Shoulder 好达

SHOULDER ELECTRONICS CO., LTD.

CERAMIC RESONATOR Data Sheet

PRODUCT 产 品: CERAMIC RESONATOR

MODEL NO 型 号: ZTACS....MX

PREPARED 编 制: Fengyu

CHECKED 审 核: York

APPROVED 批 准:

DATE 日 期: 2007-01-25

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1. Scope

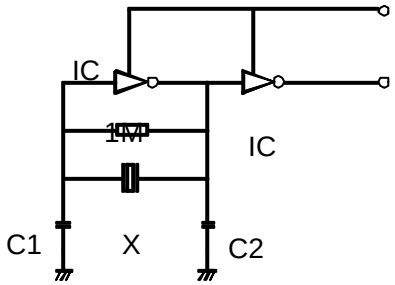
The specification is fit for ceramic resonator 13.01-50.00MHz.

2. Part NO: ZTACS ..MX

3. Electrical Characteristics

No.	Item	Characteristics
3-1	Oscillate Frequency (MHz)	13.01-50.00
3.2	Frequency Tolerance max	±0.5%
3.3	Resonant Impedance max (Ω)	40
3.4	Built – in Capacitance (PF)	--
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

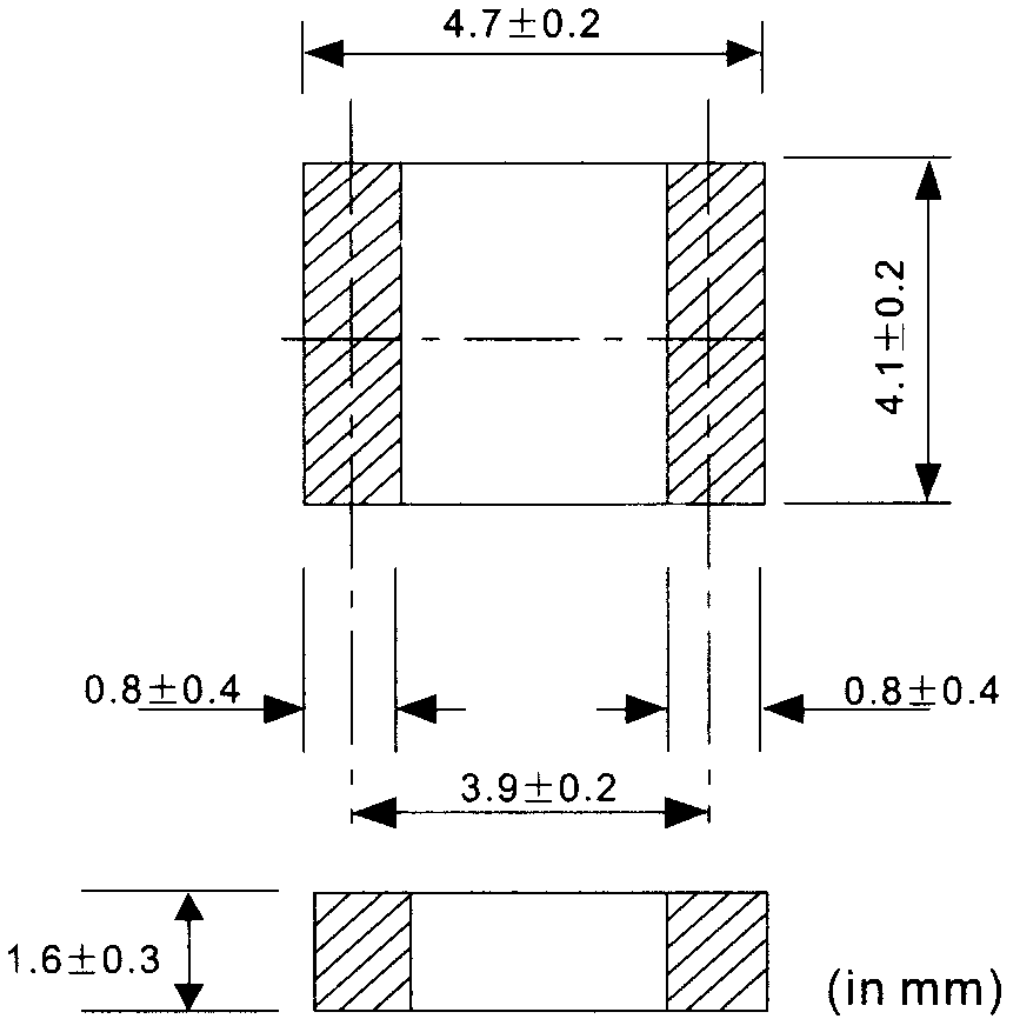


5V

Output

IC:1/6TC74HCU04x2
C1C2:30PF(13.01-20.00MHz)
15PF(20.01-25.99MHz)
5PF (26.00-40.00MHz)
X: Ceramic Resonator

