api technologies corp.

SF0983BA03280S

# SAW Filter

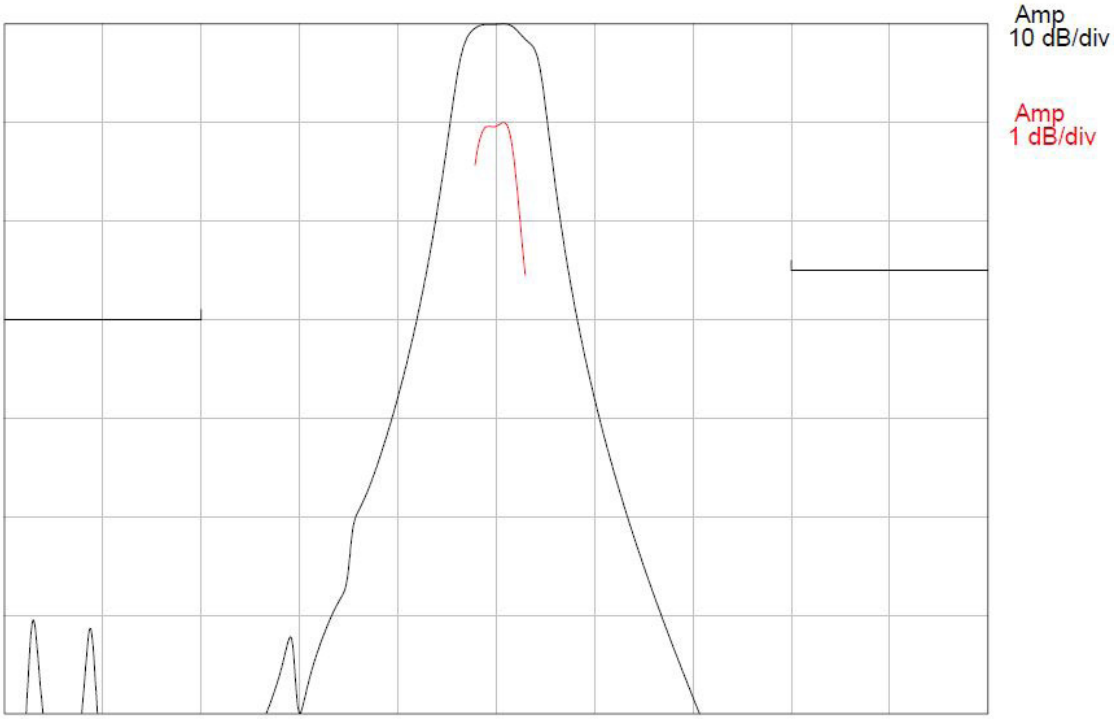
983.04 MHz SAW Bandpass Filter, 0.51 MHz 1 dB Bandwidth



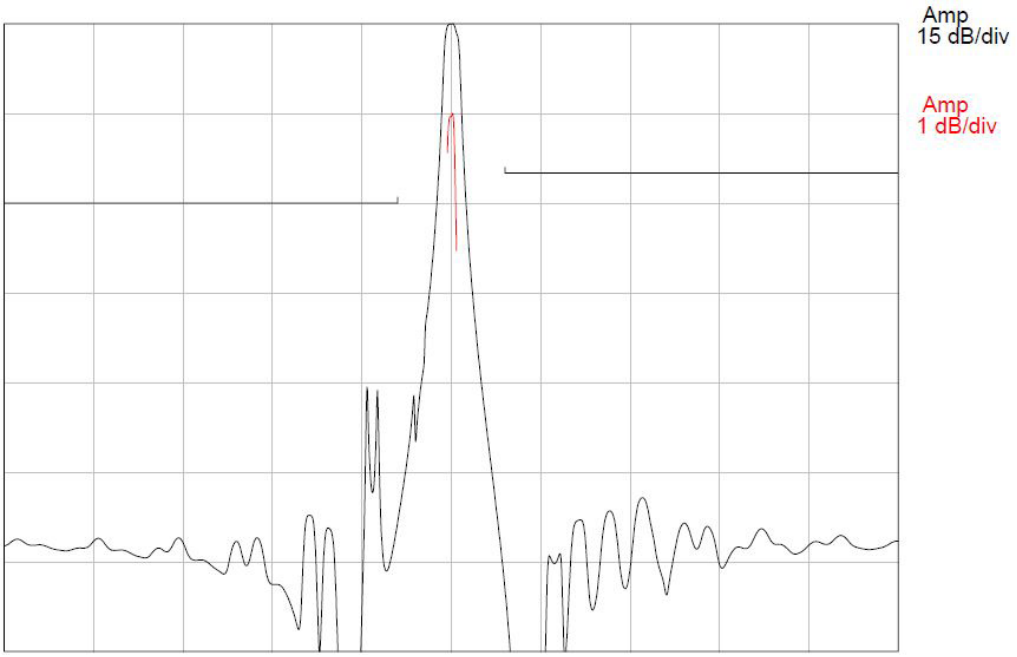
- **3.8 x 3.8 mm Ceramic LCC, 8 Pads**
- **RoHS Compliant**

