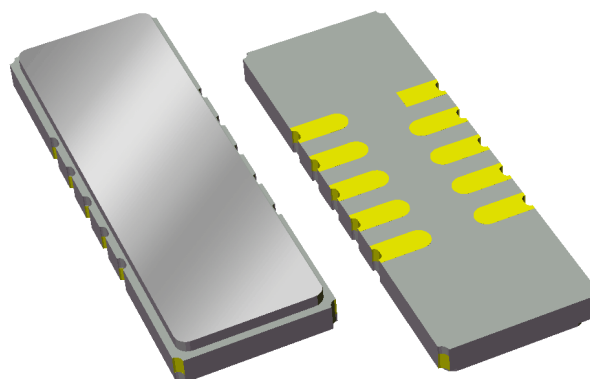


# 855549

## 242.625 MHz SAW Filter

### Applications

- General Purpose
- For IF applications



### Product Features

- Typical 1dB bandwidth of 1.3 MHz
- Low loss
- High Attenuation
- Single-ended operation
- Ceramic Surface Mount Package (SMP)
- Small Size
- Dimensions: 19.00 x 6.50 x 1.75mm
- Hermetically sealed
- **RoHS** compliant, **Pb**-free

### General Description

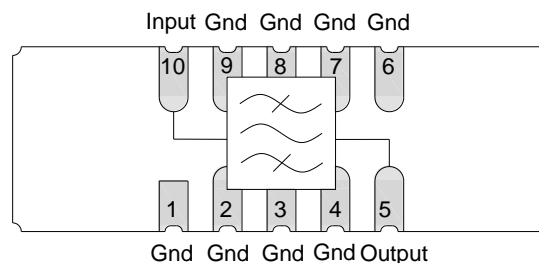
The 855549 is a high-performance IF SAW filter with a center frequency of 242.625 MHz and a 1dB bandwidth of 1.3 MHz.

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

This device is RoHS compliant and Pb-free.

### Functional Block Diagram

Top view



### Pin Configuration

Pin # SE	Description
10	Input
5	Output
1,6	Ground
2,3,4,7,8,9	Case ground

### Ordering Information

Part No.	Description
855549	packaged part
855549-EVB	evaluation board

Standard T/R size = 2000 units/reel.

## Specifications

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

Specified Temperature Range: <sup>(2)</sup> +25 °C

Parameter <sup>(3)</sup>	Conditions	Min	Typical <sup>(4)</sup>	Max	Units
Center Frequency		-	242.625	-	MHz
Minimum Insertion Loss		-	18.7	11	dB
1.0 dB Lower Bandedge <sup>(5)</sup>		-	242.006	242.125	MHz
1.0 dB Upper Bandedge <sup>(5)</sup>		243.125	243.310	-	MHz
Passband Ripple <sup>(6)</sup> (over 100% of 1dB bandwidth)		-	0.62	0.75	dB p-p
Phase Ripple	242.5 – 242.751 MHz	-	1.4	5	deg p-p
Relative Attenuation <sup>(5)</sup>	20 – 240.151 MHz	40	57	-	dB
	245.15 – 465.25 MHz	40	56	-	dB
Source Impedance (single-ended) <sup>(7)</sup>	-	-	50	-	Ω
Load Impedance (single-ended) <sup>(7)</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. Relative to Minimum Insertion Loss
6. Passband Ripple is defined as the worst case difference between a peak and an adjacent valley within defined frequency points
7. This is the optimum impedance in order to achieve the performance shown

### Absolute Maximum Ratings

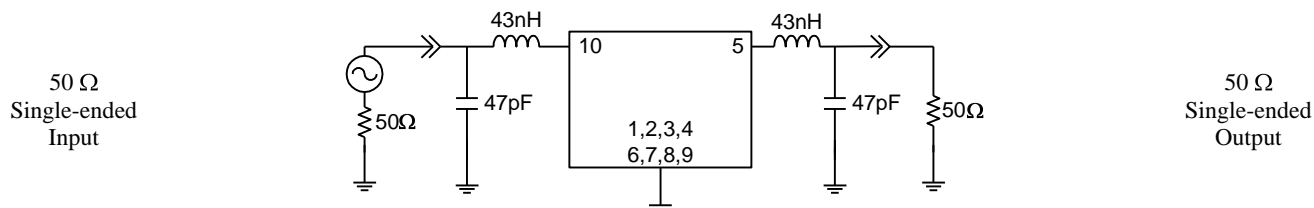
Parameter	Rating
Operating Temperature <sup>(8)</sup>	-40 to +85 °C
Storage Temperature	-40 to +85 °C