5. Dimension



6. Physical and Environmental Characteristics

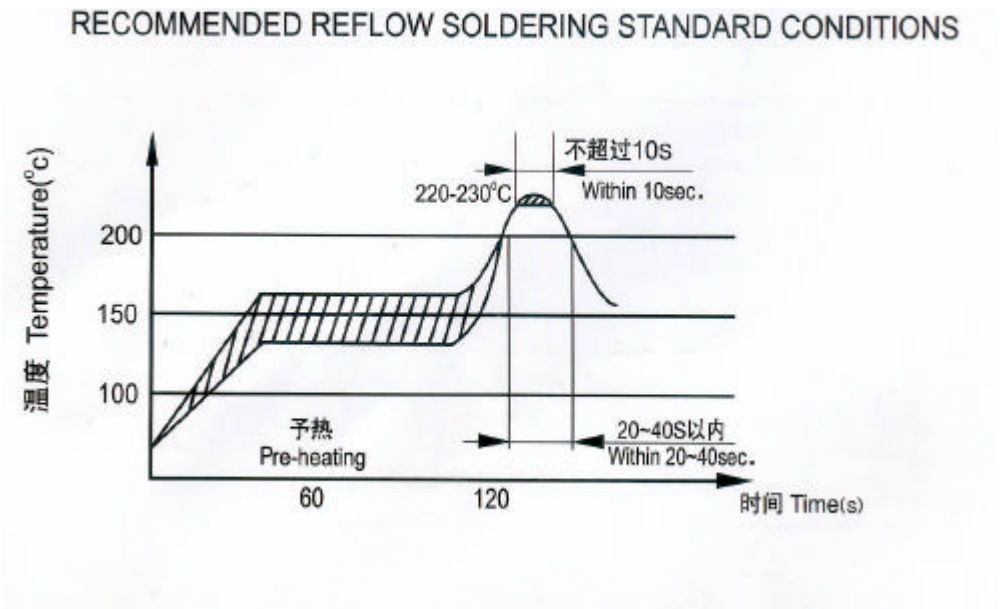
No	Item	Condition of Test	Performance Requirements
6.1	Humidity	Keep the resonator at 40±2℃ and 90-95% RH for 96 ± 4 hours. Then release the resonator into the room condition for 1 hour prior to the measurement.	It shall fulfill the specifications in Table 1.
6.2	Vibration	Subject the resonator to vibration 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.

<table>
<tr><td>6.4</td><td>Soldering Test</td><td>Passed through the re-flow oven under the following condition and left at room temperature for 1 hour before measurement.<table><tr><td>Temperature at surface of the substrate</td><td>Time</td></tr><tr><td>Preheat 150±5℃</td><td>60±10 sec.</td></tr><tr><td>Peak 240±5℃</td><td>10±3 sec.</td></tr></table></td><td>It shall fulfill the specifications in Table 1.</td></tr>
<tr><td>6.5</td><td>Solder Ability</td><td>Dip the resonator terminals into the solder bath at 230±5℃ for 3±0.5 sec.</td><td>More than 95% of the terminal surface shall be covered.</td></tr>
<tr><td>6.6</td><td>High Temperature Exposure</td><td>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.</td><td>It shall fulfill the specifications in Table 1.</td></tr>
<tr><td>6.7</td><td>Low Temperature</td><td>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.</td><td>It shall fulfill the specifications in Table 1.</td></tr>
<tr><td>6.8</td><td>Temperature Cycling</td><td>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.</td><td>It shall fulfill the specifications in Table 1.</td></tr>
</table>

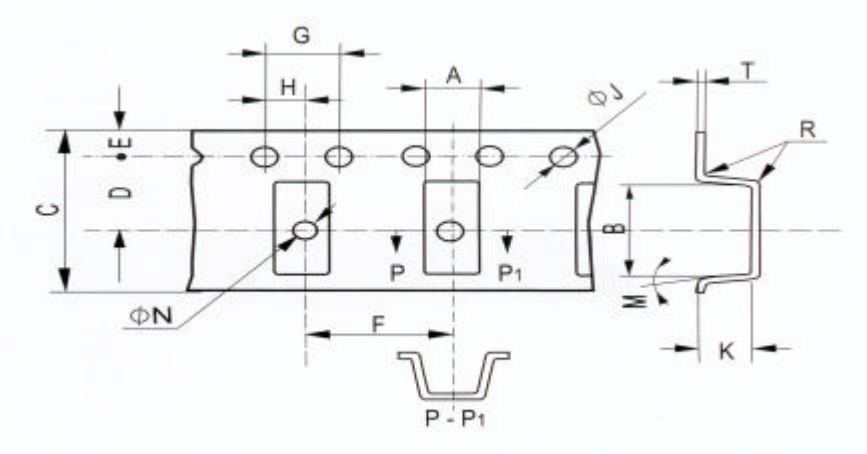
TABLE1

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