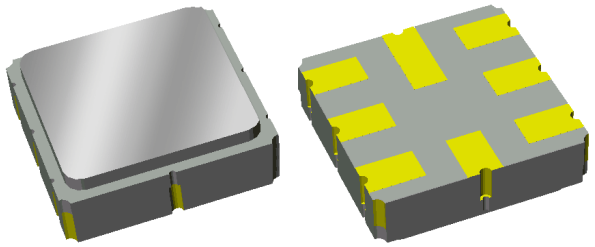
856866

756 MHz SAW Filter

Applications

- For broadband wireless access applications.

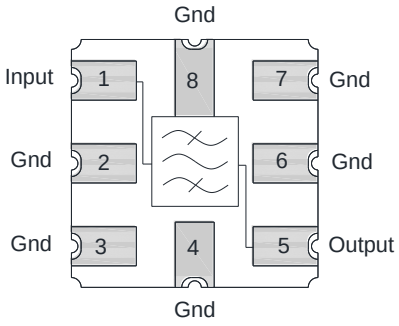


SMP-15, 3.8 x 3.8 x 1.27 mm

Product Features

- Usable bandwidth 20 MHz
- Low loss
- High attenuation
- Single-ended operation
- No external matching required for operation at 50 Ω
- Small size: 3.8 x 3.8 x 1.27 mm
- Ceramic Surface Mount Package (SMP)
- Hermetically sealed
- RoHS (2002/95/EC) compliant, Pb-free

Functional Block Diagram



Top View

General Description

The 856866 is a high-performance IF SAW filter with a center frequency of 756 MHz and a usable bandwidth of 20 MHz

It features low loss with excellent attenuation, and is designed to be used with a balanced input and output.

Pin Configuration

Pin No.	Label
1	Input
5	Output
2,6	Ground
3,4,7,8	Case Ground

Ordering Information

Part No.	Description
856866	Packaged Part
856866-EVB	Evaluation board

Standard T/R size = 4000 units/reel

Absolute Maximum Ratings

Parameter	Rating
Storage Temperature (1)	-40 to +85 °C
Operable Temperature (2)	-40 to +85 °C

1. Operation of this device outside the parameter ranges given may cause permanent damage.
2. Specifications are not guaranteed over all operable conditions.

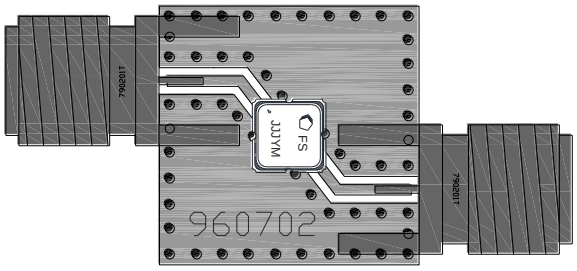
Electrical Specifications (1)

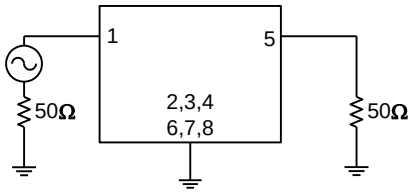
Test conditions unless otherwise noted: (2) Temperature Range -40 to +85 °C

Parameter (3)	Conditions	Min	Typical (4)	Max	Units
Center Frequency		-	756	-	MHz
Minimum Insertion Loss		-	0.9	2.5	dB
1.0 dB Bandwidth (5) Lower 1.0 dB Band Edge (5) Upper 1.0 dB Band Edge (5)		- - 766	29.15 740.85 770.86	- 746 -	MHz
Amplitude Variation (7)	746 – 766 MHz	-	0.4	1.0	dB p-p
Group Delay Variation (7)	746 – 766 MHz	-	13.2	75	ns p-p
Absolute Attenuation (6)	10 – 616 MHz 616 – 716 MHz 784 – 788 MHz 796 – 896 MHz 896 – 1005 MHz 1005 – 1092 MHz 1092 – 1500 MHz	40 30 15 30 40 30 40	46 36 18 35 43 34 54	- - - - - - -	dB
Source/Load Impedance (8)	Single-ended	-	50	-	Ω

Notes:
1. All specifications are based on the TriQuint schematic reference design shown on page 3.
2. In production, devices will be tested at room temperature to a guard-banded 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. Relative to minimum insertion loss.
6. Absolute attenuation measurements are referenced to zero dB.
7. Total variation over the defined frequency range.
8. This is the optimum impedance in order to achieve the performance shown

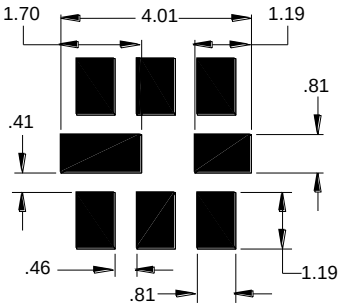
Evaluation Board





Notes:
3-layers board - top, middle & bottom layer: 1 oz copper
Substrates: .031" thick FR4 dielectric.
Finish plating: Nickel: 3-8 µm thick, Gold: .03-.2 µm thick
Hole plating: Copper min .0008 µm thick

