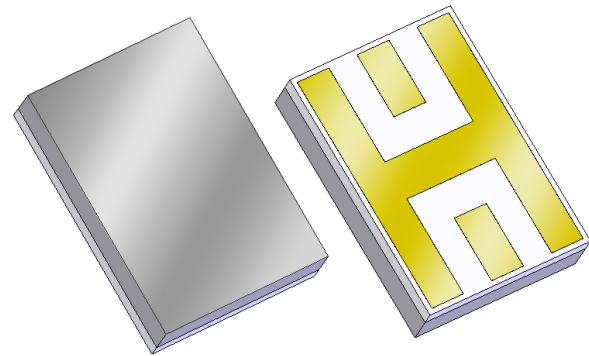


# 880094

## 1575.42 MHz GPS L1 BAW Filter

### Applications

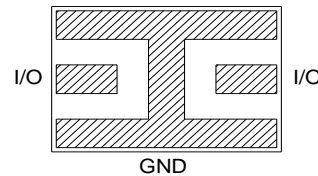
- For GPS L1 Applications
- For high-selectivity applications



### Product Features

- Usable bandwidth 25 MHz
- Low loss
- High selectivity
- Single-ended operation
- Ceramic chip-scale Package (CSP)
- Small Size
- Hermetic **RoHS** compliant, **Pb-free**

### Functional Block Diagram



Overall width, length, and thickness are the only critical dimensions. All other dimensions are for reference only.

Dimensions shown are nominal in millimeters  
All tolerances are  $\pm 0.13\text{mm}$  except overall length and width  $\pm 0.25\text{mm}$

Body: *Sapphire*  
Package: *Alumina*

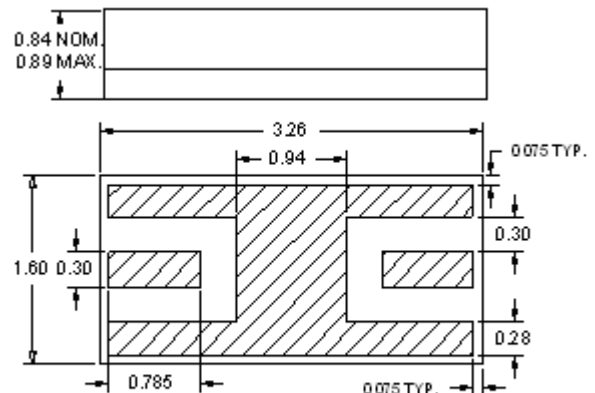
Terminations: *Au* plating 0.5 - 2.5 $\mu\text{m}$ , over a 2.0 – 6.0  $\mu\text{m}$  *Ni* plating

### Pin Configuration

| Pin # | SE-Balanced | Description  |
|-------|-------------|--------------|
| I/O   |             | Input/Output |
| GND   |             | Ground       |

### Ordering Information

| Part No.          | Description      |
|-------------------|------------------|
| 880094            | packaged part    |
| 880094 Eval Board | evaluation board |



## Specifications

### Electrical Specifications <sup>(1)</sup>

Specified Temperature Range: <sup>(2)</sup> -40 to +85 °C

| Parameter <sup>(3)</sup>                          | Conditions                    | Min     | Typical <sup>(4)</sup> | Max     | Units |
|---|-------------------------------|---------|------------------------|---------|-------|
| Center Frequency                                  |                               | -       | 1575.42                | -       | MHz   |
| Maximum Insertion Loss                            | @ 1575.42 MHz                 | -       | 1.8                    | 2.5     | dB    |
| 3dB Bandwidth                                     | Reference loss at 1575.42 MHz | 30      | 35                     | -       | MHz   |
| 20dB Lower Frequency Edge                         |                               | 1543.42 | 1548                   | -       | MHz   |
| 20dB Upper Frequency Edge                         |                               | -       | 1602                   | 1607.42 | MHz   |
| VSWR  | @ 1575.42 MHz                 | -       | 1.6                    | 2.0     | -     |
| Source Impedance (single-ended)<br><sup>(5)</sup> |                               | -       | 50                     | -       | Ω     |
| Load Impedance (single-ended) <sup>(5)</sup>      |                               | -       | 50                     | -       | Ω     |

Notes:

