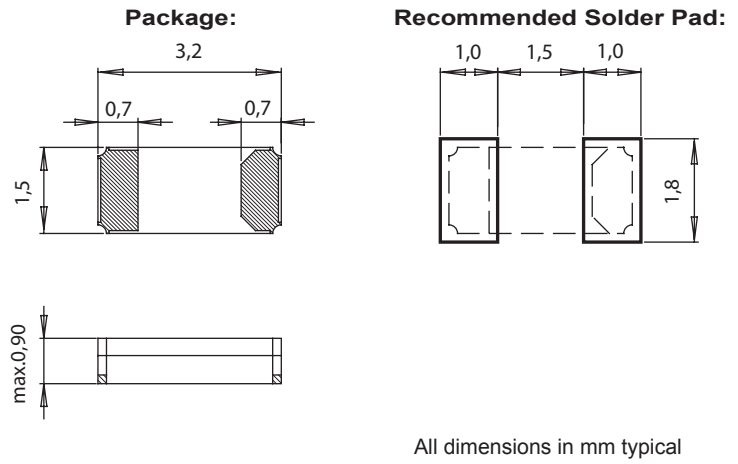


# CC7A-T1A

## AT Crystal 24 MHz – 50 MHz



### DIMENSIONS



**Suitable for implantable medical applications**  
**Small SMT ceramic package**  
**Package height 0.9 mm**  
**Fundamental mode frequencies**  
**SMD-package in Tape and Reel**  
**Ind. and Ext. temperature ranges**  
**High stability, low ageing**  
**High shock and vibration resistance**

### DESCRIPTION:

This SMD ceramic package has been specially designed for small, implantable medical, industrial, telecom and electronic applications. All frequencies are generated in fundamental mode. The crystals are supplied in special trays (200 crystals per tray). For pick-and-place equipment, the parts are available in 12 mm tapes:  
 7" (178 mm) reel with 1'000 crystals  
 7" (178 mm) reel with 3'000 crystals  
 13" (330 mm) reel with 14'000 crystals

### ELECTRICAL CHARACTERISTICS AT 25°C:

Frequency Range	$F_L$	24 – 30	MHz
Load capacitance <sup>1)</sup>	$C_L$	3.0 / 9.0 / 16.0	pF
Frequency tolerance at 25°C <sup>2)</sup>	$\Delta F/F$	+/-50	ppm
Frequency versus temperature <sup>3)</sup> TB: -40 to + 85°C TC: -55 to +125°C	$\Delta F/F_0$	+/-50 +/-100	ppm
Drive level typ/max	P	100/250	μW
Insulation resistance min.	$R_i$	500	MΩ
Ageing first year max.	$\Delta F/F$	+/-3	ppm

- 1) Other load capacitances on request; e.g.  $C_L$ : 20 pF  
 2) Tighter and wider frequency tolerances on request; e.g. +/-20 ppm  
 3) Tighter thermal stability on request; e.g. +/-10 ppm from 0°C to +55°C

Frequency [MHz]	$R_s$ [Ω] typ/max	$C_1$ [fF] typ/max	$C_0$ [pF] typ
24 to < 30	60 / 100	1 / 3	0.7

**STANDARD FREQUENCIES:**

Frequency MHz					
24.0000	25.0000	26.0000	26.5000	32.0000	40.0000
Other frequencies between 24 MHz and 50 MHz on request					

**ENVIRONMENTAL  
CHARACTERISTICS:**

		Conditions	Max. Dev. [ppm]
Storage temp. range		-55 to +125°C	
TB Operating temperature range		-40 to +85°C	
TC Extended operating temp. range		-55 to +125°C	
Shock resistance	ΔF/F	5000 g, 0.3 ms, ½ sine	+/-5
Vibration resistance	ΔF/F	20 g / 10–2000 Hz	+/-5

**TERMINATIONS AND  
PROCESSING:**

Type	Termination	Processing
CC7A-T1A	For SMD mounting Au plated pads	Reflow soldering 260°C / 20 s max.
CC7A-T3A	For SMD mounting Sn/Ag/Cu plated	Reflow soldering 260°C / 20 s max.

**PRODUCT DESCRIPTION AND  
ORDERING INFORMATION:**

**CC7A-T1A** 26.0 MHz 9.0 pF +/-50ppm TB QI

Frequency F<sub>0</sub> \_\_\_\_\_

C<sub>L</sub> Load Capacitance \_\_\_\_\_

3.0 pF  
9.0 pF  
16.0 pF

Frequency tolerance \_\_\_\_\_

+/- 50 ppm  
+/- 100 ppm

Temperature Range \_\_\_\_\_

**TB** = -40 to 85°C (Standard)  
**TC** = -55 to +125°C

Optional:  
if not defined,  
,Standard' will apply

Qualification

**QI** = Industrial (Standard)  
**QM** = Medical  
**QS** = Custom Specification

A unique part number will be generated for each product specification, i.e:

20xxxx-MG01	1'000 pcs (in 12mm tape on 7" reel)
20xxxx-MG03	3'000 pcs (in 12mm tape on 7" reel)
20xxxx-PG14	14'000 pcs (in 12mm tape on 13" reel)
20xxxx-EA00	xxx pcs (in plastic tray)

Please contact us.

All specifications subject to change without notice.



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