

# CC6A-T1AH up to 200°C

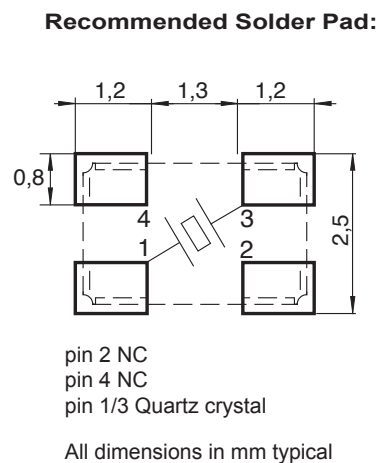
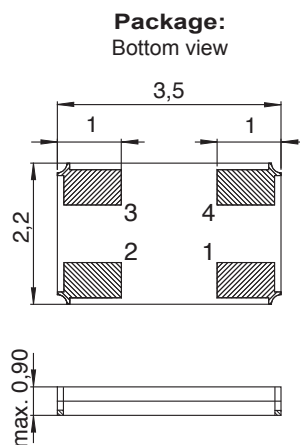
## AT Crystal 16 MHz – 40 MHz



**100% leadfree, RoHS - compliant**

**Suitable for Downhole application**  
**SMT ceramic package height 0.9 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**

### DIMENSIONS



### 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:

- Downhole and Well drilling equipments
- Avionics
- Airborne equipments
- Geothermal equipment

The crystals are supplied in trays (208 crystals per tray).

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

- 7" with 1'000 crystals
- 7" with 3'000 crystals

### ELECTRICAL CHARACTERISTICS AT 25°C:

Frequency Range	$F_L$	16–40	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> 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.	$\Delta F/F$	+/-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
16 to < 20	80 / 200	2 / 4	1.5
20 to < 24	60 / 120	3 / 5	2
24 to ≤ 40	50 / 100	4 / 6	3

**STANDARD FREQUENCIES:**

Frequency MHz				
16.0000	16.3840	18.432	20.0000	24.0000
Other frequencies from 16 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
CC6A-T1AH	For SMD mounting Au plated pads	Reflow soldering +260°C / 20 s max.
Only available with TD temperature range CC6A-T3AH	For SMD mounting Sn/Ag/Cu plated	Reflow soldering +260°C / 20 s max.

**PRODUCT DESCRIPTION AND  
ORDERING INFORMATION:**

<b>CC6A–T1AH 24.0 MHz 20.0pF +/-50ppm TD QI</b>				
<u>Frequency F<sub>L</sub></u>				
<u>C<sub>L</sub> Load Capacitance</u>				
16.0 pF				
20.0 pF				
<u>Frequency tolerance</u>				
+/- 50 ppm				
+/- 100 ppm				
<u>Temperature Range</u>				
TD = -55 to +175°C				
TG = -55 to +200°C				
<b>Optional:</b> 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 7" reel)		
20xxxx-EA00	xxx pcs	(in ESD plastic tray)		
Please contact us.				

All specifications subject to change without notice.



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