

SHOULDER

ZTH Ceramic Resonator

Lead

2.5

DESCRIPTION

The ZTH ceramic resonator is the miniature low profile frequency control products of low frequency 190 to 1250 KHz for the clock oscillation. It is of very competitive price than quartz crystal parts and of high stability that make of substitute the quartz crystal when need lower price.

ELECTRICAL SPECIFICATION

LEECTRICAL STECHTICATION				
Resonant Frequency		190 to 1250 KHz		
Resonant Impedance (Ro)		190 to 699	20Ω Max.	
Resonant Impeda	ince (RO)	700 to 1250	50Ω Max.	
		190 to 249	± 1 kHz	
Frequency Tolerance (at 25°C)		250 to 374	± 1 kHz	
		375 to 400	± 2 kHz	
		401 to 509	± 2 kHz	
		510 to 699	± 2 kHz	
		700 to 1250	± 0.5%	
Temperature Coefficient of Oscillation Frequency		±0,3% Maximum (-20	$\pm 0.3\%$ Maximum (-20 $^{\circ}$ C to +80 $^{\circ}$ C)	
Operating Temperature Range		-20 $^{\circ}$ C to +80 $^{\circ}$ C	-20°C to +80°C	
Storage Temperature Range		-20 $^{\circ}$ C to +80 $^{\circ}$ C	-20°C to +80°C	
Insulation Resistance		100MΩ minimum (at	100MΩ minimum (at 100VDC)	
With Voltage	D.C. Voltage	50VDC		
	A.C. Voltage	15Vpp		
Aging Rate (F _{osc})(at 25°C)		±0.3% Maximum (10	±0.3% Maximum (10 year)	

PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS (Conditions/Results)

1. Humidity

Keep the resonator at $40\pm2^{\circ}C$ and 90 to 95% RH for 96 hours. Then release the resonator into the room condition for 1 hour prior to the measurement. Results: It shall fulfill the specifications in Table-1.

2. Temperature cycling

Subject the resonator to -20±5°C for 30 min. followed by a high temperature of 80°C for 30 min. Cycling shall be repeated 5 times with a transfer time of 15 min. at the room condition. Then release the resonator into the room temperature for 1 hour prior to the measurement. Results: It shall fulfill the specifications in Table-1.

3. Mechanical Shock

Drop the resonator randomly onto a concrete floor from the height of 70cm, 3 times

Results: It shall fulfill the specifications in Table 1.

4. 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 to 55Hz.

Results: It shall fulfill the specifications in Table 1.

5. Resistance to Solder Heat

Dip the resonator terminals no closer than 2mm into the solder bath at 260±10°C for 3±0.5sec.

Results: It shall fulfill the specifications in Table-1

6. Solderability

Dip the resonator terminals no closer than 2mm into the solder bath at 235±5°C for 3±0.5sec.

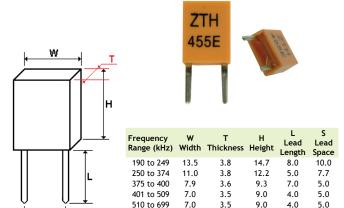
Results: More than 95% of the terminal surface of the resonator shall be covered with fresh solder.

7. Lead Fatigue

Weight along with the direction of terminals without any **Pulling Test** shock 1kg for 10sec. Lead shall be subject to withstand against 90 degree **Bending Test** bending at its stem. This operation shall be done towards both direction.

Results: The resonator shall show no evidence of damage and shall fulfill all the initial electric characteristics.

MECHANICAL DIMENSIONS (all in mm)



5.2

2.8

6.8

3.5

700 to 1250

TEST CIRCUIT (FIG.1)

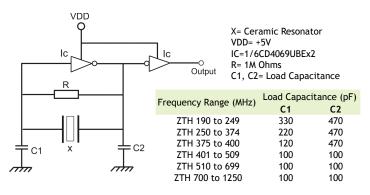


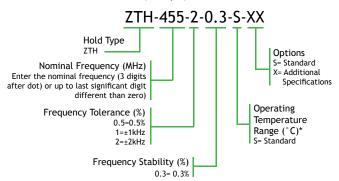
TABLE 1

ADEL I	
ltem	Specification
Oscillation Frequency Change	Δ F/Fosc \leq 0.5%

MEASUREMENT

Measurement Condition The reference temperature shall be 25°C±2°C. The measurement shall be performed at the temperature range of 5°C to 35°C unless otherwise the result is doubtful. Measurement Circuit Oscillating frequency shall be measured by the standard and Equipment test circuit as shown in Fig 1-Test Circuit.

PART NUMBERING SYSTEM (Example)



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t Operating Temperature Range: -20 to 80°C (Standard) t Specific Operating Temperature Range under request.