

SPECIFICATION OF SAW RESONATOR

1. SCOPE

This specification is applied to a SAW resonator designed for the stabilization of transmitters such as garage door openers and security transmitters.

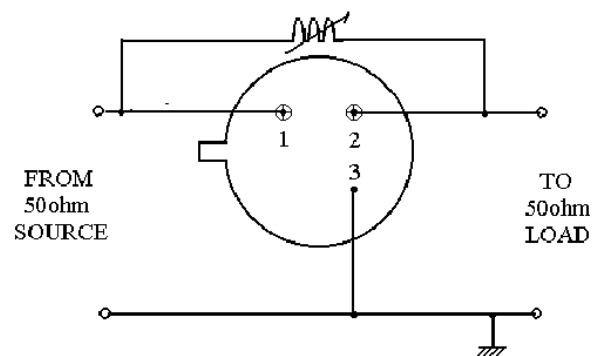
2. ELECTRICAL SPECIFICATION

DC Voltage VDC	10V
AC Voltage Vpp	10V50Hz/60Hz
Operation temperature	-20 to +85
Storage temperature	-45 to +85
RF Power Dissipation	0dBm

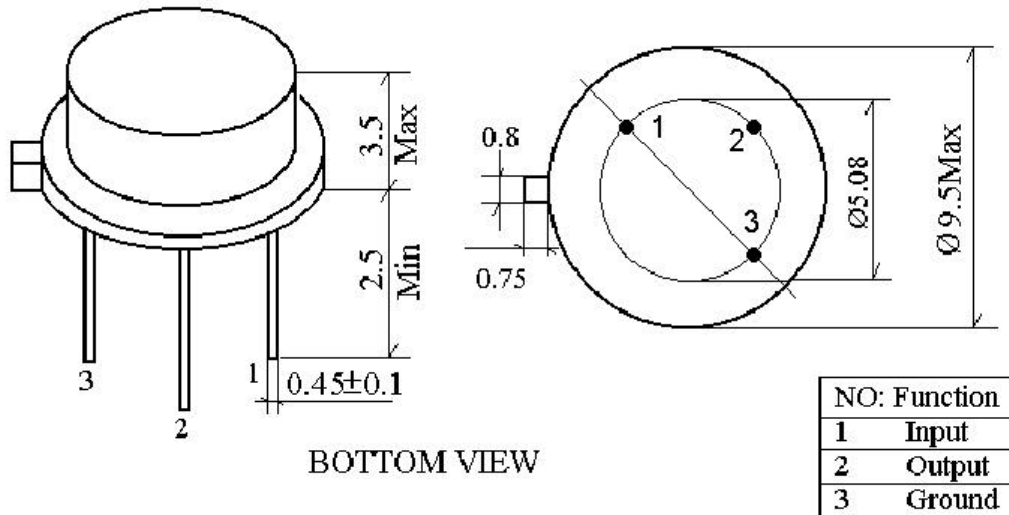
Electronic Characteristics

Item		Unites	Minimum	Typical	Maximum	Sym
Center Frequency		MHz	417.900	418.000	418.100	f
Insertion Loss		dB		6.5	8.0	IL
Quality Factor	Unloaded Q			13,600		Q _u
	50 LoadedQ			6,000		Q _L
Temperature Turnover	Temperature		25	35	50	To
Stability	Turnover Frequency	KHz		f ± 21		f _o
	Frequency Temperature Coefficient	ppm/°C		0.037		FTC
Frequency Aging	Absolute Value during the First year	ppm/yr		10		f _A
DC Insulation Resistance between any two Pins		M	1.0			
RF Equivalent RLC Model	Motional Resistance			93	152	R _m
	Motional Inductance	μH		477.932		L _m
RF Equivalent RLC Model	Motional Capacitance	fH				C _m
	Pin 1 to pin2 Static Capacitance	pF		0.303334		C _o
Transducer Static Capacitance		pF		1.4		C _p

3. TEST CIRCUIT



4. DIMENSION



5. ENVIRONMENTAL CHARACTERISTICS

5-1 High temperature exposure

Subject the resonator to +80 for 96 hours. Then release the resonator into the room conditions for 1 to 2 hours prior to the measurement. It will fulfill the specifications in table 1.

5-2 Moisture

Keep the resonator at 40 and 95% rh for 96 hours. Then release the resonator into the room conditions for 1 to 2 hours prior to the measurement. It shall fulfill the specifications in table 1.

5-3 Low temperature exposure

Subject the resonator to -20 for 96 hours. Then release the resonator into the room conditions for 1 to 2 hours prior to the measurement. It shall fulfill the specifications in table 1.

5-4 Temperature cycling

Subject the resonator to a low temperature of -55 for 30 minutes. Following by a high temperature of +85 for 30 Minutes. Then release the resonator into the room conditions for 1 to 2 hours prior to the measurement. It shall meet the specifications in table 1.

5-5 Resistance to solder heat

Dip the resonator terminals no closer than 1.5mm into the solder bath at 27 ± 10 for 10 ± 1 sec. Then release the resonator into the room conditions for 1 to 2 hours. The resonator shall meet the specifications in table 1.

5-6 Mechanical shock

Drop the resonator randomly onto the concrete floor from the height of

30cm 3 times. The resonator shall fulfill the specifications in table 1.

5-7 Vibration

Subject the resonator to the vibration for 1 hour each in x,y and z axes with the amplitude of 1.5 mm at 10 to 55 hz. The resonator shall fulfill the specifications in table 1.

5-8 Lead fatigue

5-8-1 Pulling test

Weight along with the direction of lead without a shock 3kg. The resonator shall satisfy all the initial Characteristics.

5-8-2 Bending test

Lead shall be subject to withstand against 90 bending in the direction of thickness. This operation shall be done toward both direction. The resonator shall show no evidence of damage and shall satisfy all the initial electrical characteristics.

6. REMARK

6.1 Static voltage

Static voltage between signal load & ground may cause deterioration & destruction of the component. Please avoid static voltage.

6.2 Ultrasonic cleaning

Ultrasonic vibration may cause deterioration & destruction of the component. Please avoid ultrasonic cleaning

6.3 Soldering

Only leads of component may be solded. Please avoid soldering another part of component.