

- **Designed to Provide Front-end Selectivity in 345.00 MHz**
- **Low-Loss, Coupled-Resonator Quartz Design**
- **Simple External Impedance Matching**
- **Ultra Miniature Ceramic QCC8C SMD Package**

# SF5402

Absolute Maximum Rating (Ta=25°C)		
Parameter	Rating	Unit
Source Power $P_S$	0	dBm
DC Voltage VDC Between Any Two Pins $V_{DC}$	0	V
Operating Temperature Range $T_A$	-10 ~ +60	°C
Storage Temperature Range $T_{stg}$	-40 ~ +85	°C

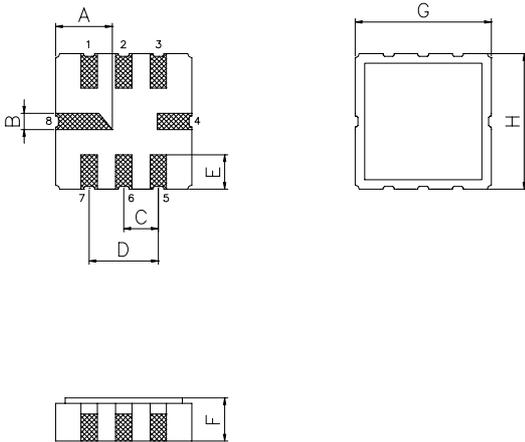
Electronic Characteristics					
Parameter	Sym	Minimum	Typical	Maximum	Unit
Nominal Frequency (at 25°C) (Center frequency between 3dB point)	$f_c$	NS	345.00	NS	MHz
Insertion Loss 344.60 ... 345.60 MHz	$IL$	-	2.5	4.0	dB
Amplitude Ripple (p-p) 344.60 ... 345.60 MHz	$\Delta\alpha$	-	0.5	1.5	MHz
Relative Attenuation (relative to $IL$ )					dB
10.00 ... 320.00 MHz		48	53	-	dB
320.00 ... 325.00 MHz		41	47	-	dB
325.00 ... 337.00 MHz		32	39	-	dB
337.00 ... 339.00 MHz	$\alpha_{rel}$	26	31	-	dB
351.00 ... 358.00 MHz		13	16	-	dB
358.00 ... 370.00 MHz		35	39	-	dB
370.00 ... 700.00 MHz		47	52	-	dB
700.00 ... 1000.00 MHz		40	45	-	dB
Frequency Aging Absolute Value during the First Year	$ fA $	-	-	10	ppm/yr
DC Insulation Resistance Between any Two Pins	-	1.0	-	-	MΩ
Input / Output Impedance	-	-	50	-	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 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,  $T_0$ , 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.

Package Dimensions (QCC8C)



Electrical Connections

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

Package Dimensions

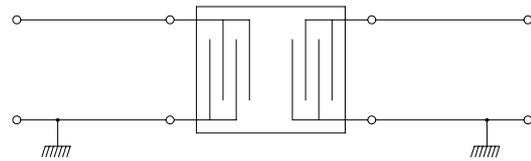
Dimensions	Nom (mm)	Dimensions	Nom (mm)
A	2.08	E	1.20
B	0.60	F	1.35
C	1.27	G	5.00
D	2.54	H	5.00

Marking



- 1. F5402 - Part Code
- 2. Frequency (MHz) in 5 digits
- 3. Date Code:  
 Y : Last digit of year  
 WW : Week No.

Test Circuit



No matching network required for operation at 50Ω

Typical Frequency Response

