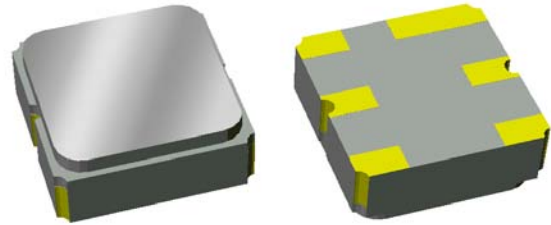



### Applications

- General purpose RF filters
- For B12/13 DL repeater applications

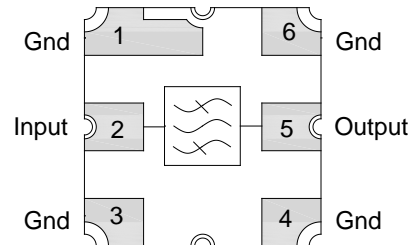


SMP-12, 3.00 x 3.00 x 1.22 mm

### Product Features

- Usable bandwidth 27 MHz
- High attenuation
- Low Loss
- Excellent power handling
- Single-ended operation
- 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 

### Functional Block Diagram



### General Description

857217 is a general purpose Down filter for Bands 12 and 13. This filter was specifically designed in a 3x3mm hermetic package for Base Station and Repeater applications and is part of our wide portfolio of RF filters in the same package.

Low insertion loss, coupled with high attenuation and excellent power handling, makes this filter a natural choice for our customers.

### Pin Configuration - Single Ended

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

### Ordering Information

Part No.	Description
857217	Product description
857217-EVB	Evaluation board description

Standard T/R size = 5000 units/reel

## Absolute Maximum Ratings

Parameter	Rating
Storage Temperature <sup>(1)</sup>	-40 to +85°C
Operable Temperature <sup>(2)</sup>	-40 to +85°C
RF Input Power <sup>(3)</sup>	+30 dBm

1. Operation of this device outside the parameter ranges given may cause permanent damage.
2. Specifications are not guaranteed over all operable conditions.
3. Input Power with applied CW signal at +55°C for 1500 hours

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

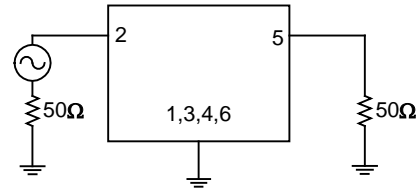
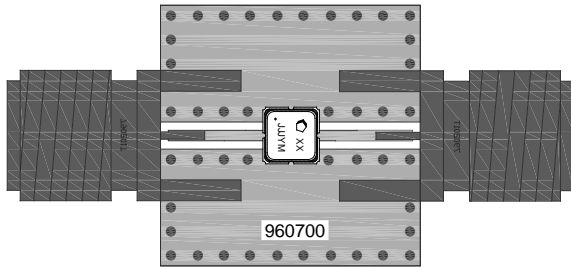
Test conditions unless otherwise noted: <sup>(2)</sup> Temp= +25°C to +70°C

Parameter <sup>(3)</sup>	Conditions	Min	Typ <sup>(4)</sup>	Max	Units
Center Frequency		-	742.5	-	MHz
Maximum Insertion Loss	729 – 756 MHz	-	2.5	3.5	dB
Amplitude Variation <sup>(5)</sup>	729 – 756 MHz	-	2.0	-	MHz
Absolute Attenuation <sup>(6)</sup>	10 – 698 MHz	25	34	-	dB
	698 – 716 MHz	40	45	-	dB
	716 – 722.5 MHz	20	32	-	dB
	766.5 – 776 MHz	20	28	-	dB
	776 – 787 MHz	40	46	-	dB
	824 – 894 MHz	20	37	-	dB
	1400 – 2155 MHz	20	33	-	dB
	2184 – 2271 MHz	10	33	-	dB
Temperature Coefficient	2110 – 2170 MHz	-	-45	-	-
Input VSWR	729 – 756 MHz	-	1.9	2.2:1	-
Output VSWR	729 – 756 MHz	-	1.9	2.2:1	-
Source Impedance <sup>(7)</sup>	single-ended	-	50	-	Ohms
Load Impedance <sup>(7)</sup>	single-ended	-	50	-	Ohms

Notes:

1. All specifications are based on the TriQuint schematic shown on page 2
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. Amplitude Variation is defined as the difference between the lowest loss and the highest loss within defined frequency points
6. Relative to zero dB
7. This is the optimum impedance in order to achieve the performance shown

**857217 Evaluation Board      Matching Schematics**



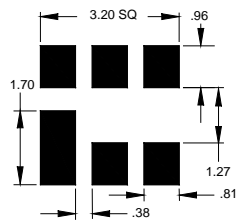
**Notes:**

1. No impedance matching required (if applicable).
2. Matching component values shown are for the specified TriQuint evaluation board. Value adjustment may be required in end user product circuits depending on component manufacturer and PCB material.

