

- **Designed to Provide Front-end selectivity in 303.825 MHz**
- **Low-Loss, Coupled-Resonator Quartz Design**
- **Simple External Impedance Matching**
- **Rugged, Hermetic, Low Profile TO-39 Package**

# SF303

Absolute Maximum Rating (Ta=25°C)			
Parameter		Rating	Unit
CW RF Power Dissipation	$P$	+10	dBm
DC Voltage VDC Between Any Two Pins	$V_{DC}$	$\pm 30$	V
Operating Temperature Range	$T_A$	-10 ~ +60	°C
Storage Temperature Range	$T_{stg}$	-40 ~ +85	°C

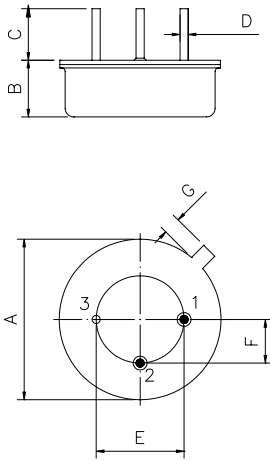
Electronic Characteristics						
Parameter		Sym	Minimum	Typical	Maximum	Unit
Nominal Frequency (at 25°C) (Center frequency between 3dB point)		$f_c$	NS	303.825	NS	MHz
Insertion Loss		$IL$	-	3.0	4.5	dB
3dB Passband		$BW_3$	-	600	800	KHz
Rejection	at $f_c - 21.4$ MHz (Image)	-	40	50	-	dB
	at $f_c - 10.7$ MHz (LO)	-	20	30	-	dB
	Ultimate	-	-	60	-	dB
Temperature Stability	Operating Temperature Range	$T_C$	-10	-	+60	°C
	Turnover Temperature	$T_O$	25	-	55	°C
	Turnover Frequency	$f_O$	-	$f_c$	-	MHz
	Frequency Temperature Coefficient	$FTC$	-	0.032	-	ppm/C <sup>2</sup>
Frequency Aging	Absolute Value during the First Year	$ f_A $	-	-	10	ppm/yr
DC Insulation Resistance Between any Two Pins		-	1.0	-	-	MΩ

NS = Not Specified

**Notes:**

- The frequency  $f_c$  is defined as the midpoint between the 3dB frequencies.
- Unless noted otherwise, all measurements are made with the filter installed in the specified test fixture that is connected to a 50Ω test system with VSWR  $\leq 1.2:1$ . The test fixture L and C are adjusted for minimum insertion loss at the filter center frequency,  $f_c$ . Note that insertion loss, bandwidth, and passband shape are dependent on the impedance matching component values and quality.
- Unless noted otherwise, specifications apply over the entire specified operating temperature range.
- 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.
- 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:  $f = f_O [1 - FTC (T_O - T_C)^2]$ .
- The specifications of this device are based on the test circuit shown above and subject to change or obsolescence without notice.
- All equipment designs utilizing this product must be approved by the appropriate government agency prior to manufacture or sale.
- 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.
- For questions on technology, prices and delivery please contact our sales offices or email to sales@vanlong.com.

Package Dimensions (TO-39)



Electrical Connections

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

Package Dimensions

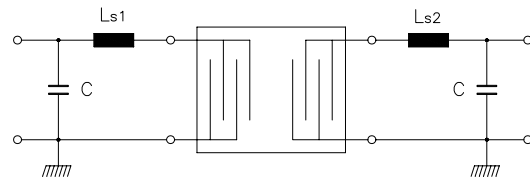
Dimensions	Nom. (mm)	Tol. (mm)
A	9.35	±0.10
B	3.40	±0.10
C	3.00	±0.20
D	0.45	±0.10
E	5.08	±0.10
F	2.54	±0.20
G	0.45	

Marking



Ink Marking  
Color: Black or Blue

Test Circuit



C = 15 pF\*  
Ls1 = Ls2 = 70 nH

Typical Frequency Response

