

- **Ideal for Receiver in 446.00 MHz**
- **Low-Loss, Coupled-Resonator Quartz Design**
- **Simple External Impedance Matching**
- **Rugged, Hermetic, Low Profile F-11 Package**
- **Complies with Directive 2002/95/EC (RoHS Compliant)**

SF446A

| ABSOLUTE MAXIMUM RATING ($T_A=25^{\circ}\text{C}$) | | |
|--|-----------|--------------------|
| 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 | $^{\circ}\text{C}$ |
| Storage Temperature Range T_{stg} | -40 ~ +85 | $^{\circ}\text{C}$ |

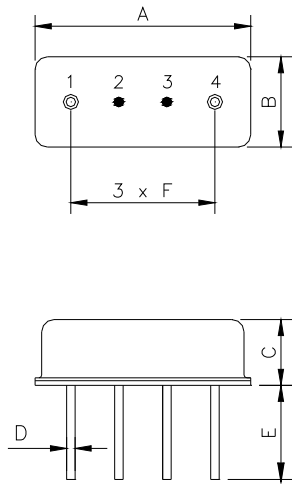
| ELECTRONIC CHARACTERISTICS | | | | | |
|---|----------------|---------|-----------|---------|---------------------|
| Parameter | Sym | Minimum | Typical | Maximum | Unit |
| Nominal Frequency (at 25 $^{\circ}\text{C}$) (Center frequency between 3dB point) | f_c | NS | 446.00 | NS | MHz |
| Insertion Loss 443.00 ... 449.00 MHz | IL | - | 3.5 | 5.0 | dB |
| User Signal Passband | BW | - | ± 3.0 | - | MHz |
| Passband Ripple (p-p) 443.00 ... 449.00 MHz | $\Delta\alpha$ | - | 2.0 | - | dB |
| Attenuation (out of $f_c \pm 30\text{MHz}$) | α_{rel} | 50 | 60 | - | dB |
| Frequency Aging Absolute Value during the First Year | $ fA $ | - | - | 10 | ppm/yr |
| DC Insulation Resistance Between any Two Pins | - | 1.0 | - | - | M Ω |
| Input / Output Impedance (nominal) | - | - | 50//0 | - | $\Omega//\text{pF}$ |

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.
- 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 (F-11)



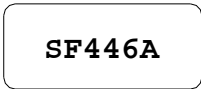
Electrical Connections

| Terminals | Connection |
|-----------|--------------|
| 1 | Input/Output |
| 2 | Case Ground |
| 3 | Case Ground |
| 4 | Output/Input |

Package Dimensions

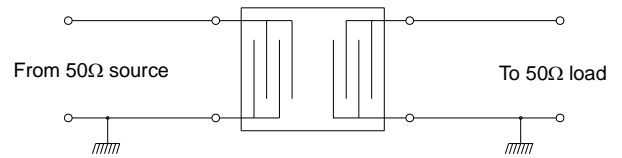
| Dimensions | Nom. (mm) | Tol. (mm) |
|------------|-----------|-----------|
| A | 11.0 | ±0.3 |
| B | 4.5 | ±0.3 |
| C | 3.2 | ±0.3 |
| D | 0.45 | ±0.1 |
| E | 5.0 | ±0.5 |
| F | 2.54 | ±0.2 |

MARKING



Laser or Ink Marking
Color: Black or Blue

TEST CIRCUIT



TYPICAL FREQUENCY RESPONSE

