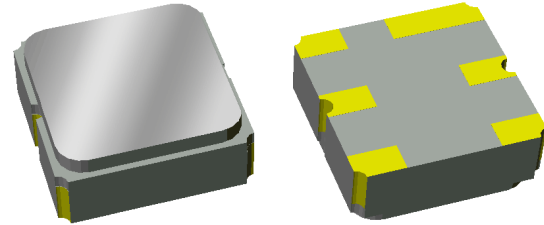


856880


1880 MHz SAW Filter

Applications

- General purpose wireless
- Wireless infrastructure
- Base Station applications



Product Features

- Usable bandwidth 60 MHz
- Low Loss
- Excellent power handling
- Single-ended operation
- No matching required for operation at 50Ω
- Small Size: 3.00 x 3.00 x 1.22 mm
- Ceramic Surface Mount Package (SMP)
- Hermetically Sealed
- RoHS compliant, Pb-free 

General Description

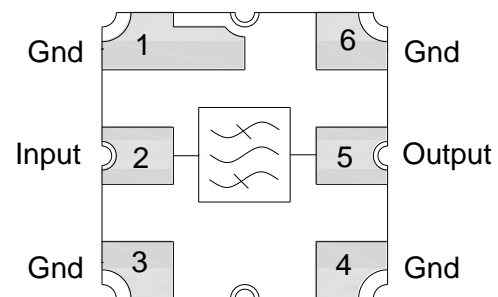
856880 is a general purpose Uplink filter for Band 2. This filter was specifically designed in a 3x3mm hermetic package for base station applications and is part of our wide portfolio of RF filters in the same package.

Low insertion loss, coupled with low amplitude variation and high attenuation makes this filter a natural choice for our customers uplink RF filtering needs.

No matching components are required, making filter implementation easy.

Functional Block Diagram

Top view



Pin Configuration

| Pin # SE | Description |
|----------|-------------|
| 2 | Input |
| 5 | Output |
| 1,3,4,6 | Case Ground |

Ordering Information

| Part No. | Description |
|------------|------------------|
| 856880 | packaged part |
| 856880-EVB | evaluation board |

Standard T/R size = 5000 units/reel.

Specifications

Electrical Specifications ⁽¹⁾

Specified Temperature Range: ⁽²⁾ -30 to +85 °C

| Parameter ⁽³⁾ | Conditions | Min | Typical ⁽⁴⁾ | Max | Units |
|--|-----------------|-----|------------------------|-----|---------|
| Center Frequency | | - | 1880 | - | MHz |
| Maximum Insertion Loss | 1850 – 1910 MHz | - | 2.3 | 3.0 | dB |
| Amplitude Variation | 1850 – 1910 MHz | - | 0.5 | 1.0 | dB p-p |
| Amplitude Variation over any 5MHz window | 1850 – 1910 MHz | - | 0.2 | 0.8 | dB p-p |
| Phase Ripple | 1850 – 1910 MHz | - | 12 | 30 | deg p-p |
| Group Delay Variation | 1850 – 1910 MHz | - | 7.7 | 25 | ns p-p |
| Absolute Group Delay | 1850 – 1910 MHz | - | 10 | 30 | ns |
| Relative Attenuation ⁽⁵⁾ | 50 – 110 MHz | 35 | 55.5 | - | dB |
| | 300 – 400 MHz | 35 | 45.0 | - | dB |
| | 920 – 965 MHz | 35 | 41.0 | - | dB |
| | 965 – 1300 MHz | 25 | 40.5 | - | dB |
| | 1300 – 1635 MHz | 25 | 37.0 | - | dB |
| | 1635 – 1665 MHz | 25 | 37.7 | - | dB |
| | 1665 – 1730 MHz | 25 | 34.7 | - | dB |
| | 1730 – 1790 MHz | 10 | 19.7 | - | dB |
| | 2030 – 2090 MHz | 20 | 25.2 | - | dB |
| | 2573 – 2621 MHz | 30 | 34.2 | - | dB |
| | 4074 – 4162 MHz | 20 | 31.0 | - | dB |
| | 4791 – 4879 MHz | 18 | 23.0 | - | dB |
| Input/output VSWR | 1850 – 1910 MHz | - | 1.75 | 2:1 | - |
| Source Impedance ⁽⁶⁾ | Single-ended | - | 50 | - | Ω |
| Load Impedance ⁽⁶⁾ | Single-ended | - | 50 | - | Ω |

