

- **Designed to Provide Front-end Selectivity in 868.30 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)**

SF5903

Absolute Maximum Rating (Ta=25°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	°C
Storage Temperature Range	T_{stg}	-40 ~ +85	°C

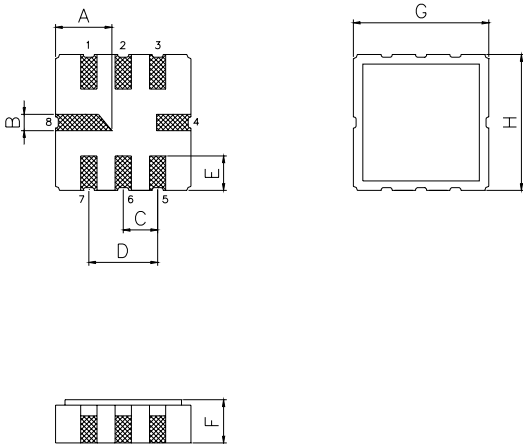
Electronic Characteristics						
Parameter		Sym	Minimum	Typical	Maximum	Unit
Nominal Frequency (at 25°C) (Center frequency between 3dB point)		f_c	NS	868.30	NS	MHz
Insertion Loss Attenuation		IL	-	3.5	5.5	dB
3dB Passband		BW_3	-	1.2	-	MHz
Passband Ripple		-	-	-	±1.0	dB
Rejection	At $f_c - 21.4$ MHz (Image)	-	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	°C
	Turnover Temperature	T_o	25	-	55	°C
	Turnover Frequency	f_o	-	f_c	-	MHz
	Frequency Temperature Coefficient	FTC	-	0.032	-	ppm/C ²
Frequency Aging	Absolute Value during the First Year	$ fA $	-	-	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)



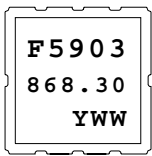
Electrical Connections

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

Package Dimensions

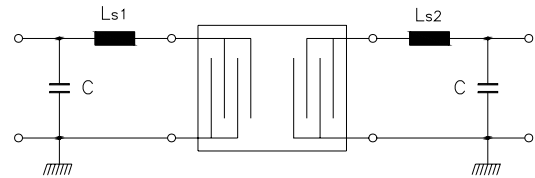
Dimensions	Nom (mm)	Dimensions	Nom (mm)
A	2.08	E	1.20
B	0.60	F	1.35
C	1.27	G	5.00
D	2.54	H	5.00

Marking



- 1. F5903 - Part Code
- 2. Frequency (MHz) in 5 digits
- 3. 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

