SHOULDER

ZTACV...MT SMD Ceramic Resonator

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		8.00 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)		-
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%

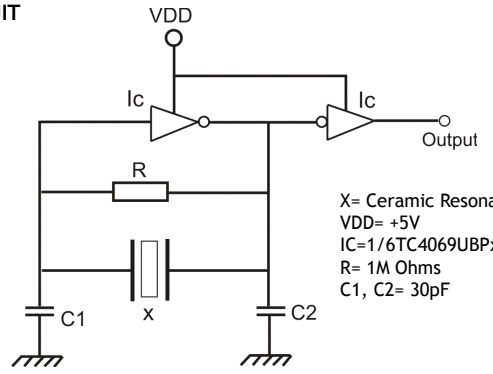
PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS

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	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

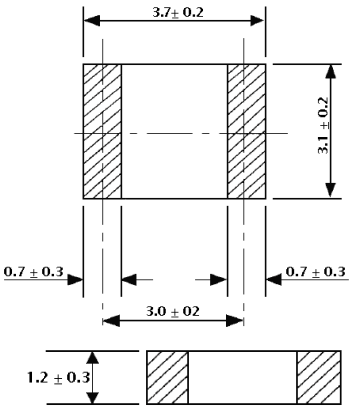
Item	Specification
Oscillation Frequency Change	ΔF/Fo≤0.3% max
Resonant Impedance	ΔRo≤±10Ω

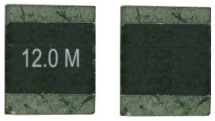
TEST CIRCUIT



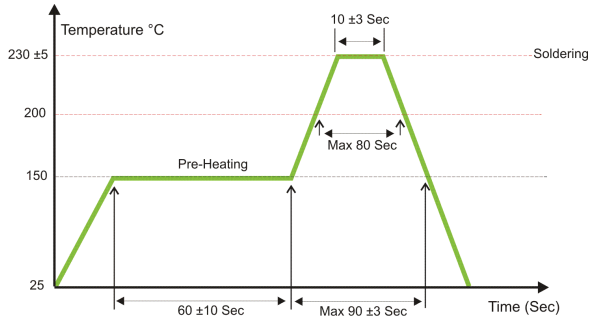
X= Ceramic Resonator
VDD= +5V
IC=1/6TC4069UBPx2
R= 1M Ohms
C1, C2= 30pF

MECHANICAL DIMENSIONS (all in mm)

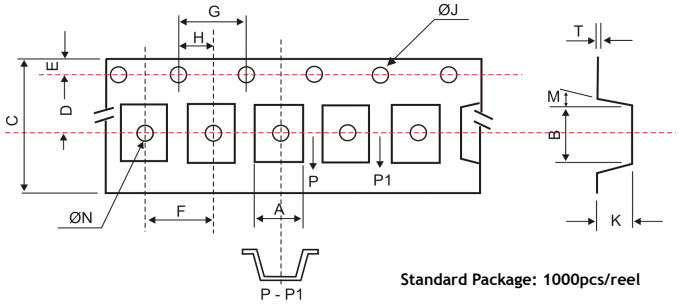




SOLDERING



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
5.0 ±0.2	4.4 ±0.2	12 ±0.3	5.5 ±0.1	1.75 ±0.1	8.0 ±0.1	4.0 ±0.1	2.0 ±0.1	1.5 ±0.1	1.6 ±0.1	10˚ Max	1.8 ±0.2	0.3 ±0.1

PART NUMBERING SYSTEM (Example)

ZTACVMT-12.000-0.5-0.3-S-XX

- **Hold Type**
  ZTACV MT / ZTACC MG / ZTACS MT / ZTACS MX / ZTACV MX
- **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
- **Options**
  S= Standard
  X= Additional Specifications
  T= Tape and Reel

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

RELM - SHOULDER Brasil

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