Shoulder 好达

SHOULDER ELECTRONICS CO., LTD.

CERAMIC RESONATOR Data Sheet

PRODUCT 产 品: CERAMIC RESONATOR

MODEL NO 型 号: ZTTCS....MT

PREPARED 编 制: Fengyu

CHECKED 审 核: York

APPROVED 批 准:

DATE 日 期: 2007-01-25

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1. Scope

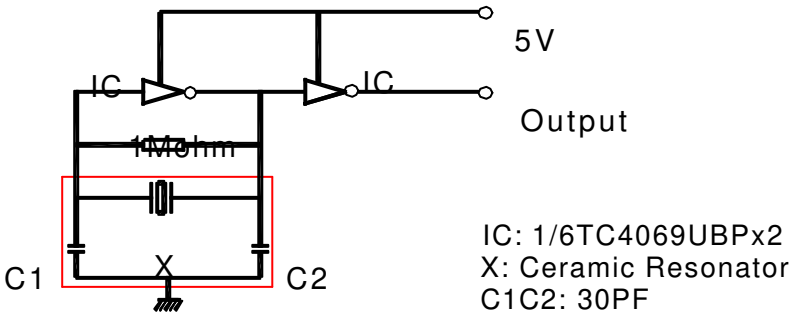
The specification is fit for ceramic resonator 6.00-13.00MHz.

2. Part NO: ZTTCS ..MT

3. Electrical Characteristics

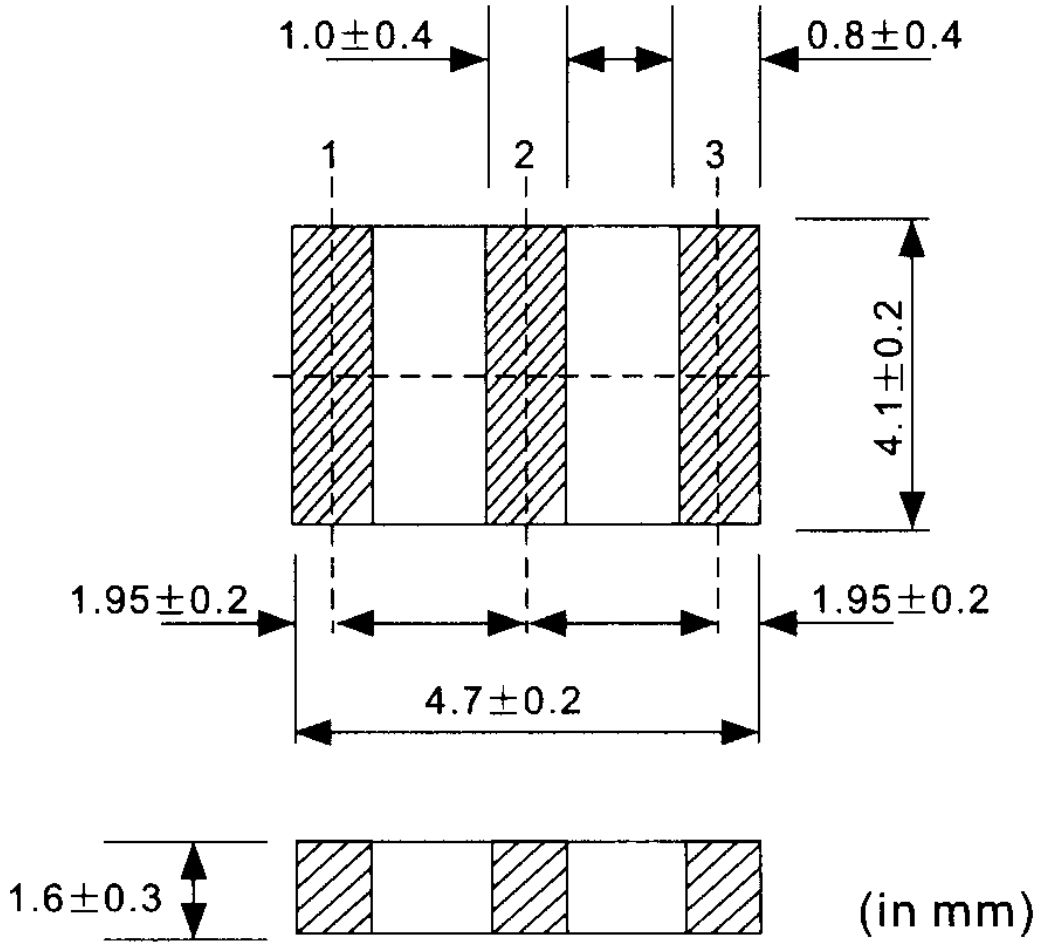
No.	Item	Characteristics
3-1	Oscillate Frequency (MHz)	6.00-13.00
3.2	Frequency Tolerance max	±0.5%
3.3	Resonant Impedance max (Ω)	30
3.4	Built – in Capacitance (PF)	30
3.5	Insulate Resistance min (MΩ)	100
3.6	Withstanding Voltage D.C (V)	100（max 5 sec）
3.7	Voltage （1） D.C Voltage max（V） （2） Input Voltage max（V）	 6 15Vp-p
3.8	Temp characteristics of Oscillate frequency max	±0.3%
3.9	Operating Temp Range（℃）	-20 ~ +80
3.10	Storage Temp (℃)	-55 ~ +85

