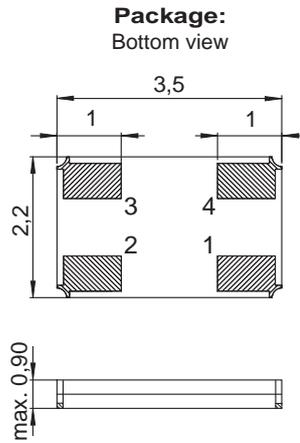
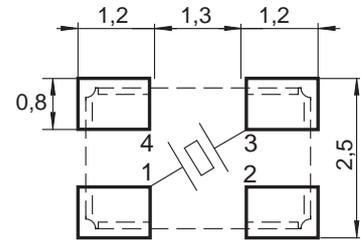




### DIMENSIONS



### Recommended Solder Pad:



pin 2 NC  
pin 4 NC  
pin 1/3 Quartz crystal

All dimensions in mm typical

**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**

### 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:

- 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	$\mu W$
Insulation resistance min.	$R_i$	500	M $\Omega$
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 $\leq$ 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:**

**CC6A-T1AH 24.0 MHz 20.0pF +/-50ppm TD QI**

Frequency F<sub>0</sub> \_\_\_\_\_  
C<sub>L</sub> 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.

