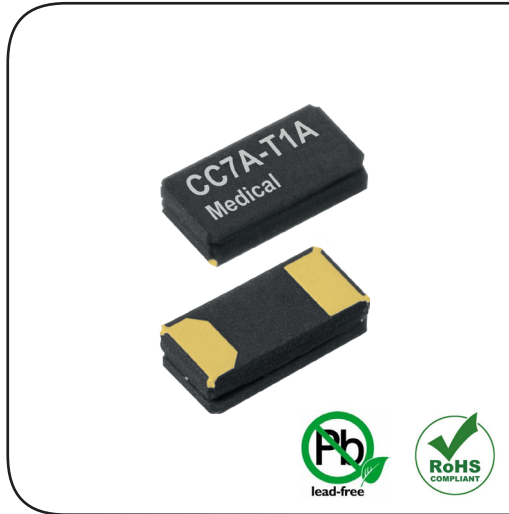
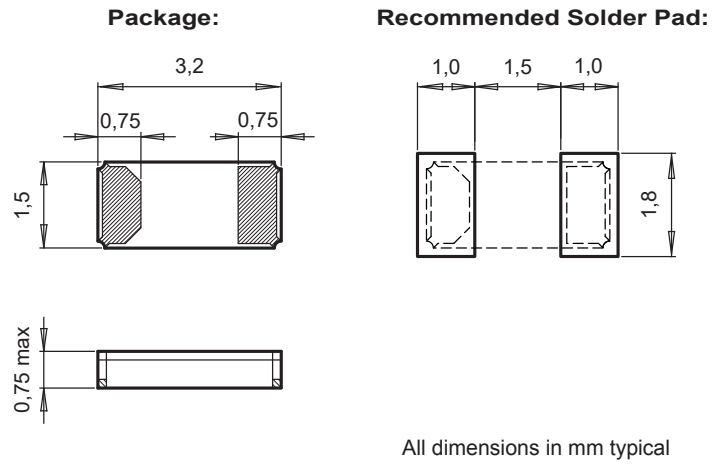


CC7A-T1A Medical

AT-Cut Crystal 14 MHz – 50 MHz



DIMENSIONS



APPLICATIONS

Pacemakers
Defibrillators
Neurostimulators
Cardiac Monitoring Devices
Implantable Drug Delivery Pumps
Infusion Pumps
Cochlear Implants
Smart Orthopedic Implants

DESCRIPTION

The CC7A-T1A Medical AT-Cut Crystal is manufactured specifically for use in implantable medical devices. Micro Crystal's long history in supplying medical grade timing devices ensures that the CC7A-T1A Medical is produced in accordance with the highest quality production technologies. Long-term reliability is of utmost importance (Class III Implantable) and a hallmark of Micro Crystal's entire medical implantable grade portfolio.

MEDICAL IMPLANTABLE KEY FEATURES

- Safe for Helium environment: Ceramic lid with gold-tin preform-seal for best long-term hermeticity and stability
- Proprietary manufacturing and testing processes
- Long-term aging stability
- Operable temperature range: -55°C to +125°C
- Customer specific testing/screening on request
- Components and manufacturing traceability records retained
- Operates in fundamental mode
- Small size, low profile, lightweight (9.2 mg)

ELECTRICAL CHARACTERISTICS AT 25°C

Frequency Ranges	F _L	14.000 to 19.999	20.000 to 31.999	32.000 to 50.000	MHz
Load capacitance ¹⁾	C _L	3.0 / 7.0 / 8.0 / 9.0			pF
Freq. tolerance at +25°C ²⁾	ΔF/F	±30			ppm
Frequency vs. temperature ³⁾ TM: 0 to +55°C	ΔF/F ₀	±10			ppm
Series resistance typ./max.	R _S	60 / 120	40 / 100	25 / 60	Ω
Motional capacit. typ./max.	C ₁	2.0 / 3.0			fF
Static capacitance typ.	C ₀	0.7			pF
Drive level typ./max.	P	100 / 200			μW
Insulation resistance min.	R _i	500			MΩ
Aging first year max.	ΔF/F	±3			ppm

- 1) Other load capacitances on request.
2) Tighter frequency tolerances on request.
3) Tighter thermal stability on request.



STANDARD FREQUENCIES

Frequencies			
14.7456 MHz	16.000 MHz	20.000 MHz	24.000 MHz
26.000 MHz	26.500 MHz	32.000 MHz	40.000 MHz
Other frequencies on request			

ENVIRONMENTAL CHARACTERISTICS

	Conditions
Storage temperature range	-55 to +125°C
Operable temperature 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
CC7A-T2A	SnPb plated pads available only on request	
CC7A-T5A	ENEPIG plated pads	

ORDERING INFORMATION

C C 7 A - T 1 A 24.000 MHz 8.0 pF ±30 ppm TM QM					
<p>Ceramic package _____</p> <p>Ceramic lid _____</p> <p>Package size _____ 7 = 3.2 x 1.5 x 0.75 mm</p> <p>AT-cut _____</p> <p>SMT package _____</p> <p>Pads _____ 1 = Au flashed pads 2 = SnPb plated pads on request 5 = ENEPIG plated pads</p> <p>Pads on both ends _____</p>	<p>Frequency F_L _____</p> <p>Load capacitance C_L 3.0 pF 7.0 pF 8.0 pF Other C_L on request</p> <p>Frequency tolerance _____ ±30 ppm Tighter freq. tolerances on request</p> <p>Temperature range _____ TM = 0 to +55°C TX = Custom</p> <p>Qualification _____ QM = Medical Grade</p>				
<p>A unique part number will be generated for each product specification, i.e:</p> <table border="1"> <tr> <td>20xxxx-MG00</td> <td>yyy pcs (in 12 mm tape on 7" reel)</td> </tr> <tr> <td>20xxxx-EA00</td> <td>yyy pcs (in ESD plastic tray)</td> </tr> </table>		20xxxx-MG00	yyy pcs (in 12 mm tape on 7" reel)	20xxxx-EA00	yyy pcs (in ESD plastic tray)
20xxxx-MG00	yyy pcs (in 12 mm tape on 7" reel)				
20xxxx-EA00	yyy pcs (in ESD plastic tray)				

All specifications subject to change without notice.



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