# 622.08 MHz One-Port SAW Resonator

- Ideal for 622.08 MHz Transmitters
- Very Low Insertion Loss
- Quartz Stability
- Rugged, Hermetic, Low Profile TO-39 Package

# SR622

**VANLONG** 

Absolute Maximum Rating (Ta=25°C)						
Parameter		Rating	Unit			
CW RF Power Dissipation	Р	0	dBm			
DC Voltage	V <sub>DC</sub>	±30	V			
Operating Temperature Range	T <sub>A</sub>	-10 ~ +60	°C			
Storage Temperature Range	$T_{\rm stg}$	-40 ~ +85	°C			

Electronic Characteristics						
	Parameter	Sym	Minimum	Typical	Maximum	Unit
Frequency (25°C)	Nominal Frequency	f <sub>C</sub>	NS	622.08	NS	MHz
	Tolerance from 622.08 MHz	∆f <sub>C</sub>	-	-	± 75	KHz
Insertion Loss		IL	-	2.0	2.6	dB
Quality Factor	Unloaded Q-Value	Q <sub>U</sub>	-	8,950	-	-
	50 $\Omega$ Loaded Q-Value	$Q_L$	-	1,850	-	-
Temperature Stability	Turnover Temperature	To	25	-	55	°C
	Turnover Frequency	f <sub>O</sub>	-	fc	-	KHz
	Frequency Temperature Coefficient	FTC	-	-0.032	-	ppm/°C <sup>2</sup>
Frequency Aging	Absolute Value during the First Year	f_	-	-	10	ppm/yr
DC Insulation Resistance Between any Two Pins		-	1.0	-	-	MΩ
RF Equivalent RLC Model	Motional Resistance	R <sub>M</sub>	-	26.0	35.0	Ω
	Motional Inductance	L <sub>M</sub>	-	59.6673	-	μH
	Motional Capacitance	$C_M$	-	1.0981	-	fF
	Pin 1 to Pin 2 Static Capacitance	Co	1.1	1.3	1.5	pF

NS = Not Specified

### Notes:

- 1. The center frequency,  $f_{C}$ , is measured at the minimum IL point with the resonator in the 50 $\Omega$  test system.
- 2. Unless noted otherwise, case temperature  $T_c = +25^{\circ}C \pm 2^{\circ}C$ .
- 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,  $T_0$ , is the temperature of maximum (or turnover) frequency,  $f_0$ . The nominal frequency at any case temperature,  $T_c$ , may be calculated from:  $f = f_0 [1 FTC (T_0 T_c)^2]$ .
- ww5. DThis equivalent RLC model approximates resonator performance near the resonant frequency and is provided for reference only. The capacitance  $C_0$  is the measured static (nonmotional) capacitance between Pin1 and Pin2. The measurement includes case parasitic capacitance.

- Derived mathematically from one or more of the following directly measured parameters: f<sub>C</sub>, IL, 3 dB bandwidth, f<sub>C</sub> versus T<sub>C</sub>, and C<sub>0</sub>.
- 7. The specifications of this device are based on the test circuit shown above and subject to change or obsolescence without notice.
- 8. Typically, equipment utilizing this device requires emissions testing and government approval, which is the responsibility of the equipment manufacturer.
- 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.
- 10. For questions on technology, prices and delivery please contact our sales offices or e-mail to sales@vanlong.com.

#### Phone: +86 10 6301 4184

Fax: +86 10 6301 9167

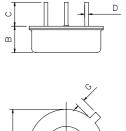
Email: sales@vanlong.com

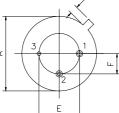
© 2004 by Vanlong Technology Co., Ltd.

# 622.08 MHz One-Port SAW Resonator



## Package Dimensions (TO-39)





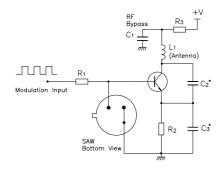
#### Marking



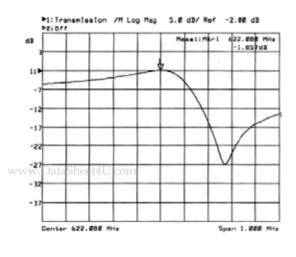
Ink Marking Color: Black or Blue

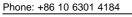
### **Typical Application Circuit**

Low Power Transmitter Application



#### **Typical Frequency Response**





Fax: +86 10 6301 9167

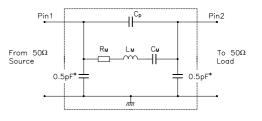
#### **Electrical Connections**

Terminals	Connection	
1	Input/ Output	
2	Output/ Input	
3	Case-Ground	

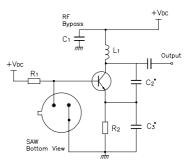
#### Package Dimensions

Dimensions	Nom (mm)		
	Min	Max	
A	9.10	9.50	
В	3.20	3.60	
С	2.80	3.20	
D	Ф0.25	Φ0.65	
E	4.98	5.18	
F	2.54 Nominal		
G	0.4	0.5	

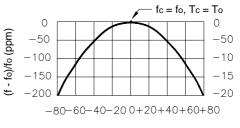
## Equivalent LC Model and Test Circuit



Local Oscillator Application



#### **Temperature Characteristics**



 $\Delta T = Tc - To (°C)$ 

The curve shown above accounts for resonator contribution only and does not include oscillator temperature characteristics.

Email: sales@vanlong.com