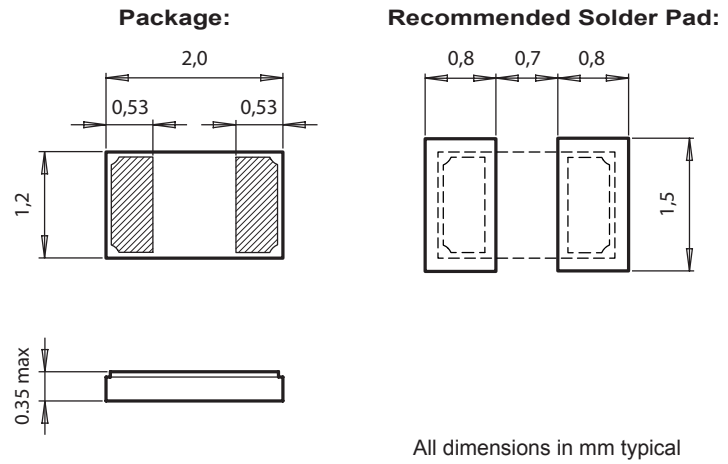


CM8V-T1A 0.3

Tuning Fork Crystal 32.768 kHz



DIMENSIONS



APPLICATIONS

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

DESCRIPTION

The CM8V-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.
Lightweight (3.4 mg).
High shock and vibration resistant.
100% Pb-free, RoHS-compliant.

ELECTRICAL CHARACTERISTICS AT 25°C

Preliminary

Standard Frequency	¹⁾ F _L	32.768	kHz
Load capacitance	²⁾ C _L	4.0 / 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	55 / 90	kΩ
Motional capacitance typ.	C ₁	4.3	fF
Static capacitance typ.	C ₀	1.2	pF
Drive level max.	P	0.5	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 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
CM8V-T1A 0.3	For SMT mounting Au flashed pads	IPC/JEDEC J-STD-020C 260°C / 20 - 40 s

ORDERING INFORMATION

C M 8 V - T 1 A 0.3 32.768 kHz 12.5 pF ±20 ppm TA QC					
<p>Ceramic package ———</p> <p>Metal lid ———</p> <p>Package size ——— 8 = 2.0 x 1.2 x 0.35 mm</p> <p>Tuning fork ———</p> <p>SMT Package ———</p> <p>Au flashed pads ———</p> <p>Pads on both ends ———</p> <p>Special feature ——— 0.3 = Lowest profile, 0.35 mm</p>	<p>Frequency F_L</p> <p>Load capacitance C_L 4.0, 6.0 pF 7.0 pF 9.0 pF 12.5 pF Other C_L on request</p> <p>Frequency tolerance ——— ±20 ppm ±100 ppm Tighter freq. tolerances on request</p> <p>Temperature range ——— TA = -40 to +85°C (Standard) TB = -40 to +125°C TC = -55 to +125°C</p> <p>Qualification ——— QC = Commercial Grade (Standard)</p>				
<p>A unique part number will be generated for each product specification, i.e:</p> <table border="1"> <tr> <td>20xxxx-MC01</td> <td>1'000 pcs (in 8 mm tape on 7" reel)</td> </tr> <tr> <td>20xxxx-MC03</td> <td>3'000 pcs (in 8 mm tape on 7" reel)</td> </tr> </table>		20xxxx-MC01	1'000 pcs (in 8 mm tape on 7" reel)	20xxxx-MC03	3'000 pcs (in 8 mm tape on 7" reel)
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20xxxx-MC03	3'000 pcs (in 8 mm tape on 7" reel)				

All specifications subject to change without notice.



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