These filters are manufactured on quartz, which provides optimal temperature performance and are available from 80 -1600 MHz. This TCRF is designed for narrowband IF filtering such as in satellite transponders, directional finders and anti-jam modems. Other packaging styles are available for more rugged environments and applications. Standard part numbers as well as custom solutions are available. Please contact sales for more information.

## *TYPICAL PERFORMANCE*




Center = 983 MHz, 1 MHz/div (6.3 kHz incr)




Center = 983 MHz, 5 MHz/div (31.3 kHz incr)

## SPECIFICATION

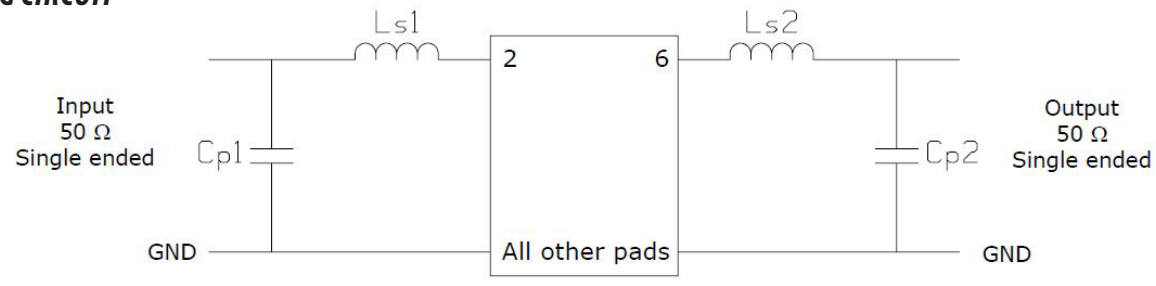
| Parameter | Min | Typ | Max | Units |
|---|---|---|---|---|
| Center Frequency, (Fc) [1] | - | 983.04 | - | MHz |
| Minimum Insertion Loss | - | 7 | 8 | dB |
| Absolute Delay | - | 1.3 | - | µs |
| Amplitude Ripple (982.79-983.29 MHz) | - | 1 | 3 | dB |
| 1 dB Bandwidth [2] | - | 510 | - | kHz |
| 3 dB Bandwidth [2] | 500 | 700 | 900 | kHz |
| 20 dB Bandwidth [2] | - | 1.25 | - | MHz |
| Relative Attenuation (800-980 MHz) [2] | 30 | 55 | - | dB |
| Relative Attenuation (986-1100 MHz) [2] | 25 | 55 | - | dB |
| Turnover Temperature (Tref) [3] | - | 25 | - | °C |
| Temperature Coefficient of Frequency (Tc) [3] | | -0.032 | | ppm/°C² |
| Source and Load Impedance | | 50 | | ohm |
| Ambient Temperature (Tref) | - | 25 | - | °C |

Notes: 1. Reference frequency. Computed as mean of the 1 dB frequencies.
2. All dB values are referenced to the insertion loss value.
3. Typical shift of frequency response with temperature is: $\Delta f = (T-Tref)^2 * Tc * Fc$

