MICRO CRYSTAL SWITZERLAND

CC2A-T1AH up to 200°C

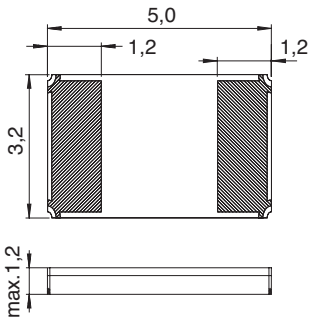
AT Crystal 14 MHz – 40 MHz



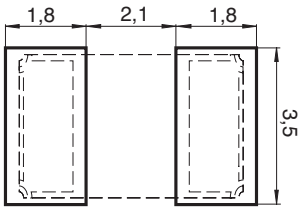
100% leadfree, RoHS - compliant

DIMENSIONS

Package:



Recommended Solder Pad:



All dimensions in mm typical

Suitable for Downhole application
SMT ceramic package height 1.2 mm
Fundamental mode up to 40MHz
Extremes 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 photolitographic process for surface mount using infrared, vapor phase or epoxy technics

APPLICATIONS:

- Downhole and Well drilling equipments
- Avionics
- Airborne equipments
- Geothermal equipments
- Fire fighter 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	**14–40**	**MHz**
Load capacitance 1)	C_L	20.0	pF
Frequency tolerance at 25°C 2)	ΔF/F	+/-50	ppm
Frequency versus temperature 3) TD: –55 to +175°C TG: –55 to +200°C	$\Delta F/F_0$	 +/-150 +/-250	ppm
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 and wider frequency tolerances on request.
3) Tighter thermal stability on request.

Frequency [MHz]	**Rs[Ω] typ / max**	**C1 [fF] typ / max**	**Co [pF] typ**
10 to < 14	100 / 150	3 / 5	2
14 to < 18	70 / 120	5 / 8	2.5
18 to < 24	50 / 100	8 / 10	3
24 to ≤ 40	40 / 80	10 / 12	4

STANDARD FREQUENCIES:

Frequency MHz				
14.7456	16.0000	16.3840	20.0000	24.0000
24.576	25	25.6	32.768	40.0000
Other frequencies from 14 MHz up to 40 MHz on request				

ENVIRONMENTAL CHARACTERISTICS:

	Conditions
Storage temp. range	–55 to +125°C
TD Operating temperature range	–55 to +175°C
TG Operating temperature range	–55 to +200°C
Shock resistance	10000 g, 0.3 ms, ½ sine
Vibration resistance	40 g / 10–2000 Hz

TERMINATIONS AND PROCESSING:

Type	Termination	Processing
CC2A-T1AH	For SMD mounting Au plated pads	Reflow soldering +260°C / 20 s max.
Only avaible with TD temperature range CC2A-T1AH	For SMD mounting Sn/Ag/Cu plated	Reflow soldering +260°C / 20 s max.

PRODUCT DESCRIPTION AND ORDERING INFORMATION:

CC2A–T1AH 24.0 MHz 20.0pF +/-50ppm TD QI

Frequency f_L

C_L Load Capacitance
16.0 pF
20.0 pF

Frequency tolerance
+/- 50 ppm
+/- 100 ppm

Temperature Range
TD = -55 to +175°C
TG = -55 to +200°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-MG01	1'000 pcs (in 12mm tape on 7" reel)
20xxxx-MG02	2'000 pcs (in 12mm tape on 7" reel)
20xxxx-EA00	xxx pcs (in ESD plastic tray)

Please contact us.

All specifications subject to change without notice.

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