**Bill of Material – 857217-EVB**

Reference Des.	Value	Description	Manuf.	Part Number
SMA	N/A	SMA connector	Radiall USA	9602-1111-018
PCB	N/A	3-layer	multiple	960700

**PCB Mounting Pattern**

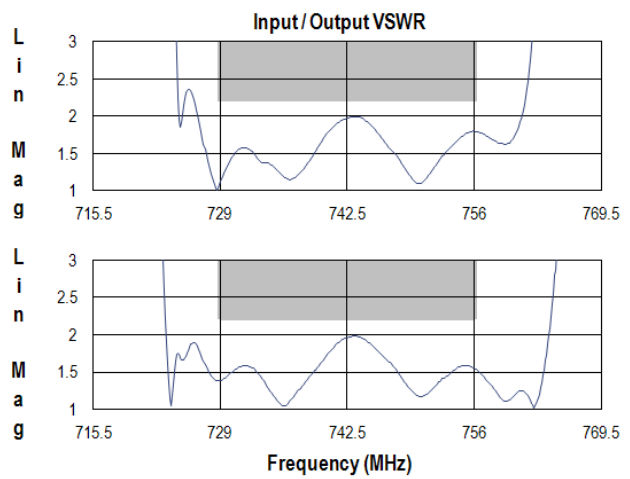
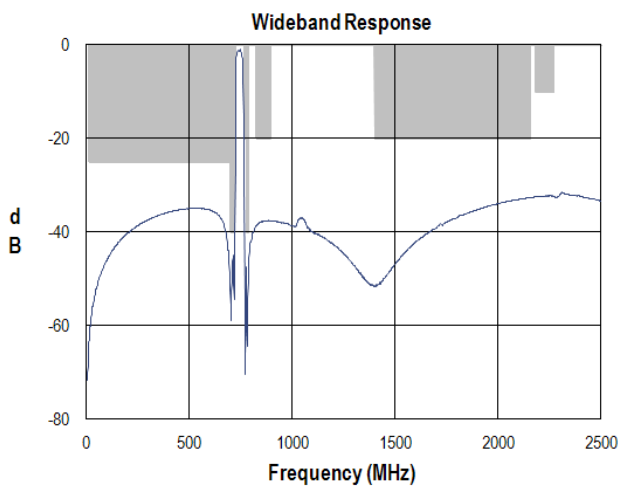
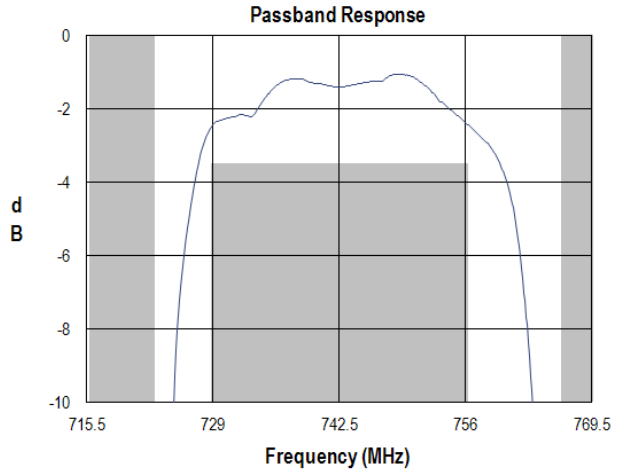
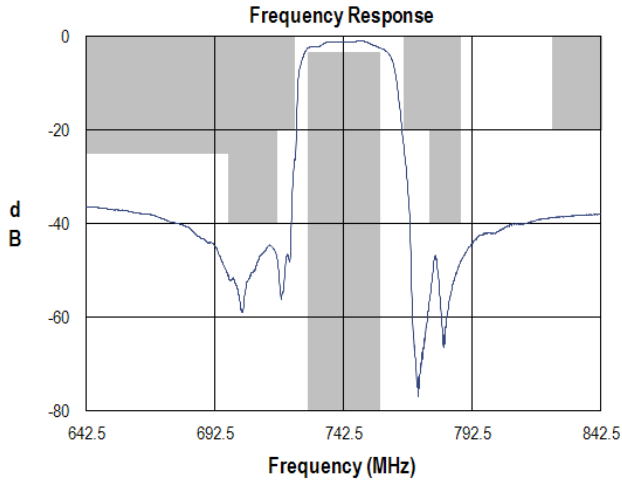


**Notes:**

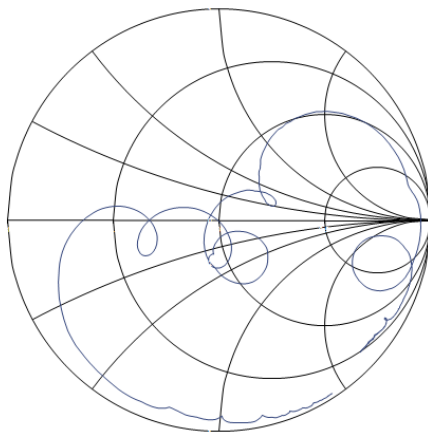
1. All dimensions are in millimeters. Angles are in degrees.
2. This drawing specifies the mounting pattern used on the TriQuint evaluation board for this product. Some modification may be necessary to suit end user assembly materials and processes.

