



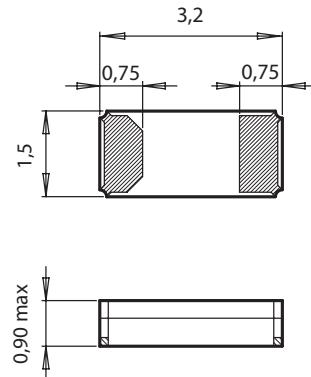
CC7V-T1A

Tuning Fork Crystal 32.768 kHz

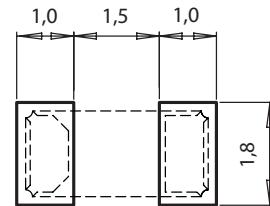


DIMENSIONS

Package:



Recommended Solder Pad:



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 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

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	ΔF/F	5000 g, 0.3 ms, ½ sine	±5 ppm
Vibration resistance	ΔF/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:													
20xxxx-MG01								1'000 pcs (in 12 mm tape on 7" reel)					
20xxxx-MG03								3'000 pcs (in 12 mm tape on 7" reel)					
20xxxx-PG14								14'000 pcs (in 12 mm tape on 13" reel)					

All specifications subject to change without notice.



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