8. Device may operate over this range with degraded Electrical Specifications

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

**Reference Design – 50Ω SE Input, 50Ω SE Output**

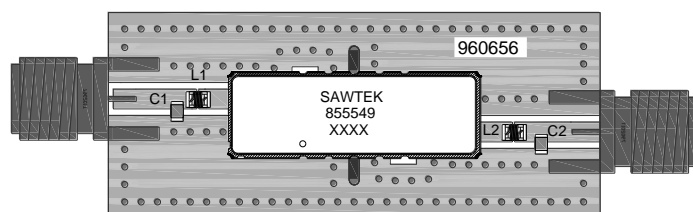
**Schematic**



**Notes:**

1. Actual matching values may vary due to PCB layout and parasitics

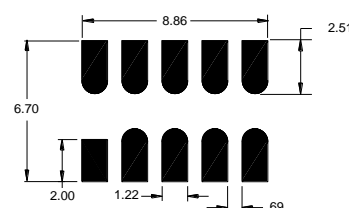
**PC Board**



**Notes:**

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

**Mounting Configuration**



**Notes:**

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

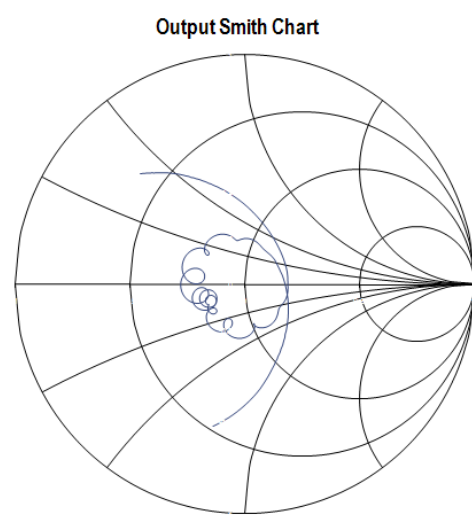
