

- **Ideal Front-End Filter for 915.75 MHz Receivers**
- **Low-Loss, Coupled-Resonator Quartz Design**
- **Simple External Impedance Matching**
- **Ultra Miniature Ceramic QCC8C Package**

# SF5009

Absolute Maximum Rating (Ta=25°C)		
Parameter	Rating	Unit
Input Power Level	10	dBm
DC Voltage VDC	12	V
Operating Temperature Range	-10 ~ +60	°C
Storage Temperature Range	-40 ~ +85	°C

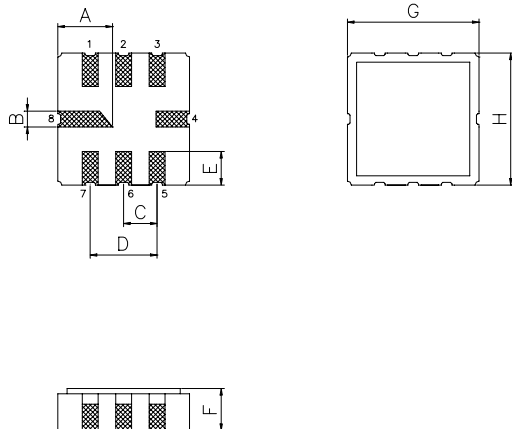
Electronic Characteristics						
	Parameter	Sym	Minimum	Typical	Maximum	Unit
Frequency (25°C)	Nominal Frequency	$f_c$	NS	915.75	NS	MHz
Insertion Loss		$IL$	-	15.0	16.5	dB
3dB Bandwidth		$BW_3$	-	2.6	-	MHz
Rejection	at $f_c - 5.0$ MHz	-	35	46	-	dB
	at $f_c + 5.0$ MHz ~ +200.0 MHz	-	32	43	-	dB
Temperature Stability	Operating Temperature Range	$T_c$	-10	-	+60	°C
	Turnover Temperature	$T_o$	25	40	55	°C
	Turnover Frequency	$f_o$	-	$f_c$	-	KHz
	Frequency Temperature Coefficient	$FTC$	-	-	-0.032	ppm/°C
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 ≤ 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 e-mail sales@vanlong.com.

Package Dimensions (QCC8C)



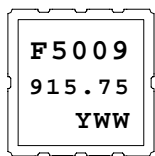
Electrical Connections

Terminals	Connection
1	Input
2	Input Ground
5	Output
6	Output Ground
3,7	To be Grounded
4,8	Case Ground

Package Dimensions

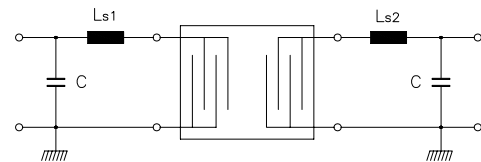
Dimensions	Nom (mm)	Dimensions	Nom (mm)
A	2.08	E	1.20
B	0.60	F	1.35
C	1.27	G	5.00
D	2.54	H	5.00

Marking



1. F5009 - Part Code
2. Frequency (MHz) in 5 digits
3. Date Code:  
 Y : Last digit of year  
 WW : Week No.

Test Circuit



C = 4.0pF  
 Ls1 = 1.5 tunes of 0.5mm insulated copper, 3.0mm ID.  
 Ls2 = 2.0 tunes of 0.5mm insulated copper, 3.0mm ID

Typical Frequency Response

