

MOBICON

Electronic Components

PRODUCT SPECIFICATION

MEC SMD RESONATOR

FREQUENCY COMPONENTS

ZTTCC Series SMD RESONATOR SPECIFICATION

MOBICON HOLDINGS LTD.		
Prepared By	Sign.	Approved By
Leo Wong		C.H. Wong

www.mobicon.com

MIEC

CERAMIC RESONATOR SPECIFICATION

PART NO. :

ZTTCC8.0MG

ELECTRICAL CHARACTERISTICS

- | | |
|---|---------------------------------|
| 1. Oscillation Frequency (Fosc) | 8.0MHz \pm 0.5% |
| 2. Resonant Impedance (Ro) | 25 Ohm |
| 3. Temperature Characteristics of Oscillation Frequency | \pm 0.3% max. (-20°C ~ +80°C) |
| 4. Rating Voltage: | |
| D.C. Voltage | 6V |
| Load Voltage | 15Vpp |
| 5. Insulation Resistance | 100 MOhm min. @ 10V DC |
| 6. Frequency Drift vs Temperature | $< \pm$ 0.3% |
| 7. Operating Temperature Range | -20°C ~ +80°C |
| 8. Storage Temperature Range | -55°C ~ +85°C |
| 9. Frequency Aging | \pm 0.3% max. for 10 years |

MEASUREMENT

Measurement Condition

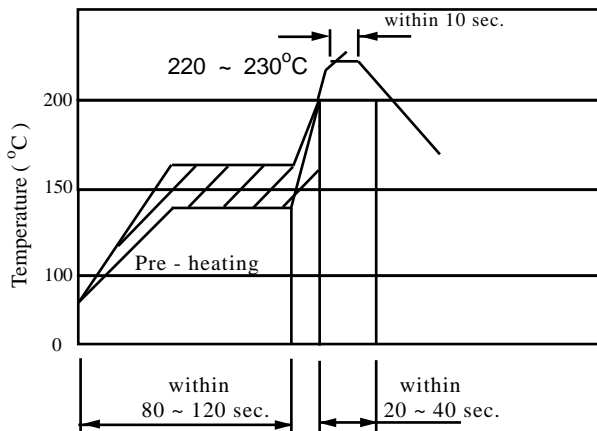
The reference temperature shall be 25°C \pm 2°C. The measurement shall be performed at the temperature range of 5°C ~ 35°C unless otherwise the result is doubtful.

MEASUREMENT CIRCUIT AND EQUIPMENT

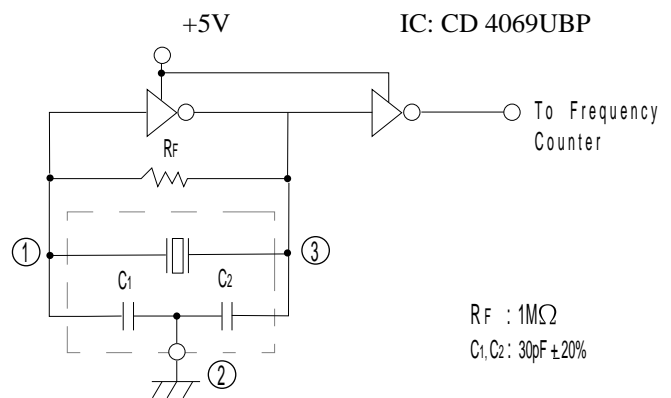
Oscillating frequency shall be measured by the standard test circuit.

Resonant impedance shall be measured by *HP8751A Network Analyzer*.

Recommended Reflow Soldering Standard Conditions



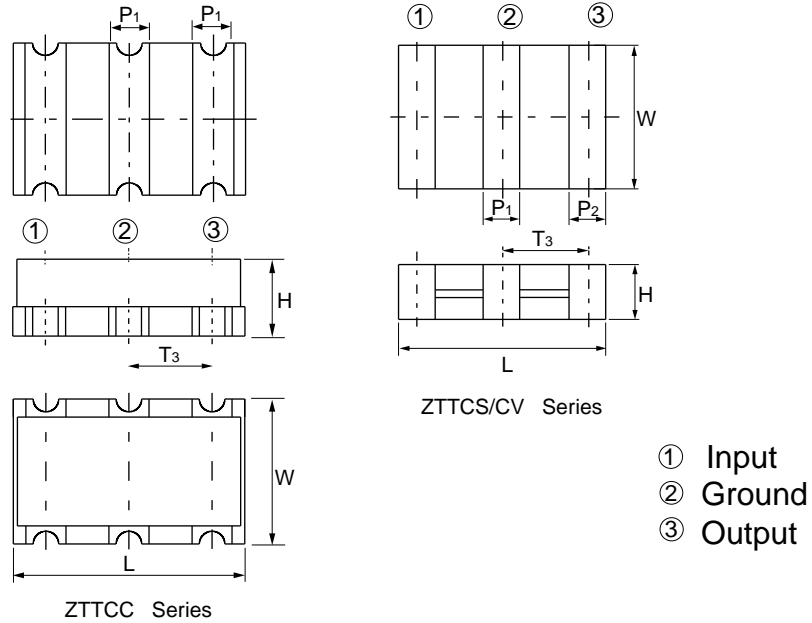
Test Circuit (C₁, C₂ = 30pF)