4. Test Circuit



IC: 1/6TC4069UBPx2
X: Ceramic Resonator
C1C2: 30PF

5. Dimension



6. Physical and Environmental Characteristics

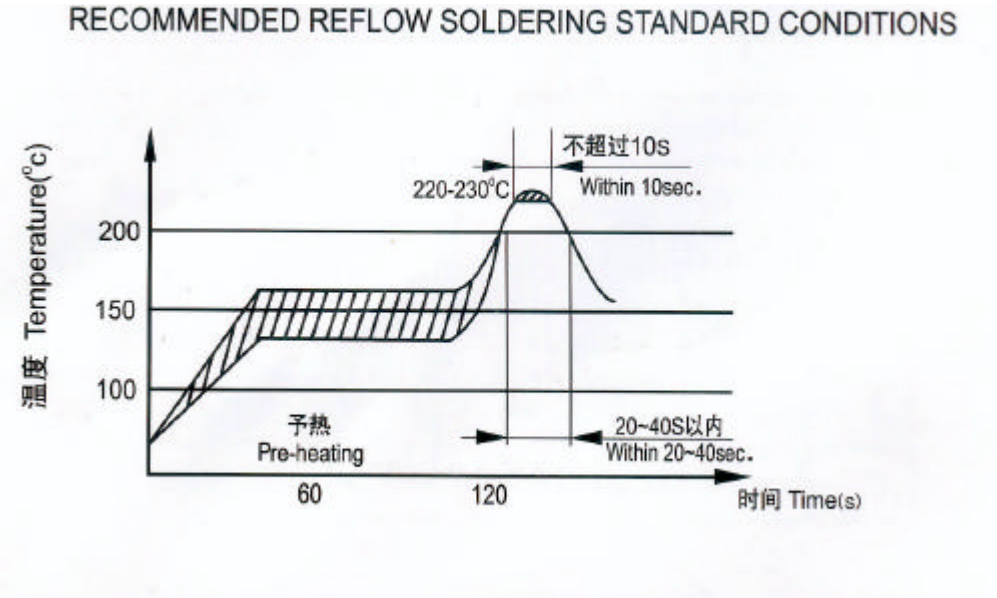
No	Item	Condition of Test	Performance Requirements
6.1	Humidity	Keep the resonator at 40±2℃ and 90-95% RH for 96 ± 4 hours. Then release the resonator into the room condition for 1 hour prior to the measurement.	It shall fulfill the specifications in Table 1.
6.2	Vibration	Subject the resonator to vibration for 2 hours 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.
6.3	Mechanical Shock	Drop the resonator randomly onto a concrete floor from the height of 100 cm 3 times.	It shall fulfill the specifications in Table 1.
6.4	Soldering 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℃	60±10 sec.	
		Peak 240±5℃	10±3 sec.	
6.5	Solder Ability	Dip the resonator terminals into the solder bath at 230±5℃ for 3±0.5 sec.		More than 95% of the terminal surface shall be covered.
6.6	High Temperature Exposure	Subject the resonator to 80±5℃ for 96 ±4 hours. Then release the resonator into the room conditions for 1 hour prior to the measurement.		It shall fulfill the specifications in Table 1.
6.7	Low Temperature	Subject the resonator to –20±5℃ for 96 ±4 hours. Then release the resonator into the room conditions for 1 hour prior to the measurement.		It shall fulfill the specifications in Table 1.
6.8	Temperature Cycling	Subject the resonator to –20℃ for 30 minutes followed by a high temperature of 85℃ for 30 min. Cycling shall be repeated 5 times with a transfer time of 15 second at the room condition for 1 hour prior to the measurement.		It shall fulfill the specifications in Table 1.

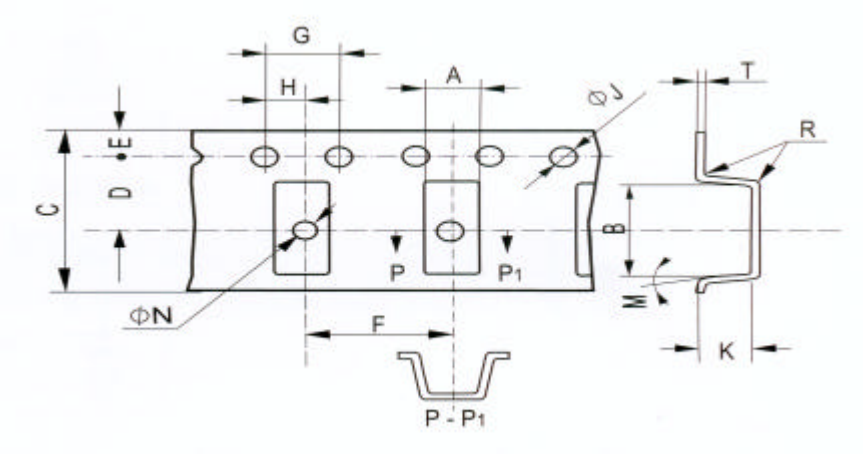
TABLE1

Item	Specification
Oscillation Frequency Change	△F/Fo≤0.3% max
Resonant Impedance	△Ro≤±10 Ohm

7.



8. Packing



Tape Dimension (mm)

	A ±0.2	B ±0.2	C ±0.3	D ±0.1	E ±0.1	F ±0.1	G ±0.1	H ±0.1	ØJ ±0.1	ØN ±0.1	M max	R max	K ±0.2	T ±0.1
MG	3.8	7.8	16.0	7.5	1.75	8.0	4.0	2.0	1.5	1.6	10°	0.3	2.1	0.3
MT	5.0	4.4	12.0	5.5									1.8	
MX	3.4	4.0	12.0	5.5									1.3	

Standard Package: 1Kpcs / reel