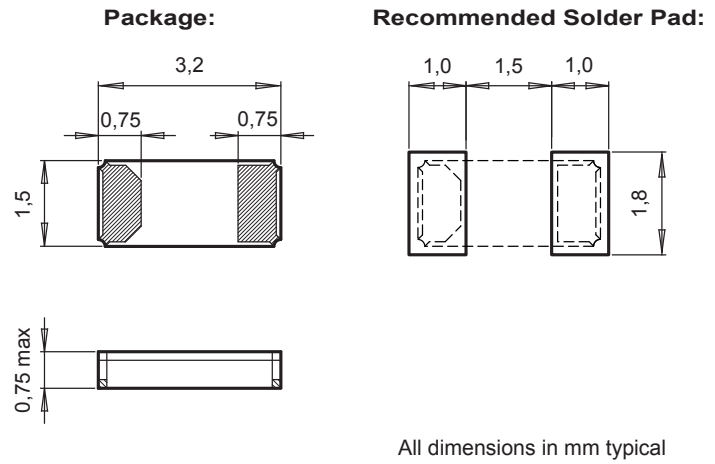


CC7A-T1A

AT-Cut Crystal 20 MHz – 50 MHz



DIMENSIONS



APPLICATIONS

Telemetry
Optical Network
Airborne Equipment
Radio Communication
Health Care and Medical

DESCRIPTION

The CC7A-T1A is a high frequency SMD Quartz Crystal Unit that incorporates an AT-cut 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 (9.2 mg).
Operates in fundamental mode.
High shock and vibration resistant.
100% Pb-free, RoHS-compliant.

ELECTRICAL CHARACTERISTICS AT 25°C

Frequency Range	F_L	20 – 50	MHz
Load capacitance ¹⁾	C_L	3.0 / 9.0 / 16.0	pF
Frequency tolerance at +25°C ²⁾	$\Delta F/F$	±50	ppm
Frequency vs. temperature ³⁾ TA: -40 to +85°C TB: -40 to +125°C TC: -55 to +125°C	$\Delta F/F_0$	±50 ±80 ±100	ppm
Drive level typ./max.	P	100 / 250	μW
Insulation resistance min.	R_i	500	MΩ
Aging first year max.	$\Delta F/F$	±3	ppm

- 1) Other load capacitances on request; e.g. C_L : 20,0 pF.
2) Tighter frequency tolerances on request; e.g. ±20 ppm.
3) Tighter thermal stability on request.

Frequency	R_s typ./max.	C_1 typ./max.	C_0 typ.
20.000 MHz to 31.999 MHz	40 Ω / 100 Ω	2.0 fF / 3.0 fF	0.7 pF
32.000 MHz to 50.000 MHz	25 Ω / 60 Ω	2.0 fF / 3.0 fF	0.7 pF

STANDARD FREQUENCIES

Frequencies			
20.000 MHz	24.000 MHz	25.000 MHz	26.000 MHz
26.500 MHz	27.000 MHz	40.000 MHz	
Other frequencies on request			

ENVIRONMENTAL CHARACTERISTICS

	Conditions
Storage temperature range	-55 to +125°C
TA Operating temperature range	-40 to +85°C
TB Extended operating temp. range	-40 to +125°C
TC Extended operating temp. range	-55 to +125°C
Shock resistance	5000 g, 0.3 ms, ½ sine
Vibration resistance	20 g / 10–2000 Hz

TERMINATIONS AND PROCESSING

Type	Termination	Processing
CC7A-T1A	Au flashed pads	IPC/JEDEC J-STD-020C 260°C / 20 - 40 s

ORDERING INFORMATION

C C 7 A - T 1 A 26.000 MHz 9.0 pF ±50 ppm TA QI	
Ceramic package	Frequency F_L
Ceramic lid	Load capacitance C_L
Package size 7 = 3.2 x 1.5 x 0.75 mm	3.0 pF 9.0 pF 16.0 pF Other C_L on request
AT-cut	Frequency tolerance
SMD package	±50 ppm Tighter freq. tolerances on request
Au flashed pads	Temperature range
2 pads	TA = -40 to +85°C (Standard) TB = -40 to +125°C TC = -55 to +125°C TX = Custom
	Qualification
	QI = Industrial Grade (Standard) QM = Medical Grade QS = Custom Specification

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-EA00	yyy pcs (in ESD plastic tray)

All specifications subject to change without notice.



Micro Crystal AG
Muehlestrasse 14
CH-2540 Grenchen
Switzerland

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