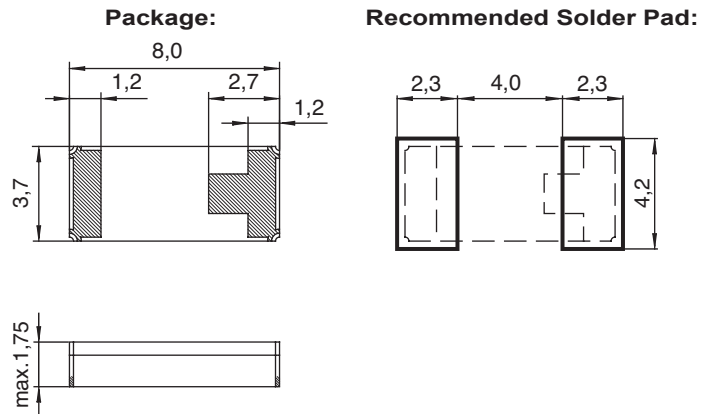


# CC1F-T1A

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



## DIMENSIONS



All dimensions in mm typical

**SMT ceramic package height 1.75 mm**  
**Fundamental mode up to 250MHz**  
**Inverted Mesa Technology**  
**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:

- TCXO, VCTCXO, VCXO
- Optical network
- Satellite communications
- Airborne equipments

The crystals are supplied in trays (100 crystals per tray).

For pick-and-place equipment, the parts are available in 16mm tapes:

- 7" with 1'000 crystals
- 10" with 2'000 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 <sup>3)</sup> TB: -40 to +85°C TC: -55 to +125°C	$\Delta F/F_0$	+/-30 +/-100	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 [ MHz ]	$F_L$	50.000	155.520	MHz
Series resistance typ./max.	$R_S$	15 / 50	15 / 35	$\Omega$
Motional capacitance typ.	$C_1$	5.6	5.6	fF
Static capacitance typ.	$C_0$	2.0	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 from 30 MHz up to 250 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
CC1F-T1A	For SMD mounting Au plated pads	Reflow soldering +260°C / 20 s max.

**PRODUCT DESCRIPTION AND  
ORDERING INFORMATION:**

**CC1F-T1A 155.520 MHz ∞ pF +/-50ppm TB QI**

Frequency F<sub>L</sub> \_\_\_\_\_

C<sub>L</sub> 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-ML01	1'000 pcs (in 16mm tape on 7" reel)
20xxxx-PL02	2'000 pcs (in 16mm tape on 10" reel)
20xxxx-DA00	xxx pcs (in foam 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