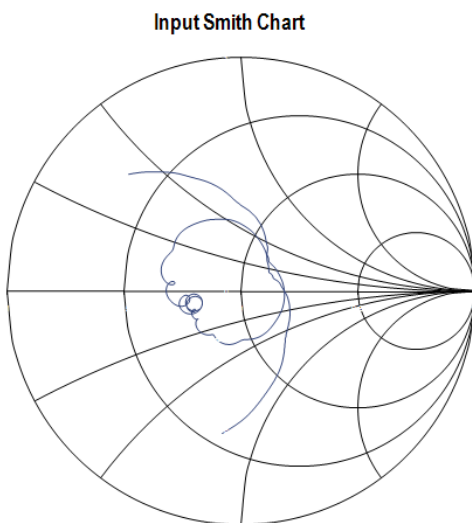
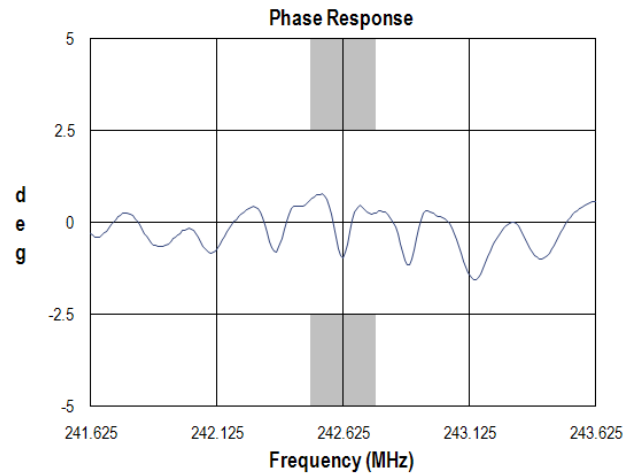
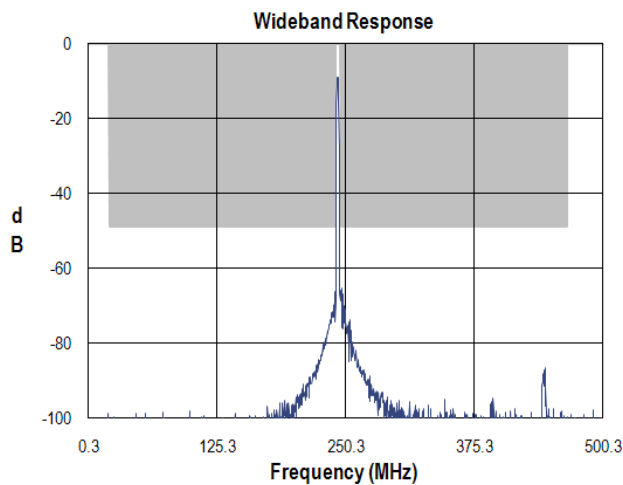
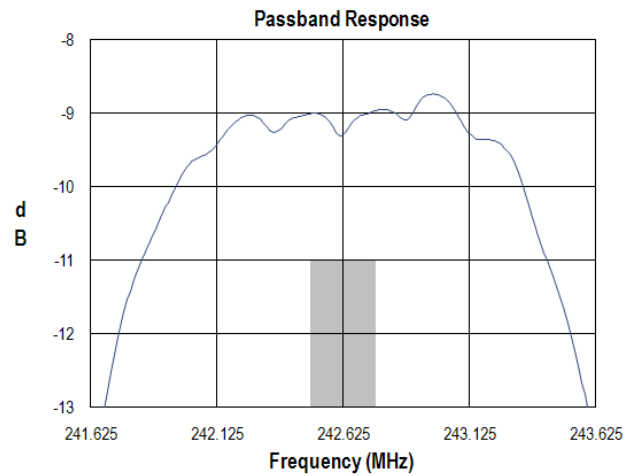
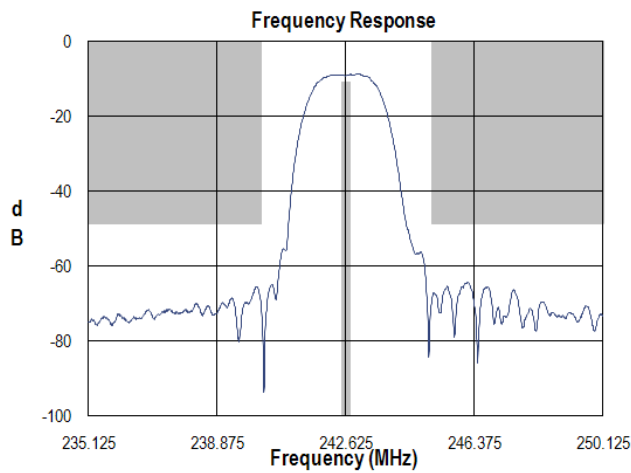
**Bill of Material**

Reference Desg.	Value	Description	Manufacturer	Part Number
L1	43nH	Coil Wire-wound, 0805, 5%	Coilcraft	0805CS-431XJLC
L2	43nH	Coil Wire-wound, 0805, 5%	Coilcraft	0805CS-431XJLC
C1	47pF	Chip Capacitor, 0805, 5%	MuRata	GRM2165C1H470JZ01
C2	47pF	Chip Capacitor, 0805, 5%	MuRata	GRM2165C1H470JZ01
SMA	N/A	SMA connector	Radiall USA Inc.	9602-1111-018
PCB	N/A	3-layer	multiple	960656

