

- **Designed to Provide Front-end selectivity in 916.50 MHz**
- **Low-Loss, Coupled-Resonator Quartz Design**
- **Simple External Impedance Matching**
- **Rugged, Hermetic, Low Profile TO-39 Package**

SF916

| Absolute Maximum Rating (Ta=25°C) | | | |
|-------------------------------------|-----------|-----------|------|
| Parameter | | Rating | Unit |
| CW RF Power Dissipation | P | +10 | dBm |
| DC Voltage VDC Between Any Two Pins | V_{DC} | ± 30 | V |
| Operating Temperature Range | T_A | -10 ~ +60 | °C |
| Storage Temperature Range | T_{stg} | -40 ~ +85 | °C |

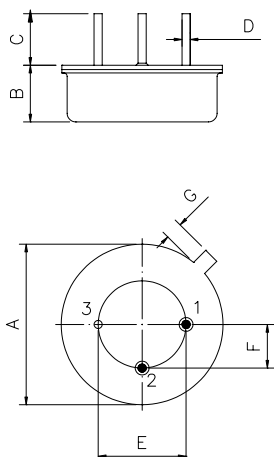
| Electronic Characteristics | | | | | | |
|---|-----------------------------------|---------|---------|-----------|--------|--------------------|
| Parameter | Sym | Minimum | Typical | Maximum | Unit | |
| Nominal Frequency (at 25°C) (Center frequency between 3dB point) | f_c | NS | 916.50 | NS | MHz | |
| Insertion Loss | IL | - | 4.0 | 5.5 | dB | |
| 3dB Passband | BW_3 | - | 1.2 | - | MHz | |
| Passband Ripple | $\Delta\alpha$ | - | - | ± 1.0 | dB | |
| Rejection | at $f_c - 21.4$ MHz (Image) | - | 33 | 40 | - | dB |
| | at $f_c - 10.7$ MHz (LO) | - | 15 | 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 $\leq 1.2:1$. 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_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 email to sales@vanlong.com.

Package Dimensions (TO-39)



Electrical Connections

| Terminals | Connection |
|-----------|--------------|
| 1 | Input/Output |
| 2 | Output/Input |
| 3 | Case Ground |

Package Dimensions

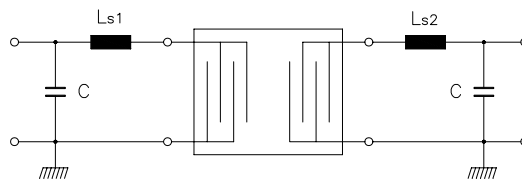
| Dimensions | Nom. (mm) | Tol. (mm) |
|------------|-----------|-----------|
| A | 9.35 | ±0.10 |
| B | 3.40 | ±0.10 |
| C | 3.00 | ±0.20 |
| D | 0.45 | ±0.10 |
| E | 5.08 | ±0.10 |
| F | 2.54 | ±0.20 |
| G | 0.45 | |

Marking



Ink Marking
Color: Black or Blue

Test Circuit



C = 3 ~ 5 pF
Ls1 = Ls2 = 2 tunes of 0.5mm insulated copper, 2.0mm ID

Typical Frequency Response