Notes:

- All specifications are based on the TriQuint schematic shown on page 3
- In production, devices will be tested at room temperature to a guardbanded specification to ensure electrical compliance over temperature
- Electrical margin has been built into the design to account for the variations due to temperature drift and manufacturing tolerances
- Typical values are based on average measurements at room temperature, unless otherwise noted
- Relative to maximum insertion loss in passband
- This is the optimum impedance in order to achieve the performance shown

Absolute Maximum Ratings

| Parameter | Rating |
|----------------------------|---------------|
| Operable Temperature | -40 to +85 °C |
| Storage Temperature | -40 to +85 °C |
| Input Power ⁽⁷⁾ | +22 dBm |

- Input Power is targeted for an applied CW modulated RF in the 1850 – 1910 MHz band at 55 °C for a minimum of 125 hrs

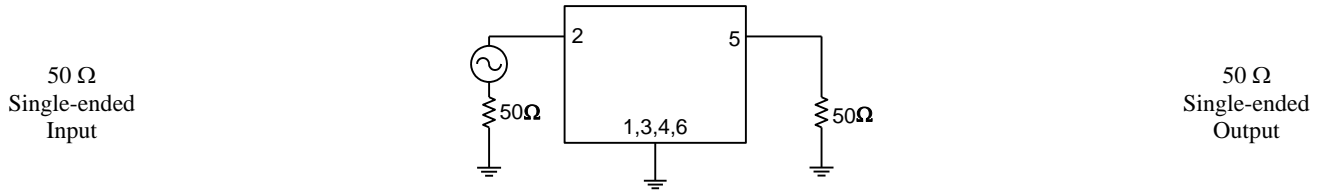
Operation of this device outside the parameter ranges given above may cause permanent damage.

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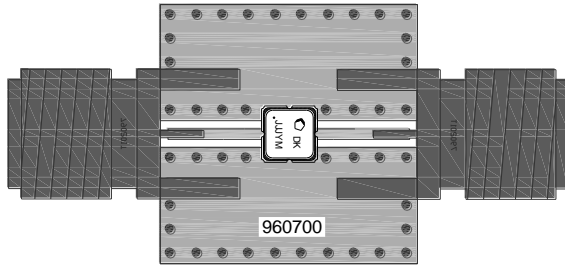
1880 MHz SAW Filter

Reference Design

Schematic



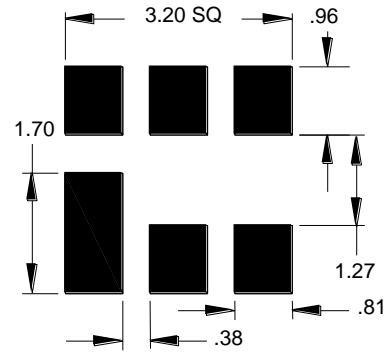
PC Board



Notes:

- Top, middle & bottom layers: 1 oz copper
- Substrates: FR4 dielectric, .031" thick
- Finish plating: Nickel: 3-8 μ m thick, Gold: .03-.2 μ m thick
- Hole plating: Copper min .0008 μ m thick

