓ Excess Inventory Management