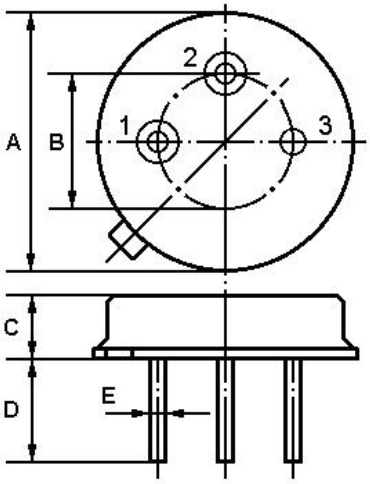
SHXDLJZ®
鑫得利电子

Features

- 1-port Resonator
- Provides reliable, fundamental mode, quartz frequency stabilization i.e. in transmitters or local oscillators
- In a low-profile metal **TO-39** case
- Lead-free production and RoHS compliance

Package Dimensions



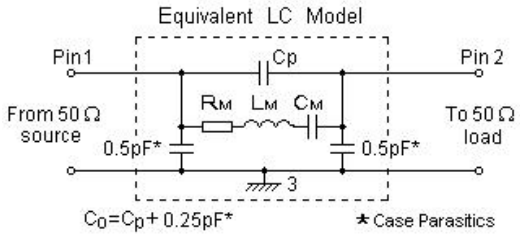
Pin	Configuration
1	Input / Output
2	Output / Input
3	Case Ground
Dimension	**Data (unit: mm)**
A	9.15±0.20
B	5.08±0.20
C	3.30±0.20
D	3±0.20／5±0.20
E	0.45±0.10

Marking

ND
R315
Laser Printing

Top View:
"**ND**": Manufacturer's mark
"**R**": SAW resonator
"**315**": center Frequency

Equivalent LC Model



Maximum Ratings

Rating		Value	Unit
CW RF power dissipation	P	0	dBm
DC voltage between any terminals	V_{DC}	±30	V
Operating temperature range	T_A	-40 ~ +85	°C
Storage temperature range	T_{stg}	-40 ~ +85	°C

Electrical Characteristics

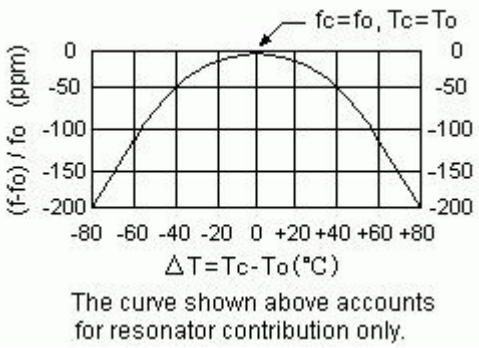
Characteristic		Sym	Minimum	Typical	Maximum	Unit
Center Frequency (+25℃)	Absolute Frequency	f_C	314.925		315.075	MHz
	Tolerance from 315.000 MHz	Δf_C			±75	kHz
Insertion Loss		IL		1.5	2.0	dB
Quality Factor	Unloaded Q	Q_U		12,500		
	50 Ω Loaded Q	Q_L		2,000		
Temperature Stability	Turnover Temperature	T_0	25	39	55	℃
	Turnover Frequency	f_0		f_C		kHz
	Frequency Temperature Coefficient	FTC		0.032		ppm/℃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		19	26	Ω
	Motional Inductance	L_M		120.3114		μH
	Motional Capacitance	C_M		2.1240		fF
	Pin 1 to Pin 2 Static Capacitance	C_0	2.3	2.6	2.9	pF

RoHS Compliant **Electrostatic Sensitive Device**

NOTE:

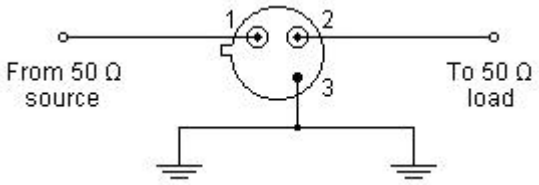
1. Unless noted otherwise, case temperature T_C = +25°C±2°C.
2. The center frequency, f_C, is measured at the minimum insertion loss point with the resonator in the 50Ω test system.
3. Frequency aging is the change in f_C with time and is specified at +65°C or less. Aging may exceed the specification for prolonged temperatures above +65°C. Typically, aging is greatest the first year after manufacture, decreasing in subsequent years.
4. Turnover temperature, T_O, is the temperature of maximum (or turnover) frequency, f_O. The nominal frequency at any case temperature, T_C, may be calculated from: $f = f_O [1 - FTC (T_O - T_C)^2]$.
5. This equivalent RLC model approximates resonator performance near the resonant frequency and is provided for reference only. The capacitance C_O is the static capacitance between the two terminals measured at low frequency (10MHz) with a capacitance meter. The measurement includes case parasitic capacitance.

