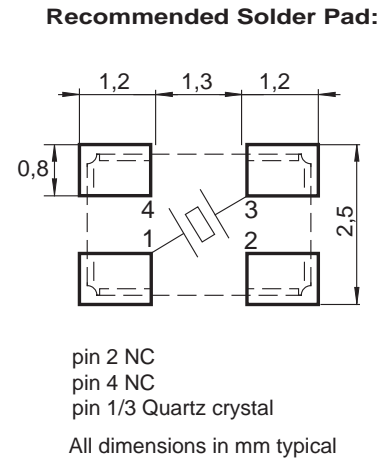
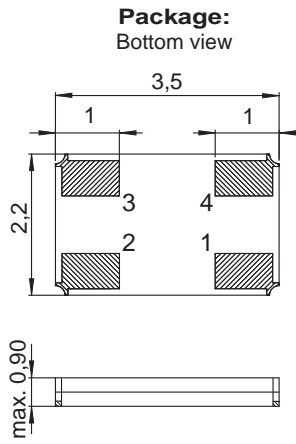


## DIMENSIONS



**SMT ceramic package height 0.9mm**  
**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**

## 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 (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 – 70	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 / 250	$\mu W$
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	60 / 120	2 / 4	1.5
20 to < 24	40 / 85	3 / 5	2
24 to < 40	30 / 50	4 / 6	2.5
40 to < 70	20 / 40	5 / 8	3

**STANDARD FREQUENCIES:**

Frequency MHz					
16.0000	20.0000	40.0000			
Other frequencies from 16 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 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
CC6A-T1A	For SMD mounting Au plated pads	Reflow soldering +260°C / 20 s max.
CC6A-T3A	For SMD mounting Sn/Ag/Cu plated	Reflow soldering +260°C / 20 s max.

**PRODUCT DESCRIPTION AND  
ORDERING INFORMATION:**

**CC6A-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-MG01                      1'000 pcs (in 12mm tape on 7" reel)  
 20xxxx-MG00                      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.