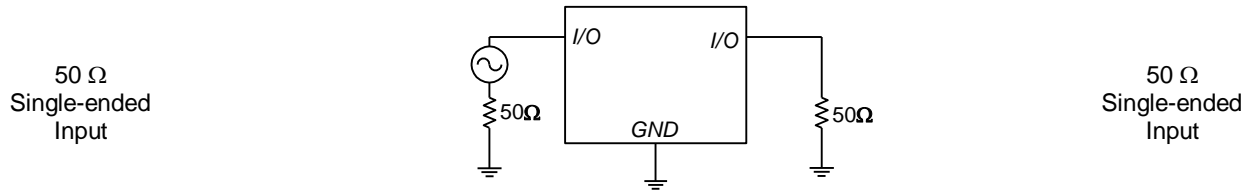
1. All specifications are based on the TriQuint schematic for the main reference design shown on page 3
2. In production, devices will be tested at room temperature to a guardbanded specification to ensure electrical compliance over temperature
3. Electrical margin has been built into the design to account for the variations due to temperature drift and manufacturing tolerances
4. Typical values are based on average measurements at room temperature
5. This is the optimum impedance in order to achieve the performance shown

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## Reference Design

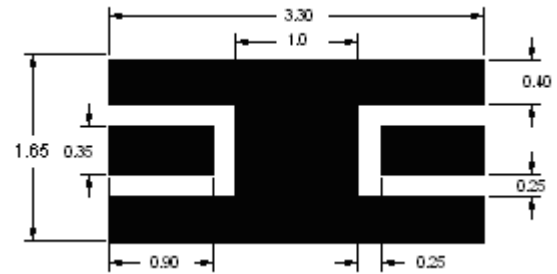
### Schematic



### PC Board

Refer to [PCB Layout](#) for more information.

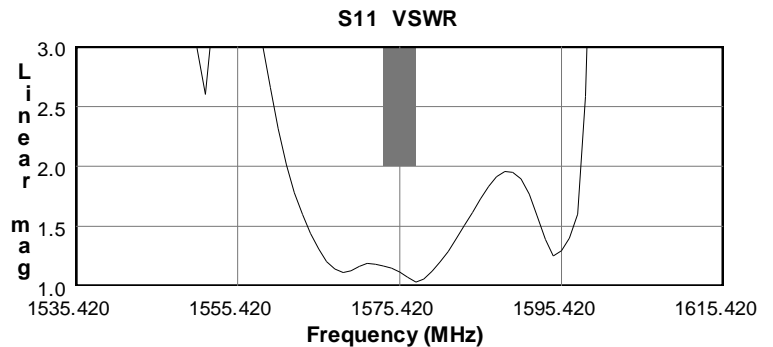
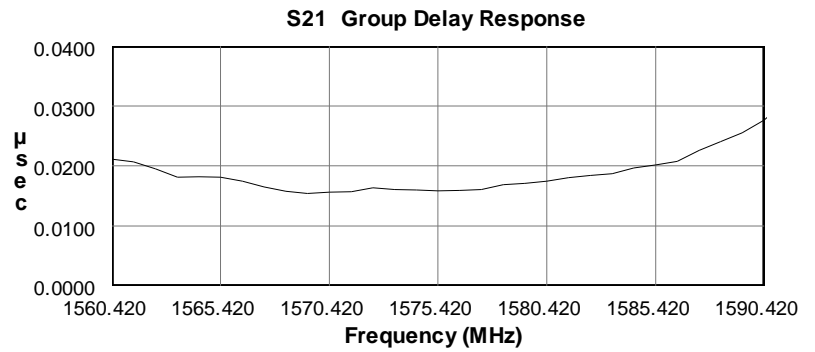
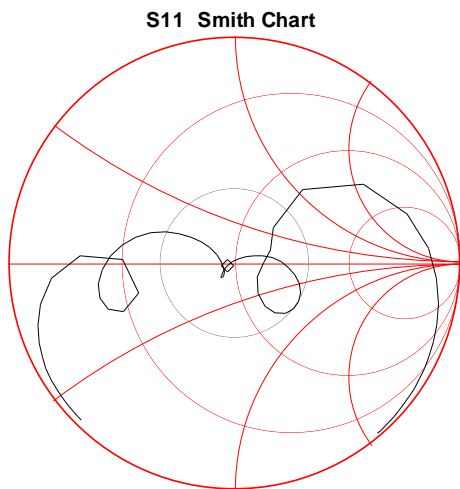
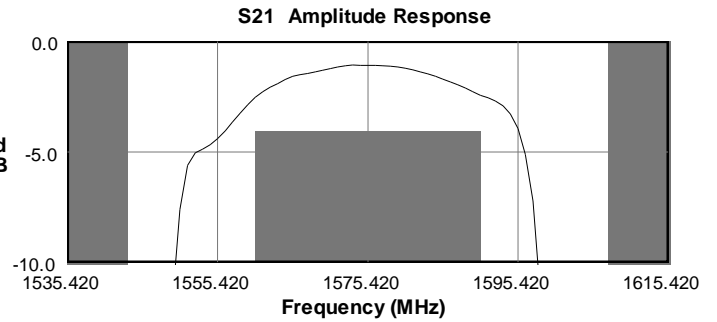
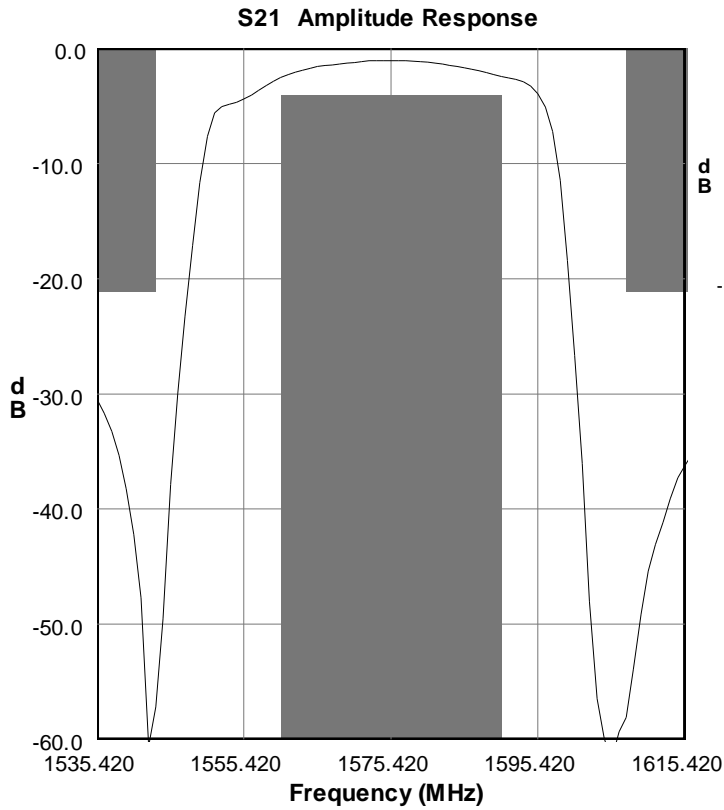
### Mounting Configuration