MIEC

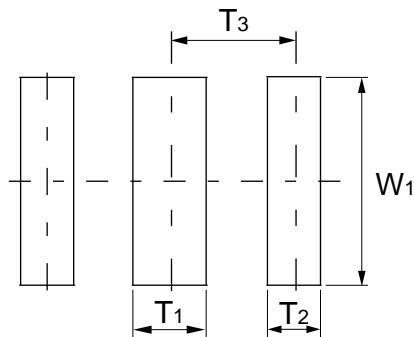
CERAMIC RESONATOR SPECIFICATION

MECHANICAL DIMENSIONS



Item \ Type	DIMENSION (mm)								
	L	W	H	P1	P2	T1	T2	T3	W1
ZTCC	7.4 ± 0.3	3.4 ± 0.3	1.8 ± 0.3	1.2 ± 0.3	1.2 ± 0.3	1.5 ± 0.3	1.7 ± 0.3	2.5 ± 0.3	4.0 ± 0.3
ZTCS	4.7 ± 0.3	4.1 ± 0.2	1.6 ± 0.3	1.0 ± 0.4	0.8 ± 0.4	1.3 ± 0.2	0.8 ± 0.2	1.95 ± 0.2	5.1 ± 0.2
ZTTCV	3.7 ± 0.2	3.1 ± 0.2	1.2 ± 0.3	0.9 ± 0.3	0.7 ± 0.3	1.0 ± 0.2	0.7 ± 0.2	1.5 ± 0.2	4.1 ± 0.2

RECOMMENED LAND PATTERN



Prepared By: Leo Wong
DOC. No: ZTCC-MG

MIEC

CERAMIC RESONATOR SPECIFICATION

PHYSICAL AND ENVIRONMENTAL CHARACTERISRICS

No.	Item	Condition of Test	Performance Requirements	
1	Humidity	Keep the resonator at $40 \pm 2^{\circ}\text{C}$ and 90~95% RH for 96 ± 4 hours. Then release the resonator into the room condition for 1 hour prior to the measurement.	<i>It</i>	
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.	<i>shall</i>	
3	Mechanical Shock	Drop the resonator randomly onto a wooden floor from the height of 100cm 3 times.	<i>fulfill</i>	
4	Soldering Test	Passed through the reflow oven under the following condition, and left at room temperature for 1 hour before measurement.	<i>the specifications</i>	
		Temperature at the surface of the substrate:		Time
		Preheat $150 \pm 5^{\circ}\text{C}$		60 ± 10 sec.
		Peak $240 \pm 5^{\circ}\text{C}$		10 ± 3 sec.
5	High Temperature Exposure	Subject the resonator to $80 \pm 5^{\circ}\text{C}$ for 96 ± 4 hours. Then release the resonator into the room conditions for 1 hour prior to the measurement.	<i>in Table 1.</i>	
6	Low Temperature	Subject the resonator to $-20 \pm 5^{\circ}\text{C}$ for 96 ± 4 hours. Then release the resonator into the room conditions for 1 hour prior to the measurement.		

MEC

CERAMIC RESONATOR SPECIFICATION

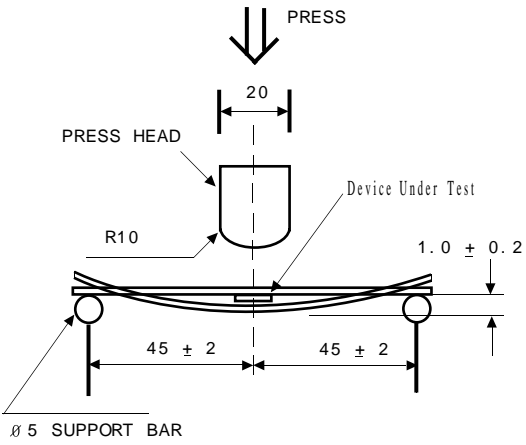
7	Temperature Cycling	Subject the resonator to -20°C for 30 min. followed by a high temperature of 85°C for 30 min. cycling shall be repeated 5 times with a transfer time of 15 seconds. At the room temperature for 1 hour prior to the measurement.	It shall fulfill the specifications in Table 1.
8	Solderability	Dipped in 230 ± 5°C seconds with resin flux (25wt% ethanol solution.)	The terminals shall be at least 95% covered by solder.
9	Board Bending	<p>Mount a glass epoxy board (width = 40mm, thickness = 1.6mm), then bend it to 1mm displacement and keep it for 5 seconds. (See the following figure)</p> 	Mechanical damage such as breaks shall not occur.

TABLE 1

Item	Specification
Oscillation Frequency Change	$\Delta F / F_{osc} \leq 0.5\% \text{ max.}$
Resonant Impedance	Within 25 Ω

REVIEW OF SPECIFICATIONS

When something get doubtful with this specifications, we shall jointly work to get an agreement.



Prepared By: Leo Wong
DOC. No: ZTCC-MG