PCB Mounting Pattern



Notes:

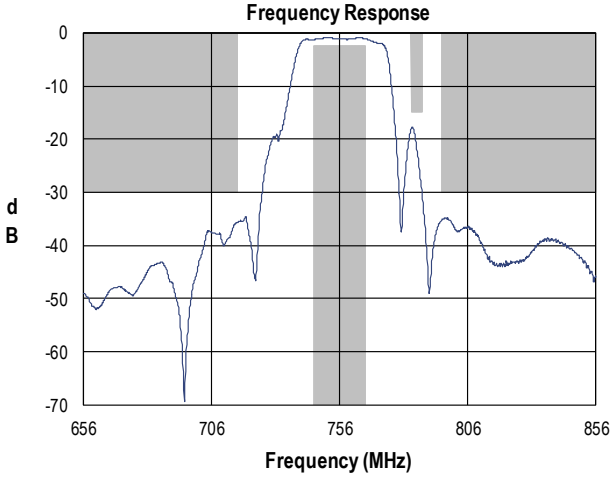
1. All dimensions are in millimeters. Angles are in degrees.
2. This drawing specifies the mounting pattern used on the TriQuint evaluation board for this product. Some modification may be necessary to suit end user assembly materials and processes.

Bill of Material

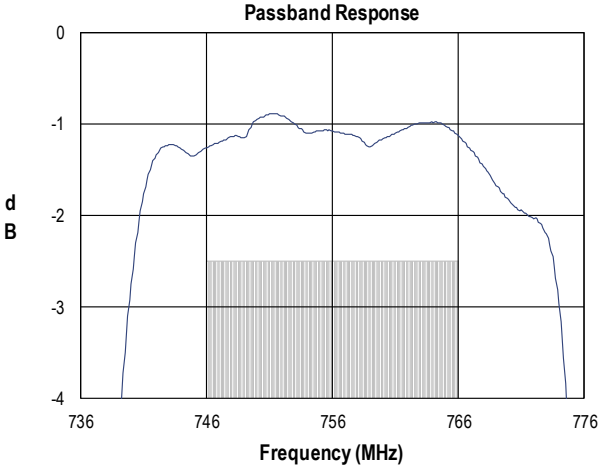
Reference Des.	Value	Description	Manuf.	Part Number
SMA	N/A	SMA connector	Johnson Components	142-0701-801
PCB	N/A	3-layer	Multiple	960702

Performance Plots (Test conditions unless otherwise noted: Temp.= +25 °C)

