



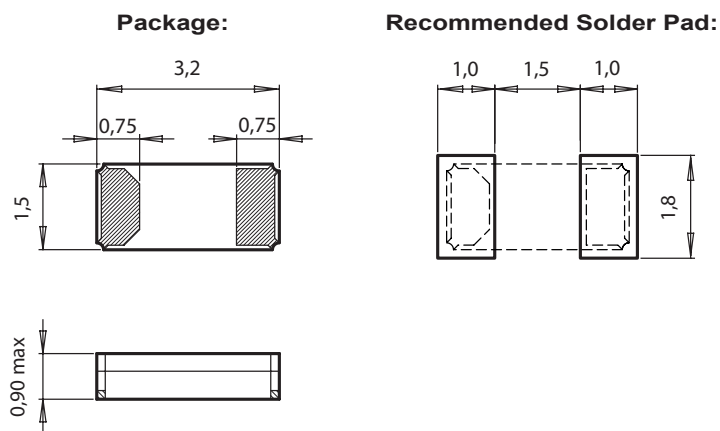
THE DATASHEET OF
CC7V-T1A-32.768KHZ-12.5PF-20PPM-TA-QC

CC7V-T1A

Tuning Fork Crystal 32.768 kHz



DIMENSIONS



All dimensions in mm typical

APPLICATIONS

IoT
Metering
Industrial
Automotive
Health Care
Wearables, Portables

DESCRIPTION

The CC7V-T1A is a low frequency SMD Quartz Crystal Unit that incorporates a tuning fork Quartz Crystal Resonator. It operates under vacuum in a hermetically sealed ceramic package with ceramic 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 (12.5 mg).
High shock and vibration resistant.
100% Pb-free, RoHS-compliant.
Automotive qualification according to AEC-Q200 available.

ELECTRICAL CHARACTERISTICS AT 25°C

Standard Frequency	¹⁾ F_L	32.768	kHz
Load capacitance	²⁾ C_L	6.0 / 7.0 / 9.0 / 12.5	pF
Frequency tolerance	$\Delta F/F$	± 20	ppm
	$\Delta F/F$	± 100	ppm
Series resistance typ./max.	R_s	50 / 70	k Ω
Motional capacitance typ.	C_1	3.7	fF
Static capacitance typ.	C_0	1.2	pF
Drive level max.	P	1.0	μ W
Insulation resistance min.	R_i	500	M Ω
Aging first year max.	$\Delta F/F$	± 3	ppm
Turnover temperature	T_0	25 $\pm$ 5	°C
Frequency vs. temperature	$\Delta F/F_0$	$-0.035 \text{ ppm}/^\circ\text{C}^2 (T - T_0)^2 \pm 10\%$	ppm

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

STANDARD FREQUENCIES

Frequency
32.768 kHz
Other frequencies on request

ENVIRONMENTAL CHARACTERISTICS

		Conditions	Max. Dev.
Storage temperature 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
CC7V-T1A	Au flashed pads	IPC/JEDEC J-STD-020C 260°C / 20 - 40 s

ORDERING INFORMATION

C C 7 V - T 1 A 32.768 kHz 12.5 pF ±20 ppm TA QC	
Ceramic package	Frequency F_L
Ceramic lid	Load capacitance C_L
Package size	6.0 pF
7 = 3.2 x 1.5 x 0.90 mm	7.0 pF
Tuning fork	9.0 pF
SMT Package	12.5 pF
Au flashed pads	Other C_L on request
2 pads	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
	QM = Medical Grade

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.



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Looking for pricing, stock, or lifecycle information?

Click below to explore more details on WIN SOURCE:

- ⊖ View [CC7V-T1A-32.768KHZ-12.5PF-20PPM-TA-QC](#) on WIN SOURCE
- ⊖ [Micro Crystal AG](#) Information

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