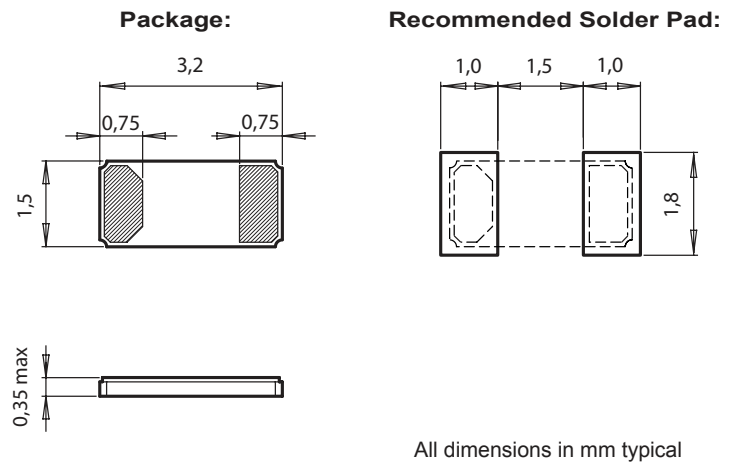


CM7V-T1A 0.3

Tuning Fork Crystal 32.768 kHz



DIMENSIONS



APPLICATIONS

IoT
Industrial
Health Care
Smart Cards
Ultra Thin Devices
Wearables, Portables

DESCRIPTION

The CM7V-T1A 0.3 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

Ultra low profile (maximum height 0.35 mm).
Outstanding hermetic sealing with gold-tin preform.
High stability and low aging guaranteed by hermetic sealing.
Available for extended operating temperature range.
High shock and vibration resistant.
100% Pb-free, RoHS-compliant.

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⁾ $\Delta F/F$	±20	ppm
	$\Delta F/F$	±100	ppm
Series resistance typ./max.	R_S	45 / 60	kΩ
Motional capacitance typ.	C_1	3.6	fF
Static capacitance typ.	C_0	1.4	pF
Drive level max.	P	0.5	μW
Insulation resistance min.	R_i	500	MΩ
Aging first year max.	$\Delta F/F$	±3	ppm
Turnover temperature	T_0	25 ±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 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	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
CM7V-T1A 0.3	For SMT mounting Au flashed pads	IPC/JEDEC J-STD-020C 260°C / 20 - 40 s

ORDERING INFORMATION

C M 7 V - T 1 A 0.3 32.768 kHz 12.5 pF ±20 ppm TA QC	
Ceramic package	Frequency F_L
Metal lid	Load capacitance C_L 6.0 pF 7.0 pF 9.0 pF 12.5 pF Other C_L on request
Package size 7 = 3.2 x 1.5 x 0.35 mm	Frequency tolerance ±20 ppm ±100 ppm Tighter freq. tolerances on request
Tuning fork	Temperature range TA = -40 to +85°C (Standard) TB = -40 to +125°C TC = -55 to +125°C
SMT Package	Qualification QC = Commercial Grade (Standard)
Au flashed pads	
Pads on both ends	
Special feature 0.3 = Lowest profile, 0.35 mm	

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)

All specifications subject to change without notice.



Micro Crystal AG
Muehlestrasse 14
CH-2540 Grenchen
Switzerland

Phone +41 32 655 82 82
Fax +41 32 655 82 83
sales@microcrystal.com
www.microcrystal.com