

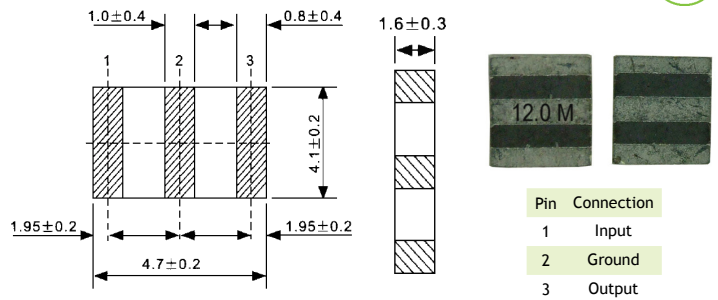
DESCRIPTION

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.

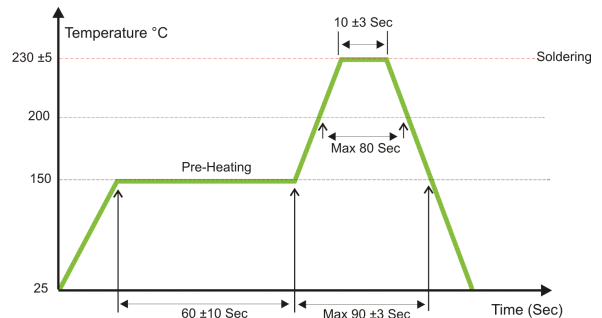
ELECTRICAL SPECIFICATION

Oscillate Frequency	6.00 to 13.00MHz
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	30Ω Maximum
Insulate Resistance	100MΩ minimum
Built - in Capacitance (pF)	30pF
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%

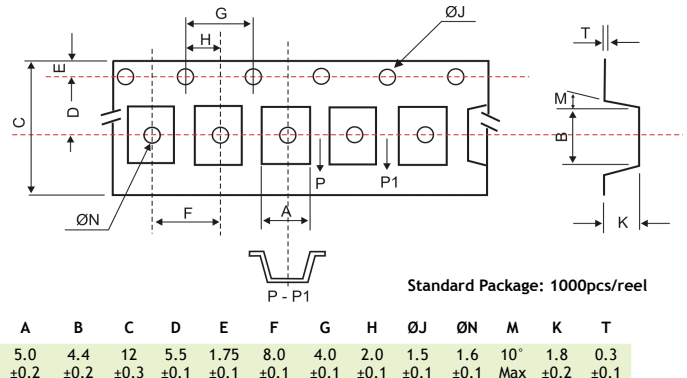
MECHANICAL DIMENSIONS (all in mm)



SOLDERING



TAPE SPECIFICATIONS (all in mm) - Carrier Tape Dimensions



Standard Package: 1000pcs/reel

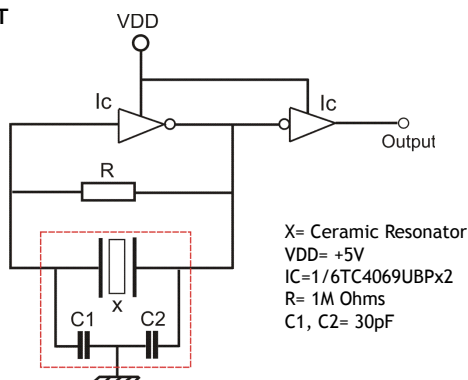
PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS

- | Conditions | Results |
|--|---------------------------------|
| 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
• Preheat 150±5°C
• Peak 240±5°C | Time
60±10 sec.
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	$\Delta F/F_0 \leq 0.3\%$ max
Resonant Impedance	$\Delta R_0 \leq \pm 10\Omega$

TEST CIRCUIT



PART NUMBERING SYSTEM (Example)

ZTTCSMT-12.000-0.5-0.3-S-XX

