

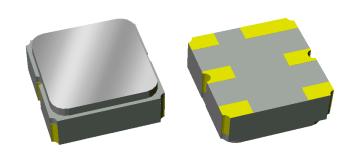
Data Sheet

Part Number 856657 897.5 MHz SAW Filter

Features

- Usable bandwidth 35 MHz
- For GSM-900 base station applications
- Low loss
- High Attenuation
- Single-ended operation
- No impedance matching required for operation at 50 Ω
- Ceramic Surface Mount Package (SMP)
- Hermetic
- RoHS compliant (2002/95/EC), Pb-free (Ph)

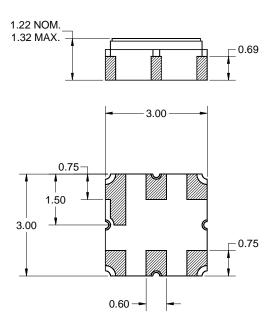




Package

Surface Mount 3.00 x 3.00 x 1.22 mm

SMP-12A

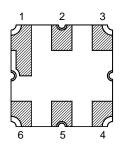


Dimensions shown are nominal in millimeters All tolerances are ± 0.15 mm except overall length and width ± 0.10 mm

Body: Al₂O₃ ceramic Lid: Kovar, Ni plated Terminations: Au plating 0.5 - 1.0μm, over a 2 - 6μm Ni plating

Pin Configuration

Bottom View



| Pin No. | Description |
|---------|-------------|
| 2 | Input |
| 5 | Output |
| 1.3.4.6 | Case ground |



Data Sheet

Electrical Specifications (1)

Operating Temperature Range: (2) -40 to +85 °C

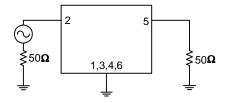
| Parameter (3) | Minimum | Typical (4) | Maximum | Unit |
|----------------------------------|---------|-------------|---------|--------|
| Center Frequency | - | 897.5 | - | MHz |
| Maximum Insertion Loss | | | | |
| 880 - 915 MHz | - | 1.5 | 2.25 | dB |
| Absolute Attenuation | | | | |
| 738 - 773 MHz | 40 | 45 | - | |
| 773 - 836 MHz | 20 | 25 | - | |
| 836 - 860 MHz | 17 | 20 | - | dB |
| 930 - 935 MHz | 15 | 18 | - | |
| 935 - 960 MHz | 15 | 18 | - | |
| 960 - 1000 MHz | 20 | 24 | - | |
| Amplitude Variation (5) | | | | |
| 880 - 915 MHz | - | 0.5 | 1.3 | dB p-p |
| Input/Output VSWR | | | | |
| 880 - 915 MHz | - | 1.8:1 | 2:1 | dB |
| RF Power Handling ⁽⁶⁾ | - | - | 17 | dBm |
| Load /Source Impedance (7) | - | 50 | - | Ω |

Notes:

- 1. All specifications are based on TriQuint test circuit shown below
- 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. Describes the total variation over the defined frequency range
- 6. Power handling is targeted for an applied CW modulated RF signal at 55 oC for 10,000 hours. The filter is also able to sustain an instantaneous 20dBm signal without decay
- 7. This is the optimum impedance in order to achieve the performance shown

Test Circuit:

 $50~\Omega$ Single-ended

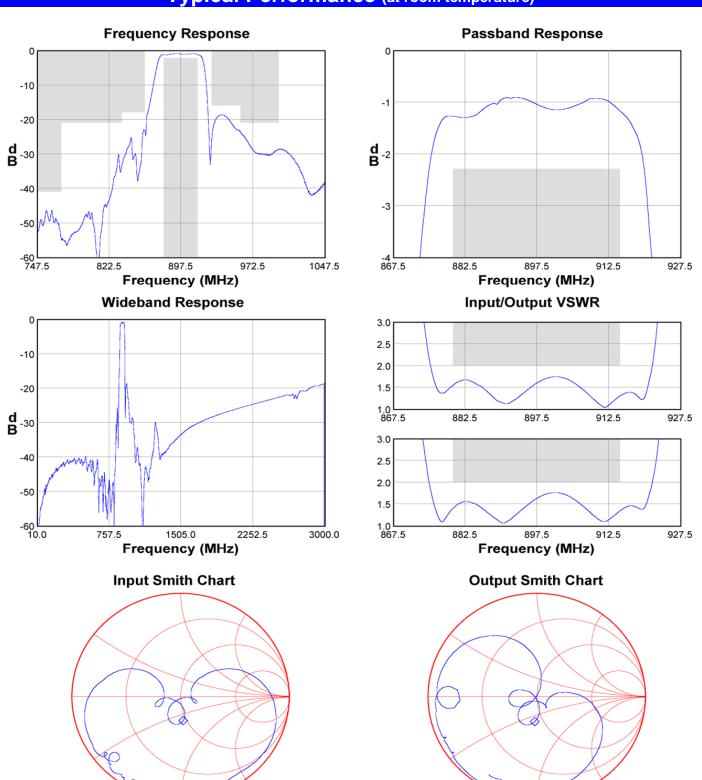


 $50~\Omega$ Single-ended



Data Sheet

Typical Performance (at room temperature)

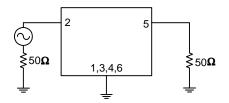




Data Sheet

Matching Schematics

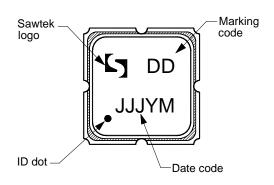
 $50~\Omega$ Single-ended



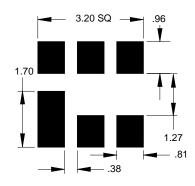
 $50~\Omega \\ \text{Single-ended}$

Marking

PCB Footprint

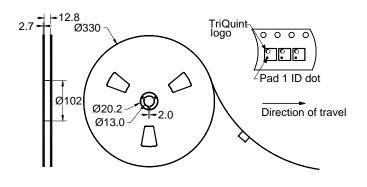


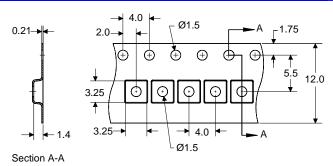
The date code consists of: JJJ = Julian day, Y = last digit of year, M = manufacturing site code



This footprint represents a recommendation only Dimensions shown are nominal in millimeters

Tape and Reel





Dimensions shown are nominal in millimeters Packaging quantity: 5000 units/reel



Data Sheet

| Maximum Ratings | | | | | | | |
|-----------------------------|-----------|---------|---------|------|--|--|--|
| Parameter | Symbol | Minimum | Maximum | Unit | | | |
| Operating Temperature Range | Т | -40 | +85 | °C | | | |
| Storage Temperature Range | T_{stg} | -40 | +85 | °C | | | |

Important Notes

Warnings

Electrostatic Sensitive Device (ESD)



Avoid ultrasonic exposure

RoHS Compliance

This product complies with EU directive 2002/95/EC (RoHS)



Solderability

Compatible with JESD22-B102, Pb-free process, 260C peak reflow temperature (see soldering profile)

Links to Additional Technical Information

PCB Layout Tips Qualification Flowchart Soldering Profile

S-Parameters **RoHS Information** Other Technical Information

TriQuint's liability is limited only to the Surface Acoustic Wave (SAW) component(s) described in this data sheet. TriQuint does not accept any liability for applications, processes, circuits or assemblies, which are implemented using any TriQuint component described in this data sheet.

Contact Information

TriQuint 🕥 **SEMICONDUCTOR** PO Box 609501

Orlando, FL 32860-9501 USA

Phone: +1 (407) 886-8860 Fax: +1 (407) 886-7061 Email: info-product@tqs.com Web: www.triquint.com

Or contact one of our worldwide Network of sales offices, Representatives or distributors