

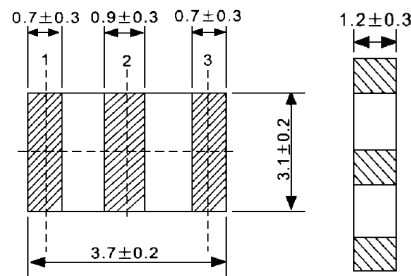
DESCRIPTION

The ceramic resonator SMD with wide frequency range, optional internal load capacitance and compact design is designed for use in computers and peripherals and consumer products.

ELECTRICAL SPECIFICATION

Oscillate Frequency	16.00 to 50.00MHz
Frequency Tolerance (at 25°C)	±0.5% Maximum
Operating Temperature Range	-20°C to +80°C
Storage Temperature Range	-55°C to +85°C
Resonant Impedance Frequency	40Ω Maximum
Insulate Resistance	100MΩ minimum
Built - in Capacitance (pF)	Refer to test circuit
Withstanding Voltage D.C	100V (max. 5 seconds)
Temperature Stability	±0.3% Maximum
Voltage	D.C. Voltage 6V Maximum
	Input Voltage 15Vpp Maximum
Aging (at 25°C)	±0.3%

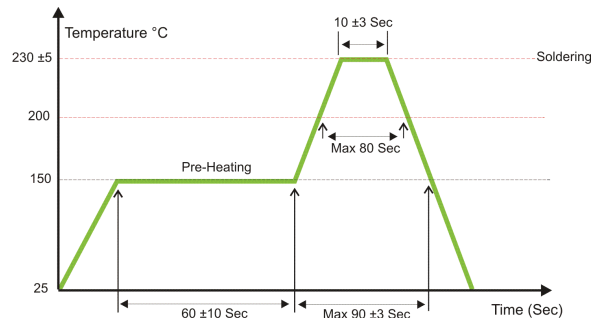
MECHANICAL DIMENSIONS (all in mm)



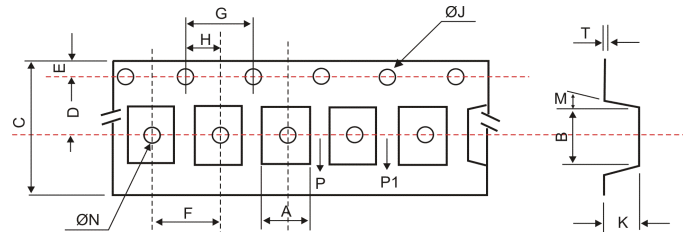
Pin	Connection
1	Input
2	Ground
3	Output



SOLDERING



TAPE SPECIFICATIONS (all in mm) - Carrier Tape Dimensions



Standard Package: 1000pcs/reel

A	B	C	D	E	F	G	H	ØJ	ØN	M	K	T
3.4	4.0	12	5.5	1.75	8.0	4.0	2.0	1.5	1.6	10°	1.3	0.3
±0.2	±0.2	±0.3	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	Max	±0.2	±0.1

PART NUMBERING SYSTEM (Example)

ZTTCVMX-18.000-0.5-0.3-S-XX

Hold Type

ZTTCV MX / ZTTC MG / ZTTC MX / ZTTCV MT

Nominal Frequency (MHz)

Enter the nominal frequency (3 digits after dot) or up to last significant digit different than zero)

Frequency Tolerance (%)
0.5= 0.5%

Frequency Stability (%)
0.3= 0.3%

Operating Temperature Range (°C)*
S= Standard

* Operating Temperature Range: -20 to 80°C (Standard)
* Specific Operating Temperature Range under request.

Options
S= Standard
X= Additional Specifications
T= Tape and Reel

PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS

Conditions	Results
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1. Humidity

Keep the resonator at 40±2°C and 90 ~ 95% RH for 96±4 hour. Then release the resonator into the room conditions for 1 hour prior to the measurement. It shall fulfill the specifications in Table 1.

2. Solder Test

Passed through the re-flow oven under the following condition and left at room temperature for 1 hour before measurement. It shall fulfill the specifications in Table 1.

Temperature at surface of the substrate	Time
Preheat 150±5°C	60±10 sec.
Peak 240±5°C	10±3 sec.

3. Temperature cycling

Subject the resonator to -20°C for 30 minutes followed by a high temperature of +85°C for 30 minutes. Cycling shall be repeated 5 times with a transfer time of 15 second at the room conditions for 1 hour prior to the measurement. It shall fulfill the specifications in Table 1.

4. Mechanical Shock

Drop the resonator randomly onto a concrete floor from the height of 100cm 3 times. The device shall fulfill the initial electrical characteristics. It shall fulfill the specifications in Table 1.

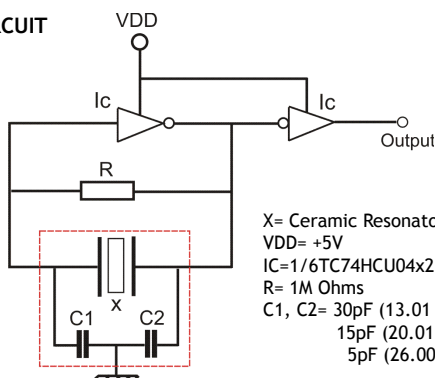
5. Vibration

Subject the resonator to vibration for 2 hour each in x, y and z axis with the amplitude of 1.5mm. The frequency shall be varied uniformly between the limits of 10 ~55Hz. It shall fulfill the specifications in Table 1.

Table 1

Item	Specification
Oscillation Frequency Change	ΔF/Fo≤0.3% max
Resonant Impedance	ΔRo≤±10Ω

TEST CIRCUIT



X= Ceramic Resonator
VDD= +5V
IC=1/6TC74HCU04x2
R= 1M Ohms
C1, C2= 30pF (13.01 to 20.00MHz)
15pF (20.01 to 25.99MHz)
5pF (26.00 to 50.00MHz)