

- **Surface Acoustic Wave Resonator Filter**
- **Low-Loss, Coupled-Resonator Quartz Design**
- **Simple External Impedance Matching**
- **F-16 Metal Thru-Hole Package**

# SF90.5B

Absolute Maximum Rating (Ta=25°C)		
Parameter	Rating	Unit
Input Power Level	$P_{in}$	0
DC Voltage VDC Between Any Two Pins	$V_{dc}$	30
Operating Temperature Range	$T_A$	-10 ~ +60
Storage Temperature Range	$T_{stg}$	-40 ~ +85

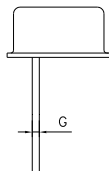
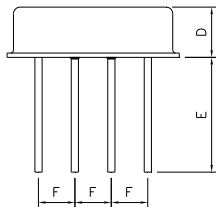
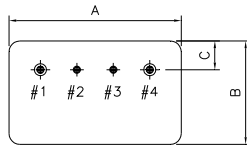
Electrical Characteristics						
Parameter	Sym	Minimum	Typical	Maximum	Unit	
Center Frequency (25°C)	$f_c$	NS	90.50	NS	MHz	
Insertion Loss at $f_c$	$IL$	-	2.0	4.0	dB	
3dB Bandwidth	$BW_3$	45	62	-	KHz	
Passband Ripple ( $f_c \pm 15$ KHz)	$\Delta\alpha$	-	0.2	1.0	dB	
Stopband Attenuation	$f_c \pm 60$ KHz	15	21	-	dB	
	$f_c \pm 120$ KHz	42	47	-	dB	
	$f_c - 930 \dots f_c - 890$ KHz	55	62	-	dB	
	$f_c - 4020 \dots f_c - 3980$ KHz	70	80	-	dB	
Temperature Stability	Turnover Temperature	$T_0$	25	-	55	°C
	Frequency Temperature Coefficient	$FTC$	-	0.032	-	ppm/°C
Group Delay	Absolute at $f_c$	$\tau$	10	15	18	μSec
	Deviation $f_c \pm 10$ KHz	$\Delta\tau$	-	2.0	8.0	μSec
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,  $T_0$ , is the temperature of maximum (or turnover) frequency,  $f_0$ . The nominal frequency at any case temperature,  $T_C$ , may be calculated from:  $f = f_0 [1 - FTC (T_0 - T_C)^2]$ .
- 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 e-mail [sales@vanlong.com](mailto:sales@vanlong.com).

Package Dimensions (F-16)



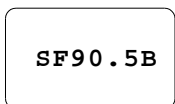
Electrical Connections

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

Package Dimensions

Dimensions	Nom (mm)	Dimensions	Nom (mm)
A	12.0	E	5.0
B	7.2	F	2.54
C	2.0	G	0.5
D	3.5		

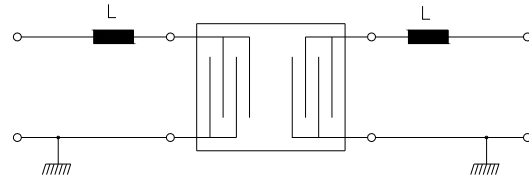
Marking



Ink Marking

Color: Black or Blue

Test Circuit



L = 12~20 turns of 0.51mm insulated copper, 4.0mm ID

Typical Frequency Response

