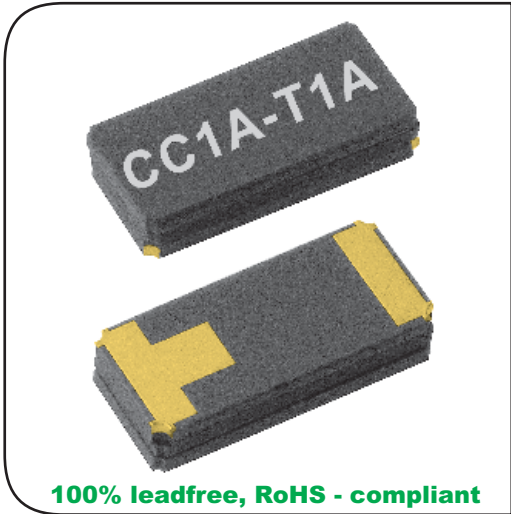
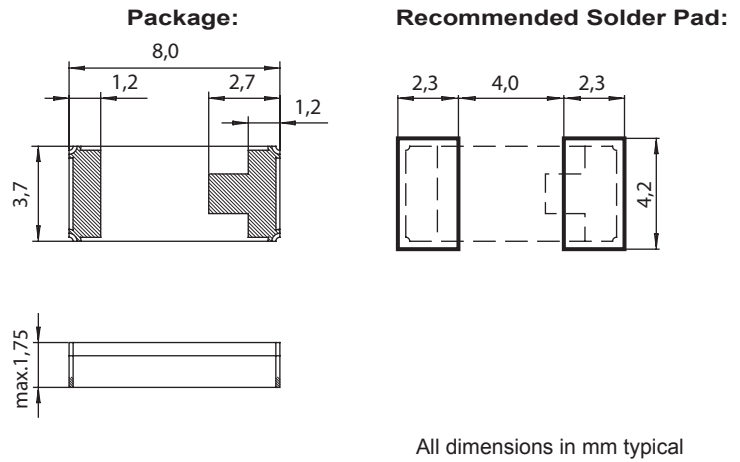


CC1A-T1A

AT Crystal 8 MHz – 30 MHz



DIMENSIONS



Small SMT ceramic package
Package height 1.75 mm
Fundamental mode frequencies
SMD-package in Tape and Reel
Ind. and Ext. temperature ranges
High stability
Low aging
High shock and vibration resistance

DESCRIPTION:

This SMD ceramic package has been specially designed for small industrial, telecom and electronic applications. All frequencies are generated in fundamental mode.

The crystals are supplied in special trays (100 crystals per tray).

For pick-and-place equipment, the parts are available in 16 mm tapes:

7" (178 mm) reel with 1'000 crystals

13" (330 mm) reel with 4'000 crystals

ELECTRICAL CHARACTERISTICS AT 25°C:

Frequency Range	F_L	8–30	MHz
Load capacitance ¹⁾	C_L	20.0	pF
Frequency tolerance at 25°C ²⁾	$\Delta F/F$	+/-50	ppm
Frequency versus temperature ³⁾ TB: -40 to + 85°C TC: -55 to +125°C	$\Delta F/F_0$	+/-50 +/-100	ppm
Drive level typ/max	P	100 / 500	μW
Insulation resistance min.	R_i	500	MΩ
Aging first year max.	$\Delta F/F$	+/-3	ppm

1) Other load capacitances on request.

2) Tighter and wider frequency tolerances on request.

3) Tighter thermal stability on request.

Frequency [MHz]	$R_s[\Omega]$ typ / max	C_1 [fF] typ / max	C_0 [pF] typ
8 to < 10	60 / 100	4 / 7	2
10 to < 12	50 / 85	5 / 8	2.2
12 to < 16	40 / 75	6 / 10	2.5
16 to < 20	35 / 60	8 / 11	2.8
20 to < 24	30 / 50	9 / 13	3.2
24 to < 30	30 / 40	11 / 15	4

STANDARD FREQUENCIES:

Frequency MHz						
8.0000	10.0000	10.1506	11.0592	12.0000	12.288	13.56
14.3181	17.7456	16.0000	16.3840	18.432	20.0000	24.0000
Other frequencies between 8 MHz and 30 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 oper. 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
CC1A-T1A	For SMD mounting Au plated pads	Reflow soldering 260°C / 20 s max.
CC1A-T3A	For SMD mounting Sn/Ag/Cu plated	Reflow soldering 260°C / 20 s max.

**PRODUCT DESCRIPTION AND
ORDERING INFORMATION:**

CC1A-T1A 24.0 MHz 20.0pF +/-50ppm TB QI

Frequency F_0 _____

C_L Load Capacitance
16.0 pF
20.0 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)
QS = Custom Specification

A unique part number will be generated for each product specification, i.e:
 20xxxx-ML01 1'000 pcs (in 16mm tape on 7" reel)
 20xxxx-PL04 4'000 pcs (in 16mm tape on 13" reel)
 20xxxx-DA00 xxx pcs (in foam tray)
 Please contact us.

All specifications subject to change without notice.



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