

- **Designed to Provide Front-end Selectivity in 868.35 MHz**
- **Low-Loss, Coupled-Resonator Quartz Design**
- **Simple External Impedance Matching**
- **Ultra Miniature Ceramic QCC8C SMD Package**
- **Complies with Directive 2002/95/EC (RoHS Compliant)**

SF5904

ABSOLUTE MAXIMUM RATING ($T_A=25^\circ\text{C}$)			
Parameter		Rating	Unit
Input Power Level	P_{in}	10	dBm
DC Voltage VDC Between Any Two Pins	V_{DC}	12	V
Operating Temperature Range	T_A	-10 ~ +60	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-40 ~ +85	$^\circ\text{C}$

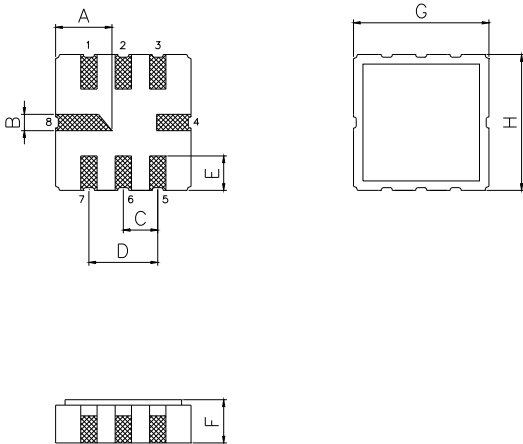
ELECTRONIC CHARACTERISTICS					
Parameter	Sym	Minimum	Typical	Maximum	Unit
Nominal Frequency (at 25 $^\circ\text{C}$) (Center frequency between 3dB point)	f_c	NS	868.35	NS	MHz
Insertion Loss Attenuation	IL	-	3.5	5.5	dB
3dB Passband	BW_3	-	1.2	-	MHz
Passband Ripple	-	-	-	± 1.0	dB
Rejection	At $f_c - 21.4$ MHz (Image)	-	30	42	dB
	At $f_c - 10.7$ MHz (LO)	-	20	35	dB
	Ultimate	-	-	60	dB
Temperature Stability	Operating Temperature Range	T_C	-10	-	+60 $^\circ\text{C}$
	Turnover Temperature	T_O	25	-	55 $^\circ\text{C}$
	Turnover Frequency	f_O	-	f_c	- MHz
	Frequency Temperature Coefficient	FTC	-	0.032	- ppm/ $^\circ\text{C}^2$
Frequency Aging	Absolute Value during the First Year	$ fA $	-	-	10 ppm/yr
DC Insulation Resistance Between any Two Pins	-	1.0	-	-	M Ω

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 50 Ω 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 $^\circ\text{C}$ or less. Aging may exceed the specification for prolonged temperatures above +65 $^\circ\text{C}$. 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)



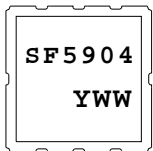
Electrical Connections

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

Package Dimensions

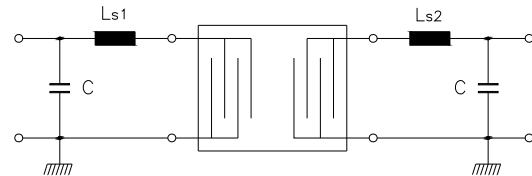
Dimensions	Nom (mm)	Dimensions	Nom (mm)
A	2.08	E	1.20
B	0.60	F	1.35
C	1.27	G	5.00
D	2.54	H	5.00

MARKING



Laser or Ink marking.
 1. SF5904 - Part Code
 2. Date Code:
 Y : Last digit of year
 WW : Week No.

TEST CIRCUIT



C = 4 -6 pF
 Ls1 = Ls2 = 2 turns of 0.5mm insulated copper, 3.0mm ID

TYPICAL FREQUENCY RESPONSE

