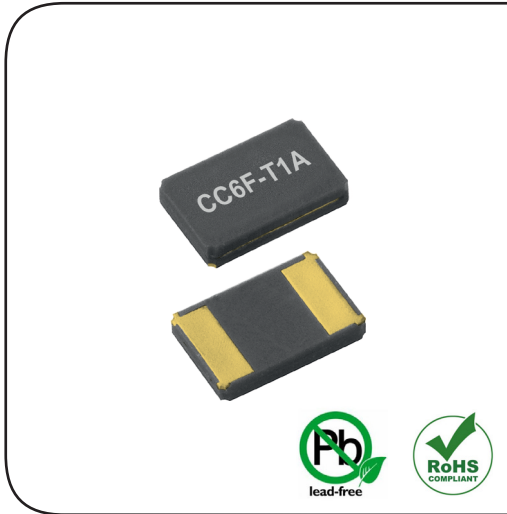
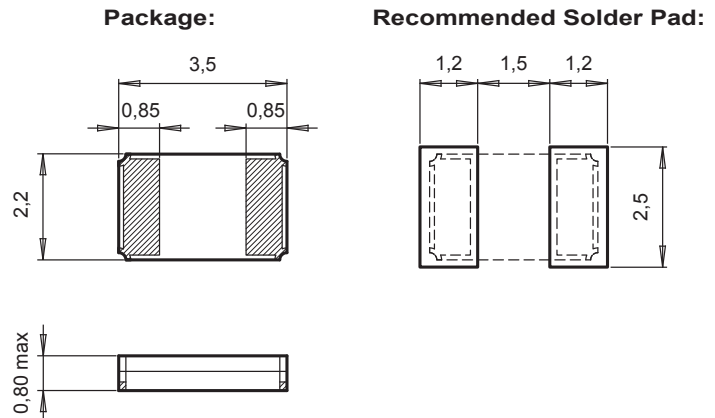


# CC6F-T1A

Inverted Mesa AT-Cut Crystal 70 MHz – 250 MHz



## DIMENSIONS



All dimensions in mm typical

## APPLICATIONS

Telemetry  
Optical Network  
Animal Tracking  
Airborne Equipment  
Avionics / Aerospace  
Radio Communication  
TCXO, VCTCXO, VCXO  
Health Care and Medical

## DESCRIPTION

The CC6F-T1A is a high frequency SMD Quartz Crystal Unit that incorporates an Inverted Mesa AT-cut 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.  
Available for extended operating temperature range.  
Operates in fundamental mode.  
High shock and vibration resistant.  
100% Pb-free, RoHS-compliant.

## ELECTRICAL CHARACTERISTICS AT 25°C

Frequency Range	$F_L$	70 – 250	MHz
Load capacitance <sup>1)</sup>	$C_L$	10.0 / $\infty$	pF
Frequency tolerance at +25°C <sup>2)</sup>	$\Delta F/F$	$\pm 50$	ppm
Frequency vs. temperature <sup>3)</sup> TA: -40 to +85°C TB: -40 to +125°C TC: -55 to +125°C	$\Delta F/F_0$	$\pm 30$ $\pm 80$ $\pm 100$	ppm
Drive level typ./max.	P	50 / 100	$\mu W$
Insulation resistance min.	$R_i$	500	M $\Omega$
Aging first year max.	$\Delta F/F$	$\pm 3$	ppm

1) Other load capacitances on request; e.g.  $C_L$ : 7,0 pF.

2) Tighter frequency tolerances on request; e.g.  $\pm 20$  ppm.

3) Tighter thermal stability on request.

Frequency	$R_s$ typ./max.	$C_1$ typ./max.	$C_0$ typ.
70.00 MHz to 99.99 MHz	30 $\Omega$ / 40 $\Omega$	5.0 fF / 6.5 fF	2.4 pF
100.00 MHz to 139.99 MHz	25 $\Omega$ / 35 $\Omega$	5.1 fF / 6.6 fF	2.7 pF
140.00 MHz to 199.99 MHz	20 $\Omega$ / 35 $\Omega$	5.4 fF / 6.7 fF	2.9 pF
200.00 MHz to 250.00 MHz	15 $\Omega$ / 30 $\Omega$	5.7 fF / 6.8 fF	3.2 pF

**STANDARD FREQUENCIES**

Frequencies				
77.760 MHz	100.000 MHz	106.250 MHz	125.000 MHz	128.000 MHz
155.520 MHz	160.000 MHz	200.000 MHz	213.600 MHz	250.000 MHz
Other frequencies on request				

**ENVIRONMENTAL CHARACTERISTICS**

	Conditions
Storage temperature range	-55 to +125°C
TA Operating temperature range	-40 to +85°C
TB Extended operating temp. range	-40 to +125°C
TC Extended operating 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
CC6F-T1A	Au flashed pads	IPC/JEDEC J-STD-020C 260°C / 20 - 40 s

**ORDERING INFORMATION**

C C 6 F - T 1 A 155.520 MHz ∞ pF ±50 ppm TA QI	
<b>Ceramic package</b>	<b>Frequency <math>F_L</math></b>
<b>Ceramic lid</b>	<b>Load capacitance <math>C_L</math></b>
<b>Package size</b> 6 = 3.5 x 2.2 x 0.80 mm	10.0 pF ∞ pF Other $C_L$ on request
<b>AT-cut inverted mesa</b>	<b>Frequency tolerance</b>
<b>SMD package</b>	±50 ppm Tighter freq. tolerances on request
<b>Au flashed pads</b>	<b>Temperature range</b>
<b>2 pads</b>	TA = -40 to +85°C (Standard) TB = -40 to +125°C TC = -55 to +125°C TX = Custom
	<b>Qualification</b>
	QI = Industrial Grade (Standard) QS = Custom Specification

A unique part number will be generated for each product specification, i.e:	
20xxxx-MG00	yyy pcs (in 12 mm tape on 7" reel)
20xxxx-EA00	yyy pcs (in ESD plastic tray)

All specifications subject to change without notice.



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