#### Notes:

1. All dimensions are in millimeters.
2. This footprint represents a recommendation only.

### Typical Performance (at room temperature)

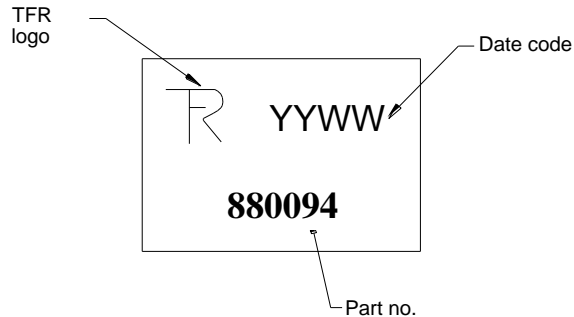


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## Mechanical Information

### Marking



The date code consists of: YY = last digit of year,  
WW = 2 digit week

## Tape and Reel Information

Tape and Reel available upon request  
EIA-481

Tinning available per J-STD-001

### Absolute Maximum Ratings

| Parameter             | Rating         |
|-----------------------|----------------|
| Operating Temperature | -40 to +85 °C  |
| Storage Temperature   | -55 to +100 °C |
| Maximum Input Power   | +23 dBm        |

Operation of this device outside the parameter ranges given above may cause permanent damage.

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## 1575.42 MHz GPS L1 BAW Filter

### Product Compliance Information

#### ESD Information



#### Caution! ESD-Sensitive Device

Value: Passes  $\geq 8000$  V min.  
Test: Human Body Model (HBM)  
Standard: JEDEC Standard JESD22-A114

Value: Passes  $\geq 1600$  V min.  
Test: Machine Model (MM)  
Standard: JEDEC Standard JESD22-A115

Refer to [ESD Sensitivity](#) for data

#### Solderability

Compatible with the latest version of J-STD-020, lead free solder, 260°C

Refer to [Soldering Profile](#) for recommended guidelines.

This part is compliant with EU 2002/95/EC RoHS directive (Restrictions on the Use of Certain Hazardous Substances in Electrical and Electronic Equipment).

This product also has the following attributes:

- Halogen Free (Chlorine, Bromine)
- Antimony Free
- TBBP-A (C<sub>15</sub>H<sub>12</sub>Br<sub>4</sub>O<sub>2</sub>) Free
- PFOS Free
- SVHC Free

### Contact Information

For the latest specifications, additional product information, worldwide sales and distribution locations, and information about TriQuint:

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