



R433 F11 D11



1. SCOPE

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

2. ELECTRICAL

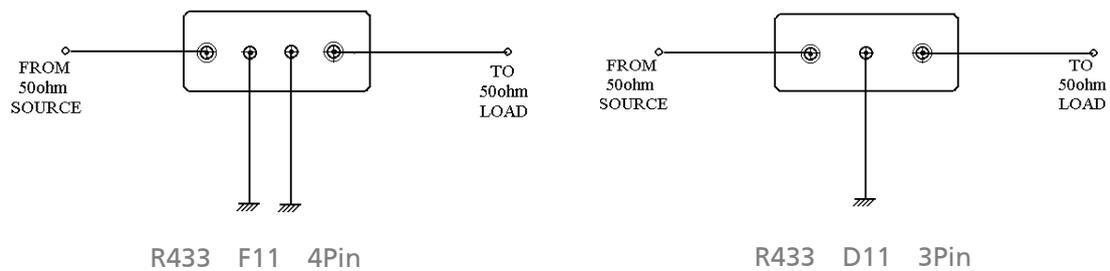
2.1 Maximum Rating

DC Voltage VDC	10 V
AC Voltage Vpp	10V 50Hz/60Hz
Operation temperature	- 40 °C to +85 °C
Storage temperature	- 40 °C to +85 °C
Max Input Power	10 dBm

2.2 Electronic Characteristics

Item	Unites	Minimum	Typical	Maximum	
Center Frequency	MHz	433.845	433.920	433.995	
Insertion Loss	dB		1.6	2.2	
Quality Factor	Unload Q	8300	12000		
	50Ω Loaded Q	850	1500		
Temperature	Turnover Temperature	°C	10	25	40
Stability	Freq.temp.Coefficient	ppm/ °C ²	0.032		
Frequency Aging		ppm/ yr	< ± 10		
DC. Insulation Resistance		MΩ	1.0		
RF Equivalent RLC Model	Motional Resistance R1	Ω	18	26	
	Motional Inductance L1	μH	79.82		
	Motional Capacitance C1	fF	1.685		
Transducer Static Capacitance C0		pF	2.3		

3. TEST CIRCUIT

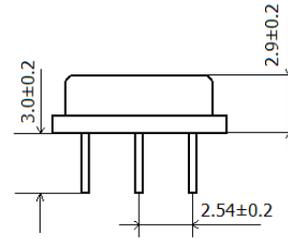
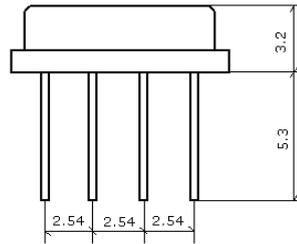
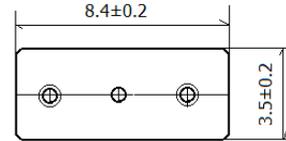
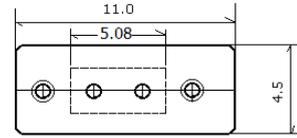




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4. DIMENSION



R433 F11 4Pin



R433 D11 3Pin

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.



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5-2 Low temperature exposure

Subject the device to -40°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 -40°C for 30 minutes. Following by a high temperature of $+85^{\circ}\text{C}$ 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 ± 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

Subject the device terminals into the solder bath at $245^{\circ}\text{C} \pm 5^{\circ}\text{C}$ 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 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.

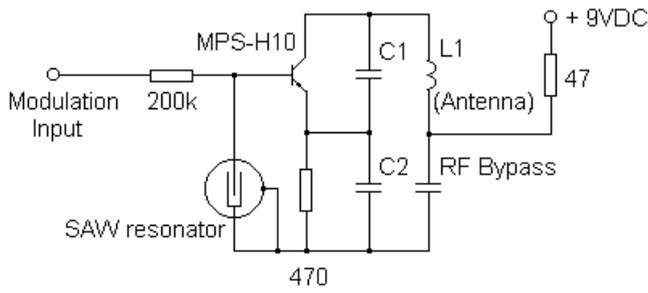


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7. TYPICAL APPLICATION CIRCUITS

Typical low-power Transmitter Application



Typical Local Oscillator Application