Mounting Configuration



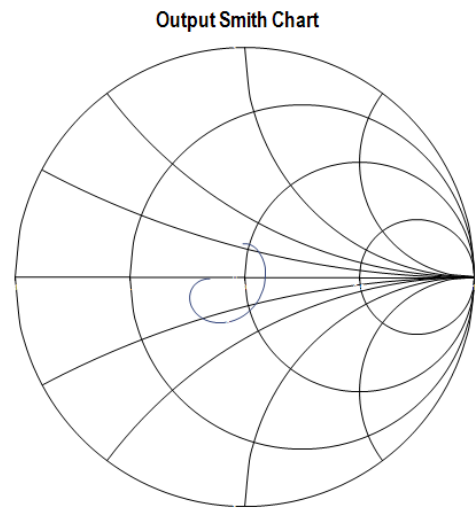
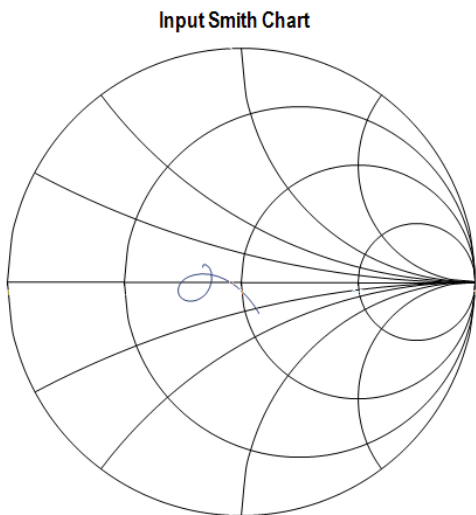
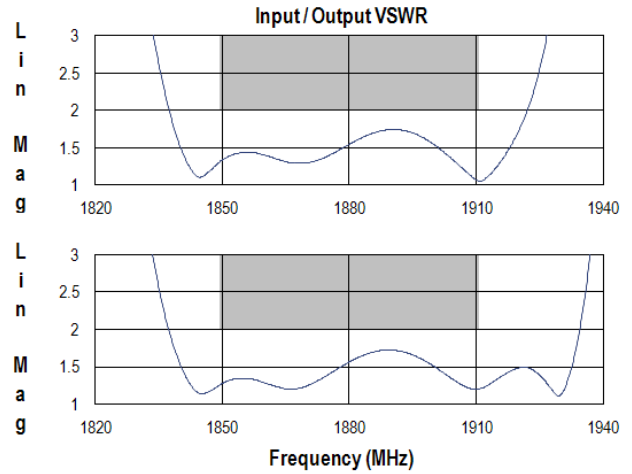
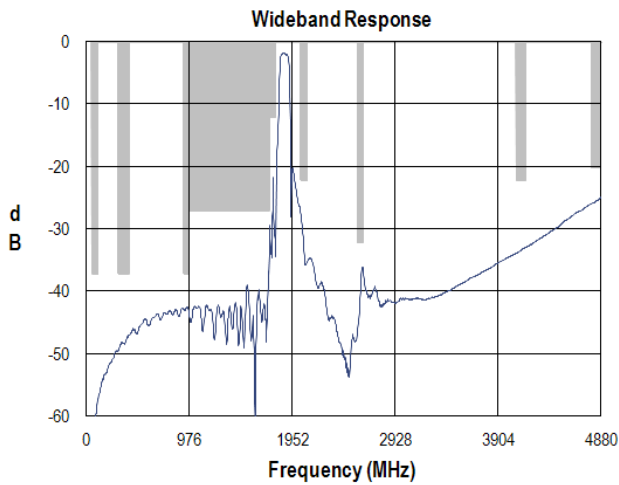
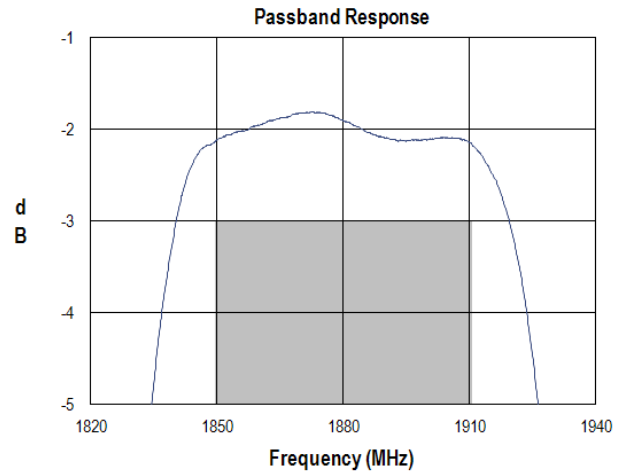
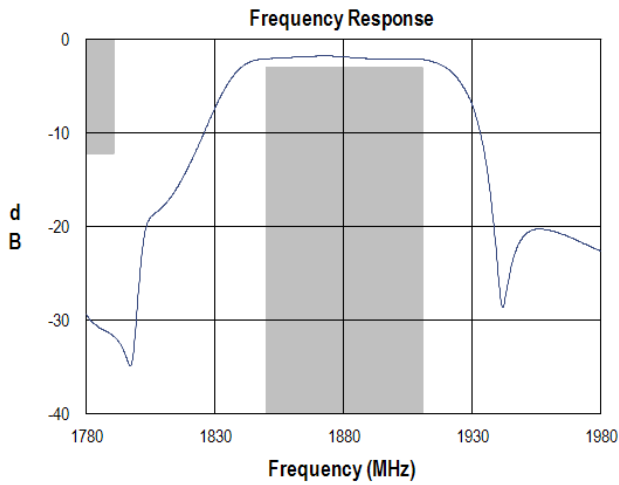
Notes:

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

Bill of Material

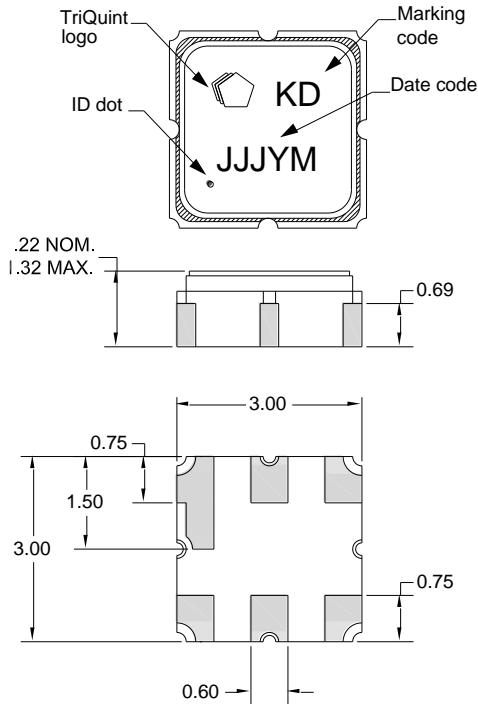
| Reference Desg. | Value | Description | Manufacturer | Part Number |
|-----------------|-------|---------------|------------------|---------------|
| SMA | N/A | SMA connector | Radiall USA Inc. | 9602-1111-018 |
| PCB | N/A | 3-layer | multiple | 960700 |

Typical Performance (at room temperature)



Mechanical Information

Package Information, Dimensions and Marking



Package Style: SMP-12A
 Dimensions: 3.00 x 3.00 x 1.22 mm

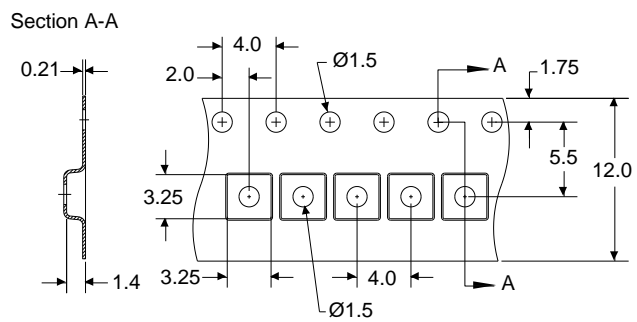
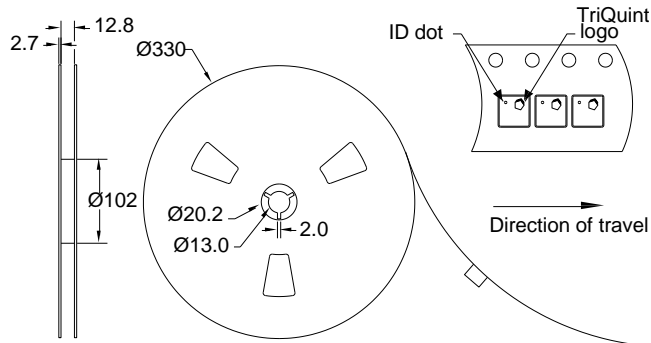
Body: Al_2O_3 ceramic
 Lid: Kovar, Ni plated
 Terminations: Au plating 0.5 - 1.0 μ m, over a 2-6 μ m Ni plating

All dimensions shown are nominal in millimeters
 All tolerances are ± 0.15 mm except overall length and width ± 0.10 mm

The date code consists of: day of the current year (Julian, 3 digits), Y = last digit of the year, and M = manufacturing site code

Tape and Reel Information

Standard T/R size = 5000 units/reel. All dimensions are in millimeters



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1880 MHz SAW Filter

Product Compliance Information

ESD Information



Caution! ESD-Sensitive Device

ESD Rating: 0

Value: Passes $\geq 50V$ min.
Test: Human Body Model (HBM)
Standard: JEDEC Standard JESD22-A114

ESD Rating: A

Value: Passes $\geq 50V$ min.
Test: Machine Model (MM)
Standard: JEDEC Standard JESD22-A115

MSL Rating

Devices are Hermetic, therefore MSL is not applicable

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 (C₁₅H₁₂Br₄O₂) 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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Email: flapplication.engineering@tqs.com

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- Конкурентоспособные цены и скидки постоянным клиентам.
- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- Комплексную поставку.
- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
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- Регистрацию проекта у производителя компонентов.
- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



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