

CC2A-T1A

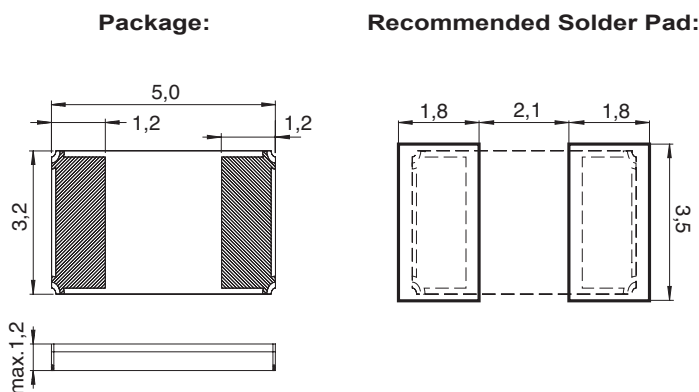
AT Crystal 12 MHz – 70 MHz



100% leadfree, RoHS - compliant

SMT ceramic package height 1.2 mm
Fundamental mode up to 70MHz
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

DIMENSIONS



All dimensions in mm typical

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 techniques

APPLICATIONS:

- Avionics
- Radio transceiver
- Satellite communications
- Airborne equipments

The crystals are supplied in trays (128 crystals per tray).

For pick-and-place equipment, the parts are available in 12mm tapes:

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

ELECTRICAL CHARACTERISTICS AT 25°C:

Frequency Range	F_L	10 – 70	MHz
Load capacitance ¹⁾	C_L	20	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	100/250	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
12 to < 14	60 / 100	3 / 5	2
14 to < 18	40 / 80	5 / 8	2.5
18 to < 24	20 / 60	8 / 10	3
24 to < 40	15 / 50	10 / 12	4
40 to ≤ 70	10 / 40	12 / 14	5

STANDARD FREQUENCIES:

Frequency MHz					
12.0000	14.7456	16.0000	16.384	20.0000	24.0000
24.576	25.0000	25.6	32.768	40.0000	
Other frequencies from 12 MHz up to 70 MHz on request					

ENVIRONMENTAL CHARACTERISTICS:

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

TERMINATIONS AND PROCESSING:

Type	Termination	Processing
CC2A-T1A	For SMD mounting Au plated pads	Reflow soldering +260°C / 20 s max.
CC2A-T3A	For SMD mounting Sn/Ag/Cu plated	Reflow soldering +260°C / 20 s max.

PRODUCT DESCRIPTION AND ORDERING INFORMATION:

CC2A–T1A		20.0 MHz	20 pF	+/-50ppm	TB	QI
<u>Frequency F₀</u>						
<u>C_L Load Capacitance</u>						
16 pF						
20 pF						
<u>Frequency tolerance</u>						
+/- 50 ppm						
+/- 100 ppm						
<u>Temperature Range</u>						
TB = -40 to +85°C (Standard)						
TC = -55 to +125°C						
<u>Optional:</u> if not defined, 'Standard' will apply						
<u>Qualification</u>						
QI = Industrial (Standard)						
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-MG02	2'000 pcs (in 12mm tape on 10" reel)					
20xxxx-EA00	xxx pcs (in ESD plastic tray)					
Please contact us.						

All specifications subject to change without notice.



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