Temperature Characteristics

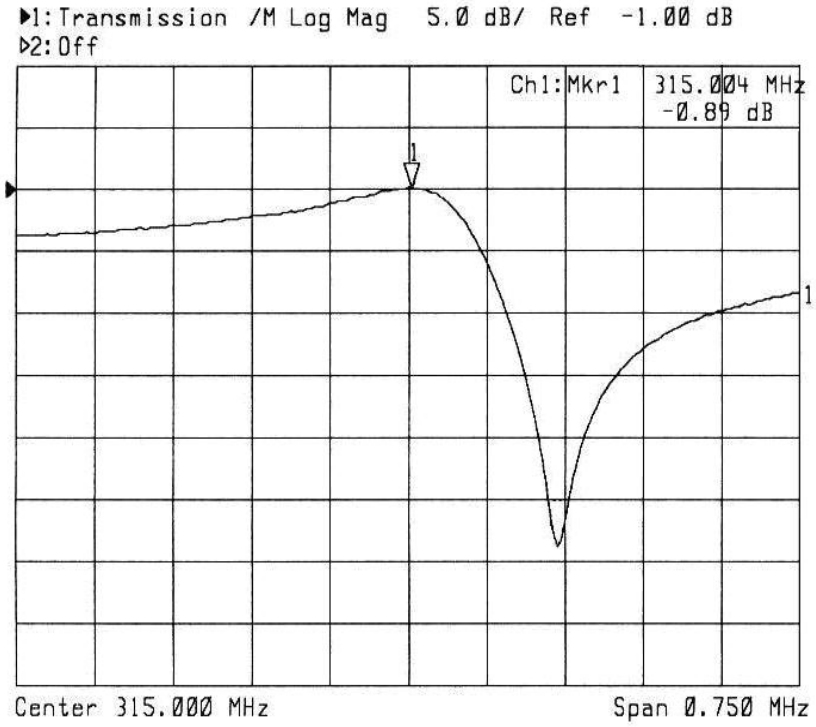


The curve shown above accounts for resonator contribution only.

Test Circuit

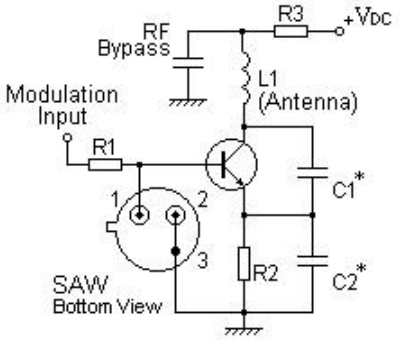


Typical Frequency Response

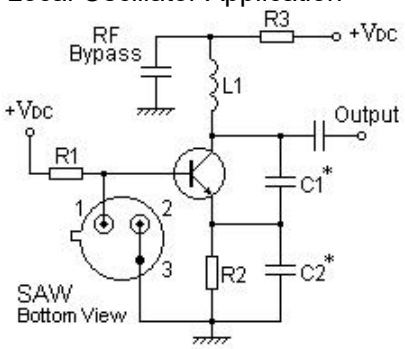


Typical Application Circuits

1) Low-Power Transmitter Application



2) Local Oscillator Application



NOTE:

1. The specifications of this device are subject to change or obsolescence without notice.
2. Typically, equipment utilizing this device requires emissions testing and government approval, which is the responsibility of the equipment manufacturer.
3. Our liability is only assumed for the Surface Acoustic Wave (SAW) component(s) per se, not for applications, processes and circuits implemented within components or assemblies.
4. For questions on technology, prices and delivery, please contact our sales offices or e-mail shxindeli@163.com