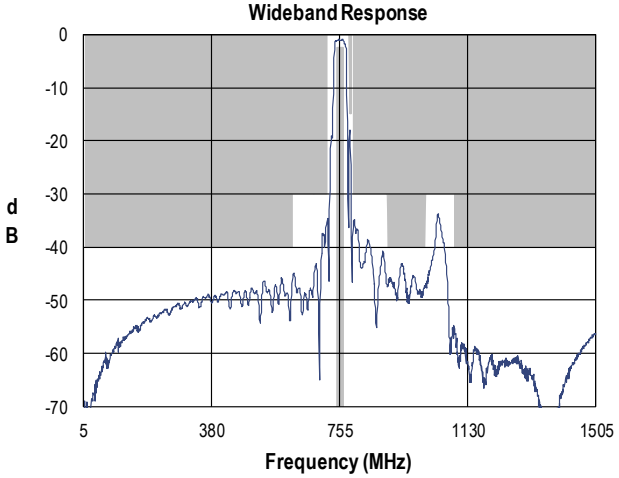
Frequency Response



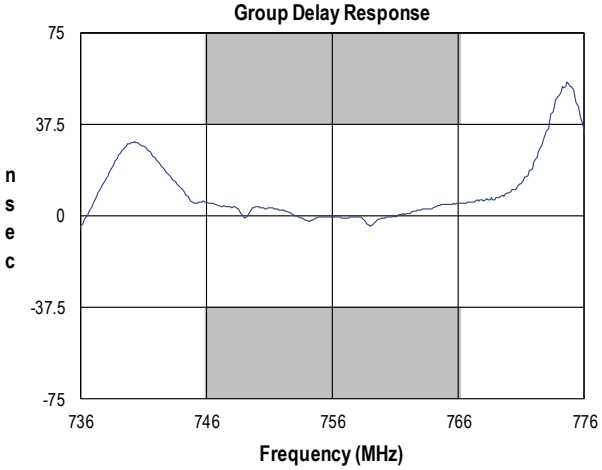
Passband Response



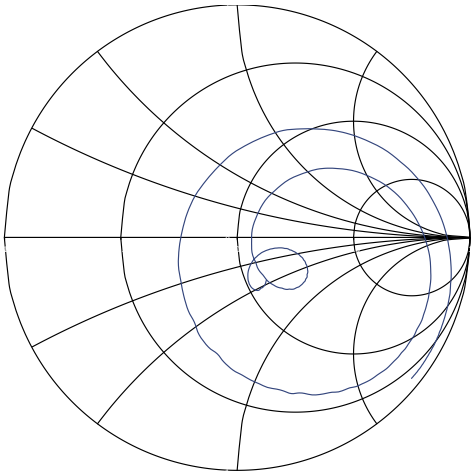
Wideband Response



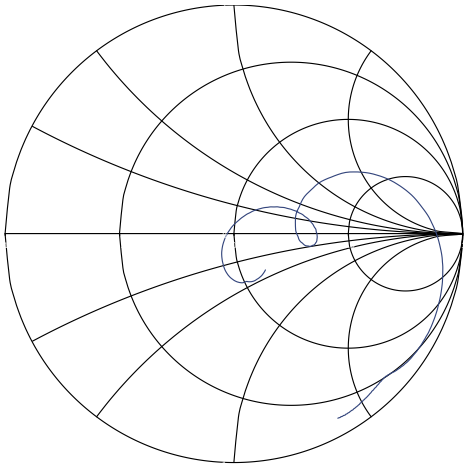
Group Delay Response



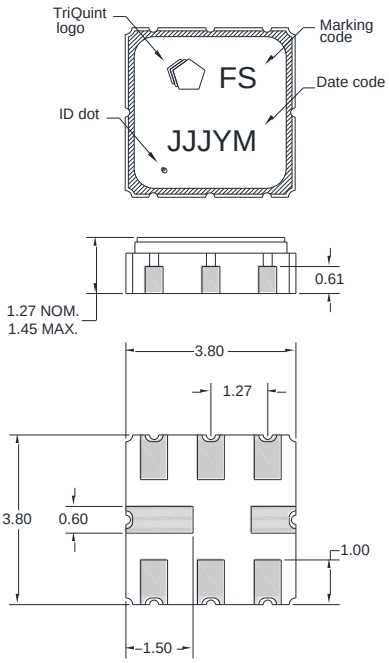
Input Smith Chart



Output Smith Chart



Mechanical Information



Package Style: SMP-15
Dimensions: 3.8 x 3.8 x 1.27 mm

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

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

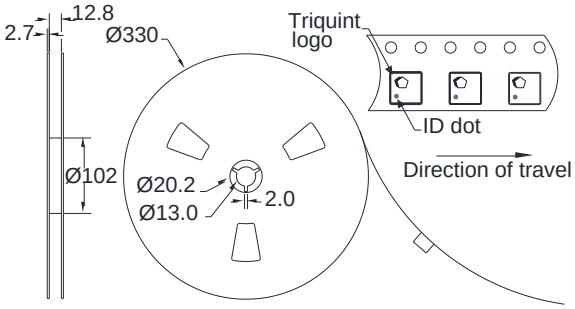
The date code consists of: day of the current year (Julian,
3 digits), Y = last digit of the year, and M = manufacturing site code

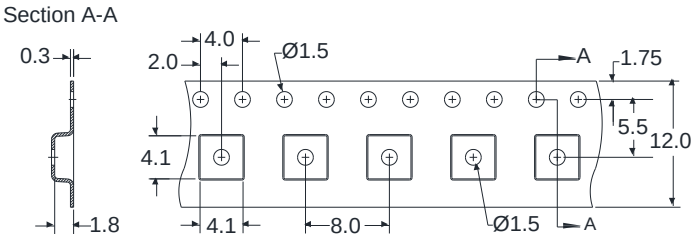
Notes:

1. All dimensions shown are typical in millimeters
2. An asterisk (*) in front of the marking code indicates prototype.

Tape and Reel information

Standard T/R size = 4000 units / reel. All dimensions are in millimeters





Product Compliance Information

ESD Sensitivity Ratings

Caution! ESD-Sensitive Device

ESD Rating: 1B
Value: Passes ≥ 700 V min.
Test: Human Body Model (HBM)
Standard: ESDA/JEDEC JS-001-2012

ESD Rating: B
Value: Passes ≥ 300 V min.
Test: Machine Model (MM)
Standard: JEDEC Standard JESD22-A115

MSL Rating

Not applicable. Hermetic package.

Solderability

Compatible with both lead-free (260 °C maximum reflow temperature) and tin/lead (245 °C maximum reflow temperature) soldering processes.

Refer to **Soldering Profile** for recommended guidelines.

RoHs Compliance

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:

- Lead Free
- Halogen Free (Chlorine, Bromine)
- Antimony Free
- TBBP-A ($C_{15}H_{12}Br_4O_2$) Free
- PFOS Free
- SVHC Free

Contact Information

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

Web: www.triquint.com **Tel:** +1.407.886.8860
Email: info-sales@tqs.com **Fax:** +1.407.886.7061

For technical questions and application information:

Email: flapplication.engineering@tqs.com

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