# 480.000 MHz SAW Filter for Satellite Receiver

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

**SF480-1**

| Absolute Maximum Rating (Ta=25°C) | | |
|---|---|---|
| Parameter | Rating | Unit |
| DC Voltage $V_{DC}$ | 0 | V |
| AC Voltage $V_{pp}$ | 5 (50Hz/60Hz) | V |
| Operating Temperature Range | -20 ~ +80 | °C |
| Storage Temperature Range | -40 ~ +85 | °C |

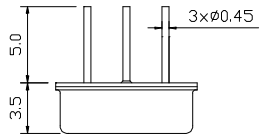
| Specifications | | | | | | |
|---|---|---|---|---|---|---|
| | Parameter | Sym | Minimum | Typical | Maximum | Unit |
| Frequency (25°C) | Nominal Frequency | fc | NS | 480.000 | NS | MHz |
| | Tolerance from 480.000 MHz | Δfc | - | ±1.0 | - | MHz |
| Insertion Loss | | IL | - | 19.5 | 21.0 | dB |
| 3dB Bandwidth | | $BW_3$ | 16.6 | 17.6 | 18.6 | MHz |
| Relative Attention | 471.0 MHz | - | - | 3.4 | 5.4 | dB |
| | 489.0 MHz | - | - | 3.0 | 5.4 | dB |
| Lower Sidelobe | 430.0 ~ 461.0 MHz | - | 38.0 | 50.0 | - | dB |
| Upper Sidelobe | 499.0 ~ 530.0 MHz | - | 38.0 | 45.0 | - | dB |
| Reflected Wave Signal Suppression 0.13μs ~ 2.0μs after Main Pulse | | - | 40.0 | 46.0 | - | dB |
| Amplitude Ripple | 476.0 ~ 484.0 MHz | - | - | 0.3 | 0.6 | dB |
| Group Delay Ripple | 480.0 MHz | - | - | 281.0 | - | ns |
| Impedance at 480 MHz | Input Zin = Rin \|\| Cin | - | - | 70\|\|3.7 | - | Ω\|\|pF |
| | Output Zout = Rout \|\| Cout | - | - | 280\|\|2.5 | - | Ω\|\|pF |
| Temperature Coefficient of Frequency | | FTC | - | -94 | - | ppm/K |
| DC Insulation Resistance Between any Two Pins | | - | 1.0 | - | - | MΩ |

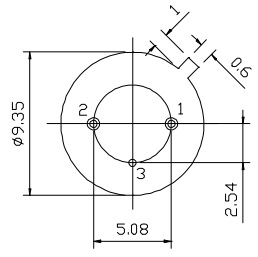
NS = Not Specified

## Notes

1. Unless noted otherwise, all measurements are made with the filter installed in the specified test fixture, which is connected to a 50 Ω test system (VSWR ≤ 1.2:1). The test fixture's L and C are adjusted for minimum insertion loss at the filter center frequency. fc Note the insertion loss, bandwidth, and passband shape are dependent on the impedance matching component values and quality. The optimum impedance matching component values are dependent on circuit parasitic losses.
2. The frequency fc is defined as the midpoint between the 3dB frequency.
3. Unless notes otherwise, specifications apply over the entire specified operating temperature range.
4. The design, manufacturing process, and specifications of this device are subject to change without notice.
5. The turnover temperature, To is the temperature of maximum (or turnover) frequency, fc the nominal frequency at any case temperature, TC, may be calculated from : $f = fc\ [\ 1- FTC(To-Tc)^2]$.

## Package Outline (TO-39-3)




| Pin | Connection |
|---|---|
| 1 | Input/Output |
| 2 | Output/Input |
| 3 | Ground |

All dimensions are in mm

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