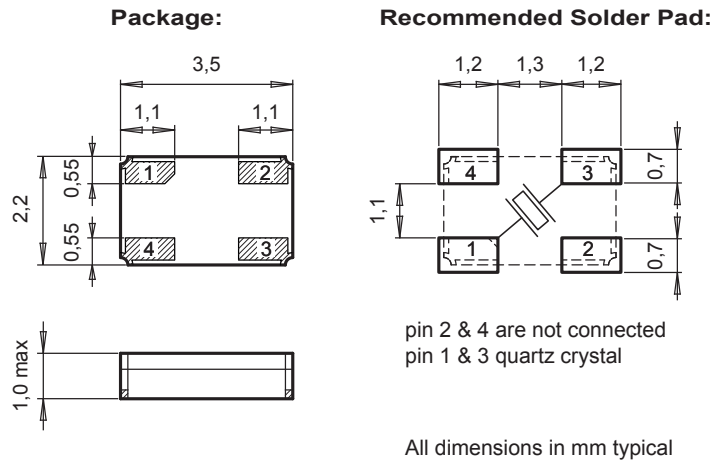


DIMENSIONS



APPLICATIONS

Telemetry
Optical Network
Airborne Equipment
Geothermal Equipment
Radio Communications
Down Hole and Well Drilling

DESCRIPTION

The CC6A-T1DH is a high frequency SMT Quartz Crystal Unit that incorporates an AT-cut Quartz Crystal Resonator. It operates under vacuum in a hermetically sealed ceramic package with ceramic lid.

FEATURES

Outstanding hermetic sealing with gold-tin preform.
High stability and low aging guaranteed by hermetic sealing.
For extreme operating temperature ranges up to 200°C.
Operates in fundamental mode.
High shock and vibration resistant.
100% Pb-free, RoHS-compliant.

ELECTRICAL CHARACTERISTICS AT 25°C

Frequency Range	F_L	16 – 40	MHz
Load capacitance ¹⁾	C_L	20.0	pF
Frequency tolerance at +25°C ²⁾	$\Delta F/F$	±50	ppm
Frequency vs. temperature ³⁾ TC: -55 to +125°C TD: -55 to +175°C TG: -55 to +200°C	$\Delta F/F_0$	±100 ±150 ±250	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; e.g. C_L : 9,0 pF.

2) Tighter frequency tolerances on request; e.g. ±20 ppm.

3) Tighter thermal stability on request; e.g. ±10 ppm from 0°C to +55°C.

Frequency	R_s typ./max.	C_1 typ./max.	C_0 typ.
16.000 MHz to 19.999 MHz	80 Ω / 200 Ω	2.0 fF / 4.0 fF	1.5 pF
20.000 MHz to 23.999 MHz	60 Ω / 120 Ω	3.0 fF / 5.0 fF	2.0 pF
24.000 MHz to 40.000 MHz	50 Ω / 100 Ω	4.0 fF / 6.0 fF	2.5 pF

STANDARD FREQUENCIES

Frequencies				
16.000 MHz	16.384 MHz	18.432 MHz	20.000 MHz	24.000 MHz
Other frequencies on request				

ENVIRONMENTAL CHARACTERISTICS

	Conditions
Storage temp. range	-55 to +125°C
TC Operating temperature 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-T1DH	Au flashed pads	IPC/JEDEC J-STD-020C 260°C / 20 - 40 s
CC6A-T3DH	SnAgCu solder dipped pads. Only available with TC and TD temperature ranges.	

ORDERING INFORMATION

C C 6 A - T 1 D H 24.000 MHz 20.0 pF ±50 ppm TC QI	
Ceramic package	Frequency F_L
Ceramic lid	Load capacitance C_L 20.0 pF Other C_L on request
Package size 6 = 3.5 x 2.2 x 1.0 mm	Frequency tolerance ±50 ppm Tighter freq. tolerances on request
AT-cut	Temperature range TC = -55 to +125°C TD = -55 to +175°C TG = -55 to +200°C
SMT package	Qualification QI = Industrial Grade (Standard) QS = Custom Specification
Pads 1 = Au flashed pads 3 = SnAgCu solder dipped pads	
4-pads	
High temperature	

A unique part number will be generated for each product specification, i.e:	
20xxxx-MG01	1'000 pcs (in 12 mm tape on 7" reel)
20xxxx-MG03	3'000 pcs (in 12 mm tape on 7" reel)
20xxxx-EA00	xxx pcs (in ESD plastic tray)

All specifications subject to change without notice.



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