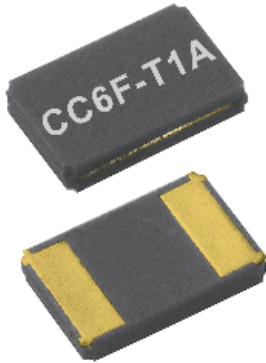


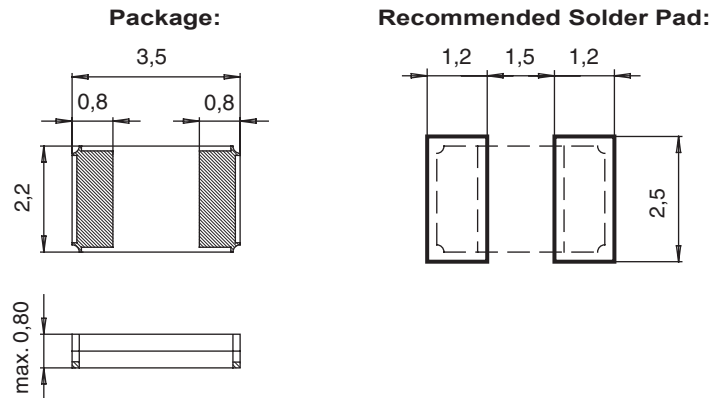
# CC6F-T1A

**Inverted Mesa AT Crystal 30 MHz – 250 MHz**



**100% leadfree, RoHS - compliant**

## DIMENSIONS



All dimensions in mm typical

**Miniature SMT ceramic package**  
**Package height 0.80 mm max.**  
**Fundamental mode frequencies**  
**SMD-package in Tape and Reel**  
**Ind. and Ext. temperature ranges**  
**High stability**  
**Low aging**  
**High shock and vibration resistance**

## DESCRIPTION:

This SMD ceramic package has been specially designed for miniature industrial, telecom and VCXO applications. All frequencies are generated in fundamental mode.

The crystals are supplied in special trays (200 crystals per tray).

For pick-and-place equipment, the parts are available in 12 mm tape:

7" (178 mm) reel with 1'000 crystals

7" (178 mm) reel with 4'000 crystals

## ELECTRICAL CHARACTERISTICS AT 25°C:

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

Frequency Example <sup>3)</sup>	$F_L$	50.000	155.520	MHz
Series resistance typ./max.	$R_s$	50 / 100	15 / 35	$\Omega$
Motional capacitance typ.	$C_1$	2.7	5.6	fF
Static capacitance typ.	$C_0$	2.4	2.9	pF

1) Other load capacitances on request.

2) Tighter and wider frequency tolerances on request.

3) Values for other frequencies consult factory.

**STANDARD FREQUENCIES:**

Frequency MHz					
50.0000	77.7600	100.0000	106.2500	125.0000	155.5200
166.6286	200.0000	207.3600	212.5000	250.0000	
Other frequencies between 30 MHz and 250 MHz on request					

**ENVIRONMENTAL  
CHARACTERISTICS:**

		Conditions	Max. Dev.
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	ΔF/F	5000 g, 0.3 ms, 1/2 sine	+/-5 ppm
Vibration resistance	ΔF/F	20 g / 10–2000 Hz	+/-5 ppm

**TERMINATIONS AND  
PROCESSING:**

Type	Termination	Processing
CC6F-T1A	For SMD mounting Au plated pads	Reflow soldering 260°C / 20 s max.

**PRODUCT DESCRIPTION AND  
ORDERING INFORMATION:**

**CC6F-T1A** 155.520 MHz ∞ pF +/-50ppm TB QI

Frequency  $f_c$  \_\_\_\_\_

$C_L$  Load Capacitance \_\_\_\_\_  
10.0 pF  
∞ 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-MG04                      4'000 pcs (in 12mm tape on 7" reel)  
 20xxxx-EA00                      xxx pcs (in plastic tray)  
 Please contact us.

All specifications subject to change without notice.



Micro Crystal AG  
Mühlestrasse 14  
CH-2540 Grenchen  
Switzerland

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