# 855549

## 242.625 MHz SAW Filter

### Typical Performance (at room temperature)

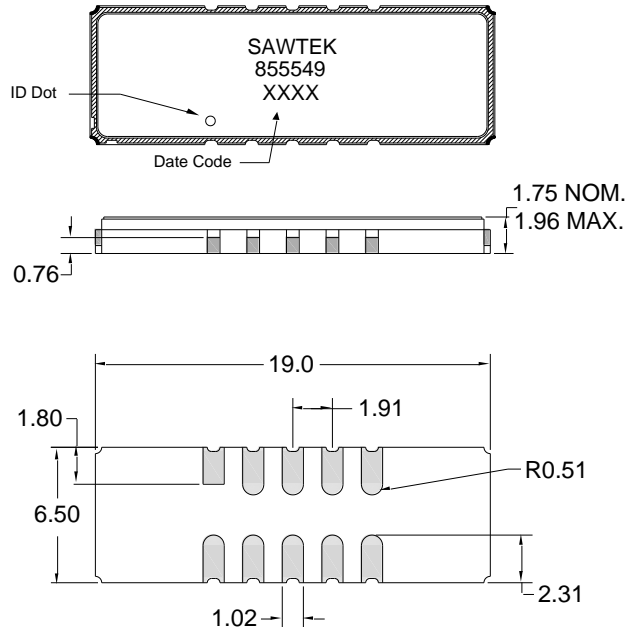


# 855549

## 242.625 MHz SAW Filter

### Mechanical Information

#### Package Information, Dimensions and Marking



Package Style: SMP-75

Dimensions: 19.00 x 6.50 x 1.75mm

Body:  $Al_2O_3$  ceramic

Lid: Kovar, Ni plated

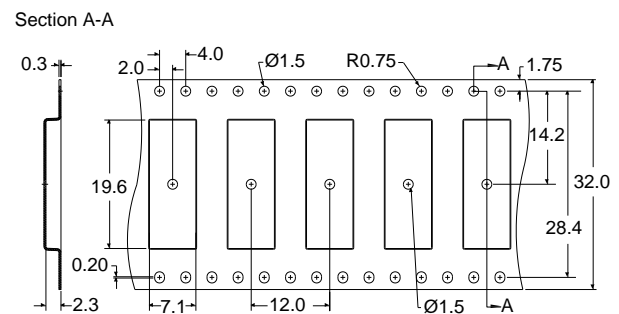
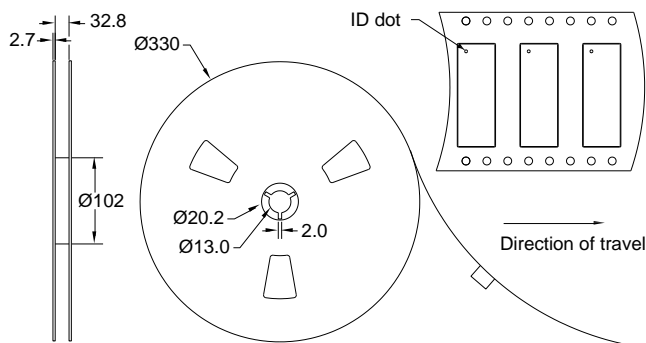
Terminations: Au plating 0.5 - 1.0 $\mu$ m, over a 2-6 $\mu$ m Ni plating

All dimensions shown are nominal in millimeters

All tolerances are  $\pm 0.15$ mm except overall length and width  $\pm 0.10$ mm

### Tape and Reel Information

Standard T/R size = 2000 units/reel. All dimensions are in millimeters



## Product Compliance Information

### ESD Information



#### Caution! ESD-Sensitive Device

ESD Rating: 2

Value: Passes  $\geq 2000$  V min.  
Test: Human Body Model (HBM)  
Standard: JEDEC Standard JESD22-A114

ESD Rating: C

Value: Passes  $\geq 500$  V 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 ( $C_{15}H_{12}Br_4O_2$ ) Free
- PFOS Free
- SVHC Free

## Contact Information

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

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For technical questions and application information:

Email: [applications.engineering@tqs.com](mailto:applications.engineering@tqs.com)

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