**Performance Plots**

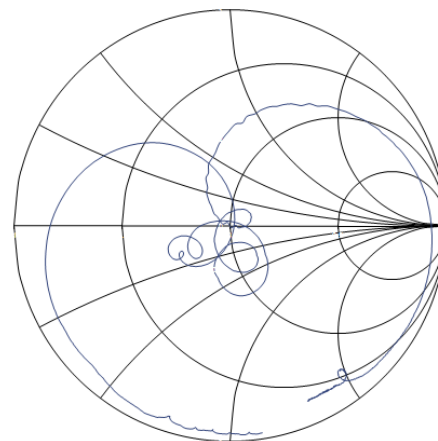
Test conditions unless otherwise noted: Temp= +25°C



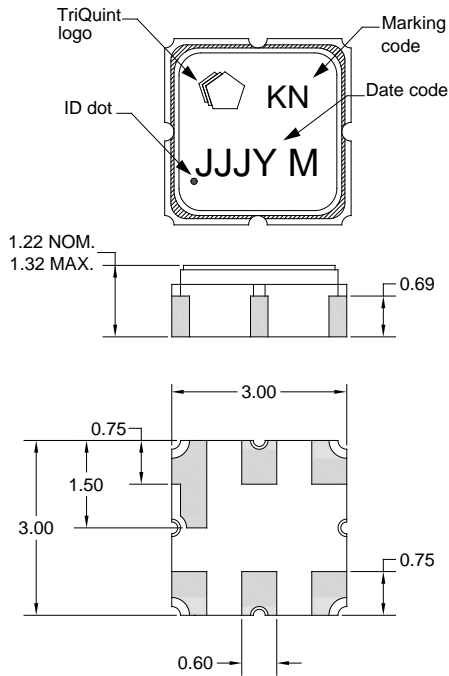
**Input Smith Chart**



**Output Smith Chart**



**Package Information, Marking and Dimensions**



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 $\mu$ m, over a 2-6 $\mu$ m Ni plating

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

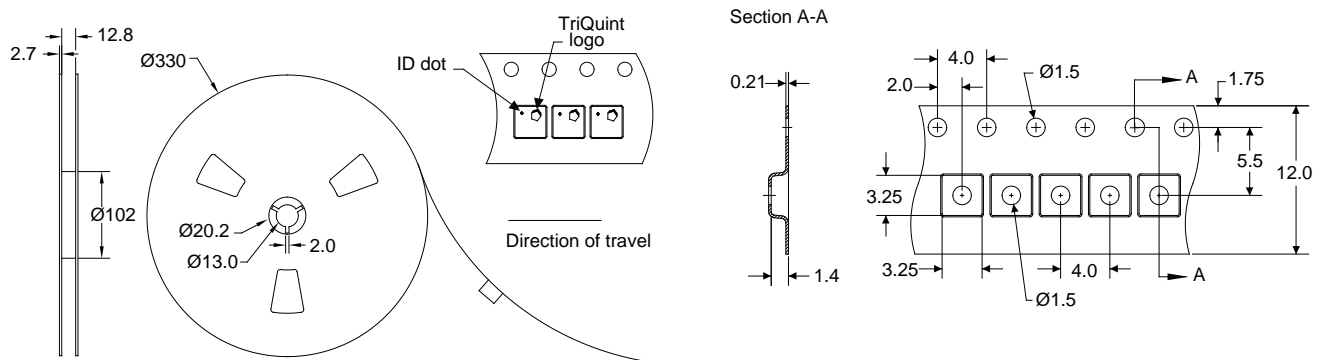
The date code consists of day of the current year (Julian, 3 digits), Y = last digit of the year, and M = manufacturing site code

**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 = 5000 units/reel. All dimensions are in millimeters



## Product Compliance Information

### ESD Sensitivity Ratings



Caution! ESD-Sensitive Device

ESD Rating: Class TBD  
Value: Passes  $\geq$  TBD V  
Test: Human Body Model (HBM)  
Standard: JEDEC Standard JESD22-A114

ESD Rating: Class TBD  
Value: Passes  $\geq$  TBD V  
Test: Charged Device Model (CDM)  
Standard: JEDEC Standard JESD22-C101

### 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<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:

**Web:** [www.triquint.com](http://www.triquint.com)  
**Email:** [info-sales@tqs.com](mailto:info-sales@tqs.com)

**Tel:** +1.407.886.8860  
**Fax:** +1.407.886.7061

For technical questions and application information: **Email:** [flapplication.engineering@tqs.com](mailto:flapplication.engineering@tqs.com)

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