

CX8V-T1A

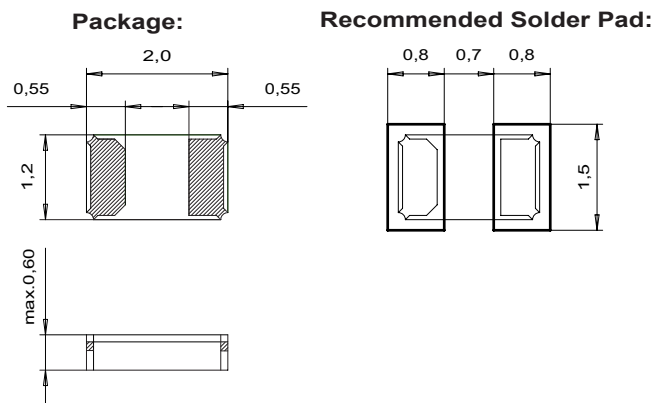
Tuning Fork Crystal 32.768 kHz



100% leadfree, RoHS - compliant

Smallest SMT ceramic package
Ultra low profile: 0.60 mm height
SMD-package in Tape and Reel
Ind. and Ext. temperature ranges
High stability
Low aging
Low power consumption
High shock and vibration resistance

DIMENSIONS



All dimensions in mm typical

DESCRIPTION:

This SMD ceramic package has been specially designed for miniature telecom and portable applications. The Ultra Miniature Tuning Fork (UMTF) in this product is achieved by a special manufacturing process, this technology leads to improved electrical characteristics.

The crystals are supplied in special trays (200 crystals per tray).

For pick-and-place equipment, the parts are available in 8 mm tape:

- 7" (178 mm) reel with 3'000 crystals
- 13" (330 mm) reel with 14'000 crystals

ELECTRICAL CHARACTERISTICS AT 25°C:

Nominal Frequency	¹⁾ F _L	32.768	kHz
Load capacitance	²⁾ C _L	9.0 / 12.5	pF
Frequency tolerance	³⁾ ΔF/F	+/-20	ppm
	ΔF/F	+/-100	ppm
Series resistance max.	R _s	90	kΩ
Motional capacitance typ.	C ₁	3.5	fF
Static capacitance typ.	C ₀	1.1	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 and wider frequency tolerances on request.

Preliminary

STANDARD FREQUENCIES:

Frequency kHz
32.768
Other frequencies on request

ENVIRONMENTAL CHARACTERISTICS:

		Conditions	Max. Dev.
Storage temp. range		-55 to +125°C	
Industrial operating temp. range		-40 to +85°C	
Extended operating 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
CX8V-T1A	For SMD mounting Au flashed pads	Reflow soldering 260°C / 20 s max.

PART NUMBER/ ORDERING INFORMATION EXAMPLE:

<u>Crystal package</u> C = Crystal in ceramic package	<u>Package lid</u> X = Glas lid	<u>Package size</u> 8 = 2.0 x 1.2 x 0.60 mm	<u>Blank</u> V = Tuning fork	<u>Package pad form</u> A = Pads on both ends	<u>Pad plating</u> 1 = Au flashed pads	<u>Package type</u> T = For SMD mounting	<u>Frequency F_L</u> 32.768 kHz	<u>Load capacitance C_L</u> 9.0 pF	<u>Frequency tolerance</u> +/-20 ppm
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All specifications subject to change without notice. 04.09



Micro Crystal AG
Mühlestrasse 14
CH-2540 Grenchen
Switzerland

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