TAE 雅晶鑫 433M-TO39

# 1. SCOPE

This specification shall cover the characteristics of 1-port SAW resonator with used for remote-control security.

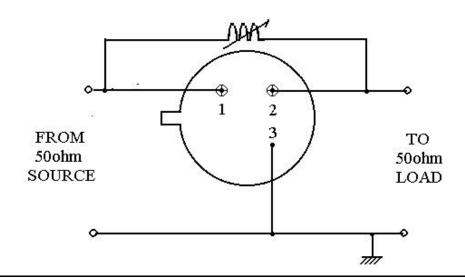
# 2. ELECTRICAL SPECIFICATION

DC Voltage VDC	10V
AC Voltage Vpp	10V50Hz/60Hz
Operation temperature	-40°C to +85°C
Storage temperature	-45°C to +85°C
RF Power Dissipation	0dBm

## 2.2 Electronic Characteristics

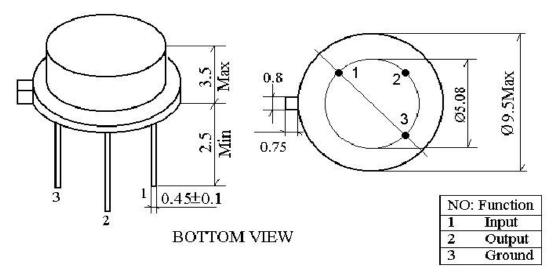
Item		Unites	Minimum	Typical	Maximum
Center Frequency		MHz	433.845	433.920	433.995
Insertion Loss		dB		1.5	2.5
Quality Factor Unload Q			5000	12800	
50 Ω Loaded Q			1000	2000	
Temperature	Turnover Temperature	$^{\circ}$ C	10	25	40
Stability	Freq.temp.Coefficient	ppm/°C2		0.032	
Frequency Aging		ppm/yr		<±10	
DC. Insulation Resistance		МΩ	1.0		
RF Equivalent RLC Model	Motional Resistance R1	Ω		19	26
	Motional Inductance L1	μН		92.929	
KLC Model	Motional Capacitance C1	fF		1.4475	
Transducer Static Capacitance		pF		1.95	

# 3. TEST CIRCUIT

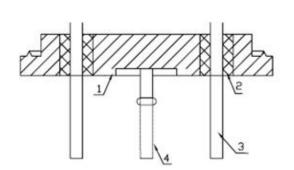


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#### 4. DIMENSION



#### 4.2 Materials



序号	名称	材质	数量
1	基座材料	SPCC	1
2	绝缘体材料	玻璃粉	2
3	引出脚材料	4J29	4
4	引出脚搪锡	Tin 与要得距离<0.8mm	4
	基座电镀	Ni >2.5um	1

## 5. ENVIRONMENTAL CHARACTERISTICS

#### 5-1 High temperature exposure

Subject the device to +85 °C for 16 hours. Then release the resonator into the room conditions for 24 hours prior to the measurement. It shall fulfill the specifications in 2.2.

#### 5-2 Low temperature exposure

Subject the device to  $-40^{\circ}$ C for 16 hours. Then release the device into the room conditions for 24 hours prior to the measurement. It shall fulfill the specifications in 2.2.

#### 5-3 Temperature cycling

Subject the device to a low temperature of -45  $^{\circ}$ C for 30 minutes. Following by a high temperature of +85  $^{\circ}$ C for 30 Minutes. Then release the device into the room conditions for 24 hours prior to the measurement. It shall meet the specifications in 2.2.

#### 5-4 Resistance to solder heat

Dip the device terminals no closer than 1.5mm into the solder bath at  $260^{\circ}\text{C} \pm 10^{\circ}\text{C}$  for  $10 \pm 1$  sec. Then release the device into the room conditions for 4 hours. The device shall meet the specifications in 2.2.

#### 5-5 Solderability

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Subject the device terminals into the solder bath at  $245^{\circ}$ C  $\pm 5^{\circ}$ C for 5s, More than 95% area of the terminals must be covered with new solder. It shall meet the specifications in 2.2.

#### 5-6 Mechanical shock

Drop the device randomly onto the concrete floor from the height of 1m 3 times. the device shall fulfill the specifications in 2.2.

#### 5-7 Vibration

Subject the device 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 device shall fulfill the specifications in 2.2.

#### 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

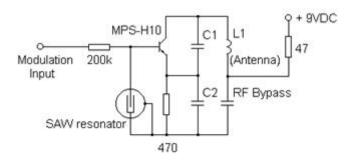
Ultrasonic vibration may cause deterioration & destruction of the component. Please avoid ultrasonic cleaning

#### 6.3 Soldering

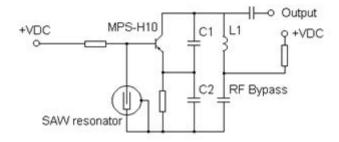
Only leads of component may be soldered. Please avoid soldering another part of component.

#### 7.TYPCIAL APPLICATION CIRCUITS

#### Typical low-power Transmitter Application



#### Typical Local Oscillator Application



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