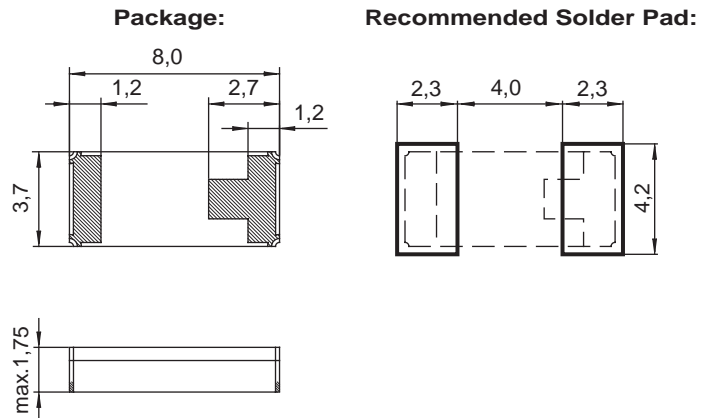


# CC1A-T1A

AT Crystal 8 MHz – 30 MHz



## DIMENSIONS



All dimensions in mm typical

**SMT ceramic package height 1.75 mm**  
**Fundamental mode up to 30MHz**  
**Ind. and Ext. temperature ranges**  
**High stability and low aging**  
**High shock and vibration resistance**  
**Hermetically sealed**  
**Ultra low MSL**  
**Excellent solderability**  
**Swiss made quality**  
**Customer specification on request**

## DESCRIPTION:

This quartz Crystal in SMD ceramic package has been specially designed with Micro Crystal photolithographic process for surface mount using infrared, vapor phase or epoxy technics

## APPLICATIONS:

- Avionics
- Radio transceiver
- Satellite communications
- Airborne equipments

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

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

- 7" with 1'000 crystals
- 10" with 2'000 crystals

## ELECTRICAL CHARACTERISTICS AT 25°C:

Frequency Range	$F_L$	8-30	MHz
Load capacitance <sup>1)</sup>	$C_L$	20.0	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 / 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	14.7456	16.0000	16.3840	18.432	20.0000	24.0000
Other frequencies from 8 MHz up to 30 MHz on request						

**ENVIRONMENTAL  
CHARACTERISTICS:**

	Conditions
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	5000 g, 0.3 ms, ½ sine
Vibration resistance	20 g / 10–2000 Hz

**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<sub>L</sub> \_\_\_\_\_

C<sub>L</sub> 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-PL02                      2'000 pcs (in 16mm tape on 13" reel)  
 20xxxx-DA00                      xxx pcs (in foam tray)  
 Please contact us.

All specifications subject to change without notice.



冠杰电子

0755-27839151

guanjiedz@163.com



www.guangjiedz.com