## MAXIMUM RATINGS

| Parameter | Min | Max | Units |
|---|---|---|---|
| Storage Temperature Range | -40 | 85 | °C |
| Operating Temperature Range | -40 | 85 | °C |
| Input Power Level | - | +13 | dBm |

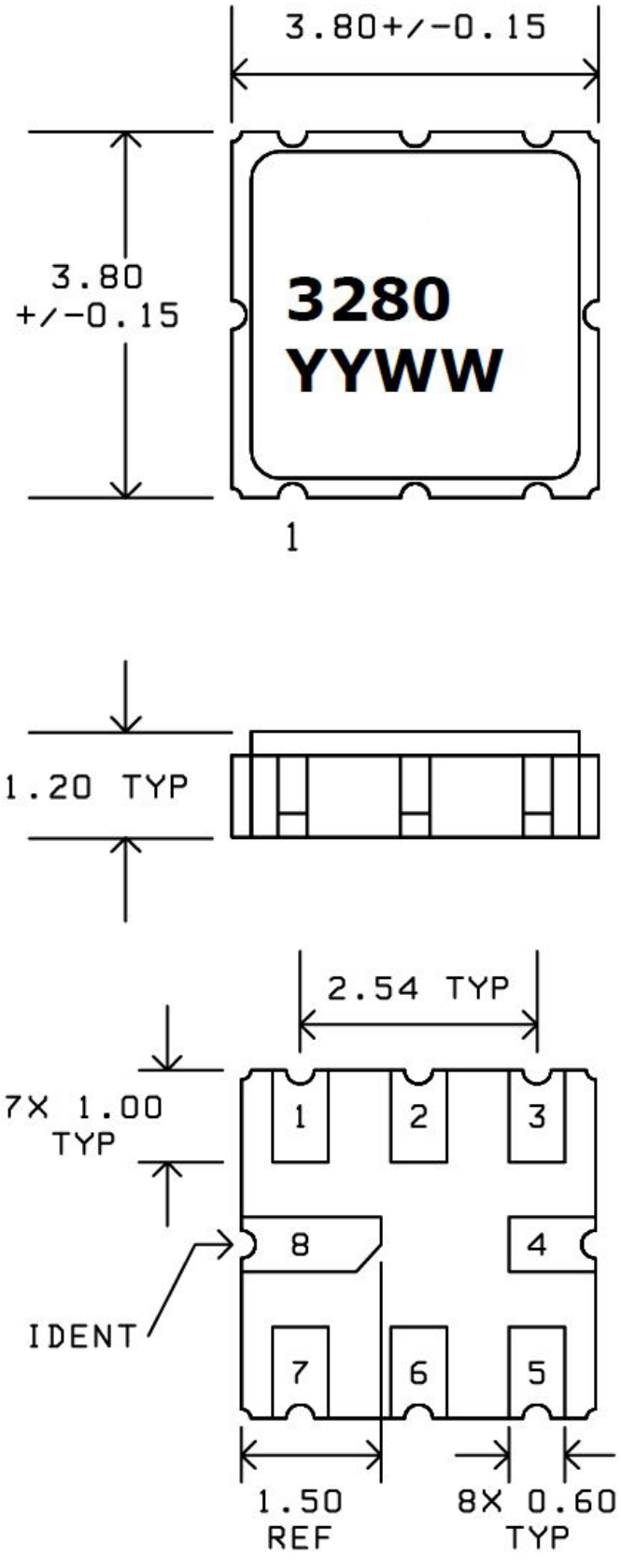
## MATCHING CIRCUIT




Cp1 = 1.5 pF, Ls1 = 27 nH  Ls2 = 27 pF, Cp2 = 1.5 nH

Notes:
- Recommend 2% or better tolerance matching components. Typical inductor Q=45.
- Optimum values may change depending on board layout. Values shown are intended as a guide only.

## *PACKAGE OUTLINE*




**Units:** mm

Tolerances are ± 0.15 mm except where indicated.

**Pad Configuration:**

| | |
|---|---|
| Input: | 2 |
| Output: | 6 |
| Ground: | All other pads |

Package Material:
Body: $Al_2O_3$ ceramic
Lid: *Kovar, Ni* plated
Terminations: *Au* plating 1 µm min, over a 1.3 - 8.9 µm *Ni* plating