

- **Ideal for 916.000 MHz Transmitters**
- **Very Low Series Resistance**
- **Quartz Stability**
- **Rugged, Hermetic, Low Profile TO-39 Package**

SR916

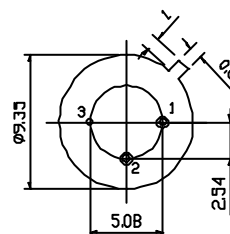
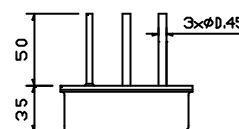
Absolute Maximum Rating (Ta=25°C)		
Parameter	Rating	Unit
CW RF Power Dissipation	+0	dBm
DC Voltage VDC	±30	V
Operating Temperature Range	-10 ~ +65	°C
Storage Temperature Range	-40 ~ +85	°C

Electronic Characteristics						
Parameter	Sym	Minimum	Typical	Maximum	Unit	
Frequency (25°C)	Nominal Frequency	f _c	NS	916.000	NS	MHz
	Tolerance from 916.000 MHz	Δf _c	-	-	±150	KHz
Insertion Loss		IL	-	3.0	3.5	dB
Quality Factor	Unlocked Q-Value	Q _u	-	5,000	-	-
	50Ω Loaded Q-Value	Q _L	-	2,500	-	-
Temperature Stability	Turnover Frequency	f _o	-	F _c +2.7	-	KHz
	Frequency Temperature Coefficient	FTC	-	0.074	-	ppm/°C ²
Frequency Aging	Absolute Value during the First Year	f _A	-	-	10	ppm/yr
DC Insulation Resistance Between any Two Pins		-	1.0	-	-	MΩ
RF Equivalent RLC Model	Motional Resistance	R _M	-	18.0	23.8	Ω
	Motional Inductance	L _M	-	40.0075	-	μH
	Motional Capacitance	C _M	-	0.761	-	fF
	Pin 1 to Pin 2 Static Capacitance	C _o	0.9	1.1	1.3	pF
	Transducer Static Capacitance	C _p	-	1.1	-	pF

NS = Not Specified

Notes **Package Outline (TO-39-3)**

- Frequency aging is the change in f_c with time and is specified at +65°C or less. Aging may exceed the specification for prolonged temperatures above +65°C. Typically, aging is greatest the first year after manufacture, decreasing in subsequent years.
- The frequency f_c is the frequency of minimum IL with the resonator in the specified test fixture in a 50Ω test system with VSWR ≤ 1.2 : 1. Typically, oscillator or transmitter is less than the resonator f_c.
- Typically, equipment utilizing this device requires emissions testing and government approval, which is the responsibility of the equipment manufacturer.
- Unless noted otherwise, case temperature T_c = +22°C ± 2°C
- The design, manufacturing process, and specifications of this device are subject to change without notice.
- Derived mathematically from one or more of the following directly measured parameters: f_c, IL, 3dB bandwidth, f_c versus T_c, and C_o.
- Turnover temperature, T_o, is the temperature of maximum (or turnover) frequency, f_o. The nominal center frequency at any case temperature, T_C, may be calculated from: f = f_o [1-FTC (T_o-T_C)²]. Typically, oscillator T_o is 20° less than the specified resonator T_o.
- This equivalent RLC model approximates resonator performance near the resonant frequency and is provided for reference only. The capacitance C_o is the measured static (nonmotional) capacitance between either pin 1 and ground or pin 2 and ground. The measurement includes case parasitic capacitance with a floating case. For usual grounded case applications (with ground connected to either pin 1 or pin 2 to the case), add approximately 0.25 pF to C_o.



Pin	Connection
1	Input/Output
2	Output/Input
3	Ground