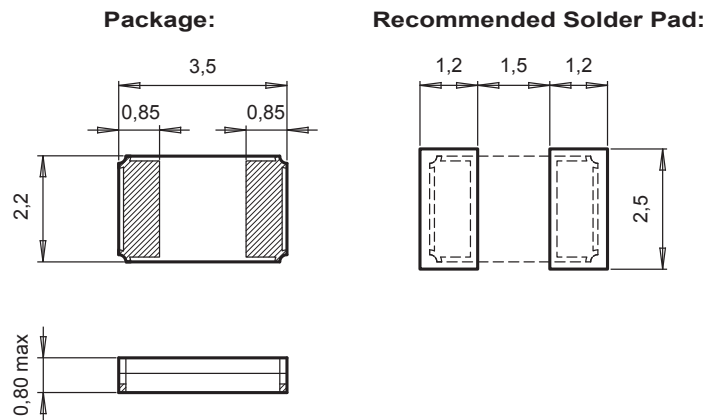


## DIMENSIONS



All dimensions in mm typical

## APPLICATIONS

Filters  
Optical Network  
Radio Communications

## DESCRIPTION

The CC6F-T1AF is a high frequency SMT 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 – 200	MHz
Load capacitance <sup>1)</sup>	$C_L$	10.0 / $\infty$	pF
Frequency tolerance at +25°C <sup>2)</sup>	$\Delta F/F$	$\pm 20$	ppm
Frequency vs. temperature <sup>3)</sup> TA: -40 to +85°C TB: -40 to +125°C TC: -55 to +125°C	$\Delta F/F_0$	$\pm 20$ $\pm 40$ $\pm 50$	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
Spurious suppression		<-15	dB
Frequency spurious range		$\leq 1$	MHz

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

2) Tighter frequency tolerances on request; e.g.  $\pm 10$  ppm.

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

4) Other parameters on request.

Standard Frequencies	$F_L$	70.000	124.782	MHz
Series resistance typ./max.	$R_S$	35 / 45	35 / 45	$\Omega$
Motional capacitance typ.	$C_1$	3	3	fF
Static capacitance typ.	$C_0$	2.4	2.5	pF

**STANDARD FREQUENCIES**

Frequencies	
70.000 MHz	124.782 MHz
Other frequencies on request	

**ENVIRONMENTAL CHARACTERISTICS**

	Conditions
Storage temp. 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-T1AF	Au flashed pads	IPC/JEDEC J-STD-020C 260°C / 20 - 40 s

**ORDERING INFORMATION**

	C	6	F	-	T	1	A	F	70.000 MHz	∞ pF	±20 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				
<b>AT-cut inverted mesa</b>									∞ pF				
<b>SMT package</b>									Other $C_L$ on request				
<b>Au flashed pads</b>									<b>Frequency tolerance</b>				
<b>Pads on both ends</b>									±20 ppm				
<b>Filter applications</b>									Tighter freq. tolerances on request				
									<b>Temperature range</b>				
									TA = -40 to +85°C (Standard)				
									TB = -40 to +125°C				
									TC = -55 to +125°C				
									<b>Qualification</b>				
									QI = Industrial Grade (Standard)				
									QS = Custom Specification				

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.



Micro Crystal AG  
Muehlestrasse 14  
CH-2540 Grenchen  
Switzerland

Phone +41 32 655 82 82  
Fax +41 32 655 82 83  
sales@microcrystal.com  
www.microcrystal.com