- ***Ideal for DBS Receivers, IF Filter***
- ***Constant Group Delay***
- ***Improved ESD capability by integrated shunt resistors***
- ***Rugged, Hermetic, Low Profile TO-39 Package***

# SF480-2

| Absolute Maximum Rating (Ta=25°C) | | | |
|---|---|---|---|
| Parameter | | Rating | Unit |
| AC Voltage Between Any Two Pins | $V_{PP}$ | 5 | V |
| DC Voltage Between Any Two Pins | $V_{DC}$ | 0 | V |
| Operating Temperature Range | $T_A$ | -25 ~ +85 | °C |
| Storage Temperature Range | $T_{stg}$ | -40 ~ +85 | °C |

| Electronic Characteristics of Channel 1 | | | | | | |
|---|---|---|---|---|---|---|
| Parameter | | Sym | Minimum | Typical | Maximum | Unit |
| Center Frequency (25°C) | Between 3dB point | $f_C$ | NS | 480.00 | NS | MHz |
| | Tolerance from 480.00 MHz | $\Delta f_C$ | - | - | 1.0 | MHz |
| Insertion Attenuation | | $\alpha$ | - | 21.0 | 22.5 | dB |
| 3dB Bandwidth | | $BW_3$ | - | 27 | - | MHz |
| Relative Attenuation | | | | | | |
| | 466.00 MHz | | - | 3.3 | 4.5 | dB |
| | 493.00 MHz | $\alpha rel$ | - | 2.5 | 4.5 | dB |
| Lower Sidelobe | 430.00 … 452.00 MHz | | 32 | 38 | - | dB |
| Upper Sidelobe | 507.00 … 530.00 MHz | | 30 | 36 | - | dB |
| Reflected Wave Signal Suppression | 0.13µs … 2.0µs after main pulse | - | 40.0 | 49.0 | - | dB |
| Amplitude Ripple (p-p) | 471.00 … 488.00 MHz | $\Delta\alpha$ | - | 0.6 | 1.2 | dB |
| Group Delay Ripple (p-p) | 466.00 … 493.00 MHz | $\Delta\tau$ | - | 11.0 | 18.0 | ns |
| Temperature Coefficient of Frequency | | $FTC$ | - | -86 | - | ppm/K |

| Electronic Characteristics of Channel 2 | | | | | | |
|---|---|---|---|---|---|---|
| Parameter | | Sym | Minimum | Typical | Maximum | Unit |
| Center Frequency (25°C) | Between 3dB point | $f_C$ | NS | 480.00 | NS | MHz |
| | Tolerance from 480.00 MHz | $\Delta f_C$ | - | - | 1.0 | MHz |
| Insertion Attenuation | | $\alpha$ | - | 21.0 | 22.5 | dB |
| 3dB Bandwidth | | $BW_3$ | - | 18 | - | MHz |
| Relative Attenuation | | | | | | |
| | 475.50 MHz | | - | 3.5 | 4.5 | dB |
| | 488.50 MHz | $\alpha rel$ | - | 2.3 | 4.5 | dB |
| Lower Sidelobe | 430.00 … 457.50 MHz | | 32 | 38 | - | dB |
| Upper Sidelobe | 500.50 … 530.00 MHz | | 30 | 36 | - | dB |
| Reflected Wave Signal Suppression | 0.13µs … 2.0µs after main pulse | - | 40.0 | 44.0 | - | dB |
| Amplitude Ripple (p-p) | 476.00 … 483.00 MHz | $\Delta\alpha$ | - | 0.6 | 1.2 | dB |
| Group Delay Ripple (p-p) | 470.50 … 488.50 MHz | $\Delta\tau$ | - | 11.0 | 18.0 | ns |
| Temperature Coefficient of Frequency | | $FTC$ | - | -86 | - | ppm/K |

NS = Not Specified

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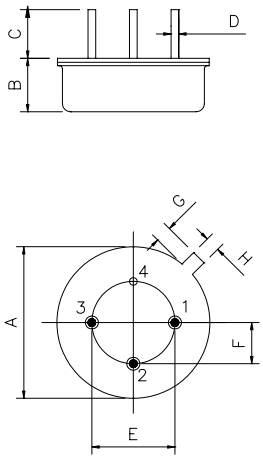
## Notes:

1. The frequency $f_C$ is defined as the midpoint between the 3dB frequencies.
2. 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.
3. Unless noted otherwise, specifications apply over the entire specified operating temperature range.
4. The specifications of this device are based on the test circuit shown above and subject to change or obsolescence without notice.
5. All equipment designs utilizing this product must be approved by the appropriate government agency prior to manufacture or sale.
6. 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.
7. For questions on technology, prices and delivery please contact our sales offices or e-mail sales@vanlong.com.

## Package Dimensions (TO-39-4)




### Electrical Connections

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

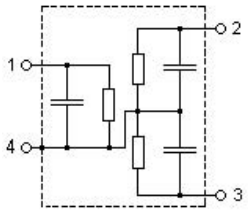
### Package Dimensions

| 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 | 1.0 | |
| H | 0.6 | |

## Marking

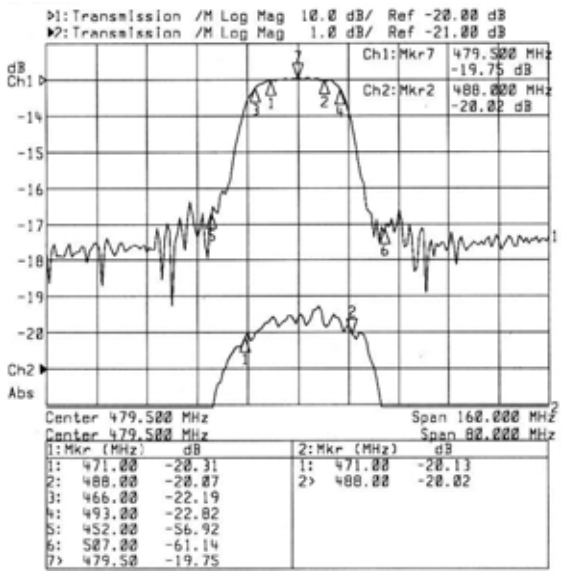

Ink Marking
Color: Black or Blue

## Equivalent LC Model

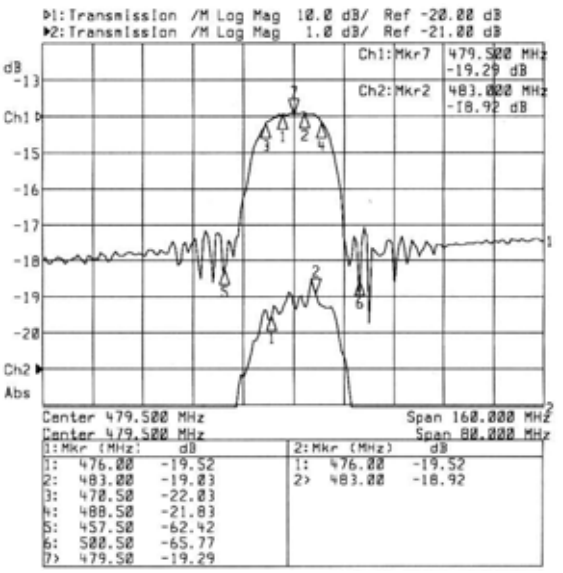



## Typical Frequency Response

### Channel 1




### Channel 2

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