



Sichuan Institute of Piezoelectric and Acoustooptic Technology

- Ideal for European 418 MHz transmitters
- Low loss, High Q factor
- Quartz stability
- To—39 case

SP418R

418MHz SAW Resonator

The SP418R is a true one-port ,surface-acoustic-wave(SAW) resonator in a low profile TO-39 case .It provides reliable, fundamental-mode, quartz frequency stabilization of fixed-frequency transmitters operating at 418MHz. The SP418R is designed specifically for remote-control and wireless security transmitters operating in Europe under ETSII-ETS 300 200 and in Germany under FTZ 17 TR 2100

Absolute Maximum Rating

Rating	Value
CW RF power Dissipation	+13dBm
DC Voltage between any 2 pins	± 30 VDC
Case Temperature	-40 to +85°C

Electrical Characteristic

Characteristic		Sym	Unit	Minimum	Typical	Maximum
Center Frequency		F_0	MHz	417.925	418	418.075
Insertion Loss		IL	dB		1.1	2.0
Quality Factor	Unloaded Q	Q_U			11,000	
	50 Ω loaded Q	Q_L			2,150	
Temperature Stability	Turnover Temperature	T_0	°C	28	43	58
	Turnover Frequency	F_0	KHz		$F_0+2.6$	
	Freq.Temp.Coefficient	FTC	ppm/°C ²		0.032	
Frequency Aging				ppm/yr	< ± 10	
DC Insulation Resistance between any 2 pins				M Ω	1.0	
RF Equivalent RLC Model	Motional resistance	R_m	Ω		15	19
	Motional Inductance	L_m	μ H		67.0144	
	Motional Capacitance	C_m	fF		2.01212	
	Shunt Static Cap	C_0	pF	1.7	2.1	2.3
	Transducer Static Cap.	C_p	pF		1.8	

NOTE:

1. Test temperature: 25 \pm 2°C.
2. In test the shunt inductance is tuned for parallel resonance with C_0 at f_c .
3. This part is Electrostatic Discharge Sensitive and may be damaged by improper handling



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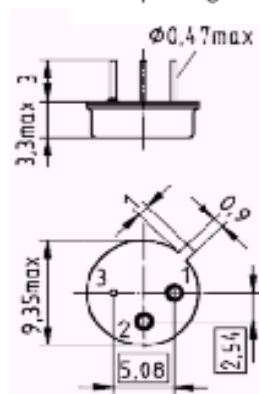
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Package

Metal package TO39



Pin configuration

- | | |
|---|---------|
| 1 | Input 1 |
| 2 | Input 2 |
| 3 | Ground |

Dimensions in mm, approx. weight 1.0 g

Frequency response

