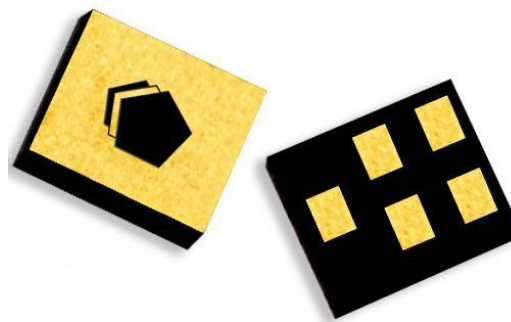


857207

1585.66 MHz SAW filter

Applications

- GPS/GLONASS L1 filter



Product Features

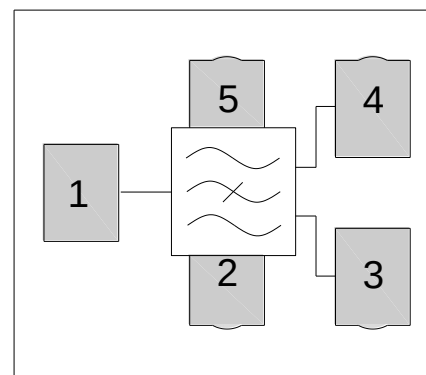
- Usable bandwidth 41 MHz
- High attenuation
- Small Size: 1.40 x 1.20 x 0.46 mm
- Ceramic chip-scale Package (CSP)
- Hermetically sealed
- RoHS compliant, Pb-free 

General Description

857207 is a general purpose GPS/GLONASS filter. This filter was specifically designed in a 1.40 x 1.20 x 0.46 mm hermetic package.

Functional Block Diagram

Top view



Pin Configuration

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

Ordering Information

Part No.	Description
857207	packaged part
857207-EVB	evaluation board

Standard T/R size = 10000 units/reel.

Specifications

Electrical Specifications ⁽¹⁾

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

Parameter ⁽³⁾	Conditions	Min	Typical ⁽⁴⁾	Max	Units
Center Frequency		-	1585.66	-	MHz
Maximum Insertion Loss	1565.42 – 1585.42 MHz	-	1.45	1.8	dB
Maximum Insertion Loss	1574.42 – 1576.42 MHz	-	1.29	1.6	dB
Maximum Insertion Loss	1597.55 – 1605.89 MHz	-	2.46	2.9	dB
Amplitude Ripple ⁽⁵⁾	1565.42 – 1585.42 MHz	-	0.18	1.3	dB p-p
Amplitude Ripple ⁽⁵⁾	1597.55 – 1605.89 MHz	-	1.13	1.3	dB p-p
Amplitude Variation (Imbalance)	1565.42 – 1605.89 MHz	-	1.20	3.0	dB p-p
Phase Ripple (Imbalance)	1565.42 – 1585.42 MHz	-	2.11	20	deg p-p
Group Delay Variation	1597.55 – 1605.89 MHz	-	1.48	9.0	ns p-p
Relative Attenuation ⁽⁶⁾	10 – 960 MHz	47	48.94	-	dB
	1427 – 1463 MHz	33	36.69	-	dB
	1710 – 1785 MHz	34	36.25	-	dB
	1850 – 1910 MHz	40	47.39	-	dB
	1920 – 1980 MHz	40	47.49	-	dB
	2400 – 2500 MHz	42	45.81	-	dB
Common Mode Attenuation	777 – 915 MHz	35	44.04	-	dB
	1427 – 1463 MHz	36	39.95	-	dB
	1710 – 1785 MHz	33	46.92	-	dB
	1850 – 1910 MHz	35	46.78	-	dB
	1920 – 1980 MHz	35	43.79	-	dB
	2400 – 2500 MHz	30	34.36	-	dB
Input VSWR	1565.42 – 1605.89 MHz	-	2.56	2.8:1	-
Output VSWR	1565.42 – 1605.89 MHz	-	2.82	3.0:1	-
Source Impedance ⁽⁸⁾	Single-ended	-	50	-	Ω
Load Impedance	Balanced	-	100	-	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. Amplitude Ripple is defined as the worst case peak to adjacent valley within the specified passband.
6. Relative to zero dB
7. This is the optimum impedance in order to achieve the performance shown

Absolute Maximum Ratings

Parameter	Rating
Operable Temperature	-30 to +85 °C
Storage Temperature	-30 to +85 °C

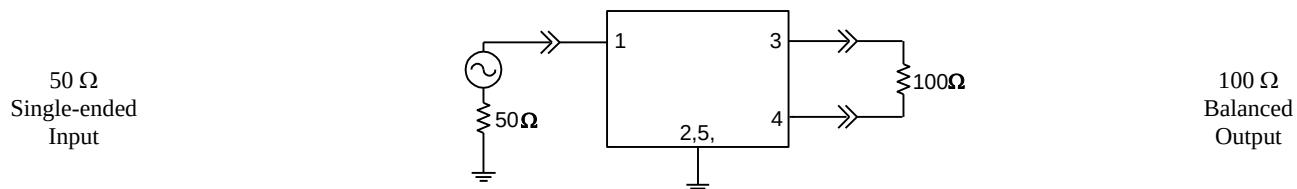
Operation of this device outside the parameter ranges given below may cause permanent damage.

Reference Design

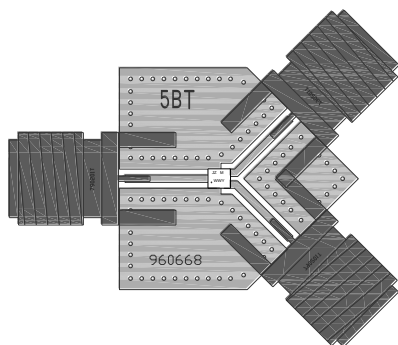
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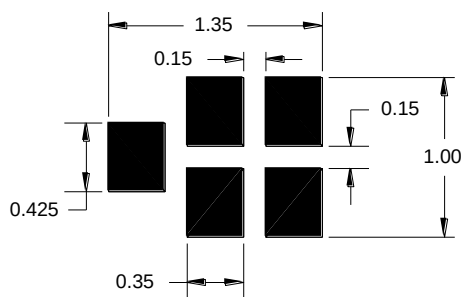
Schematic



PC Board



Mounting Configuration



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

Notes:

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

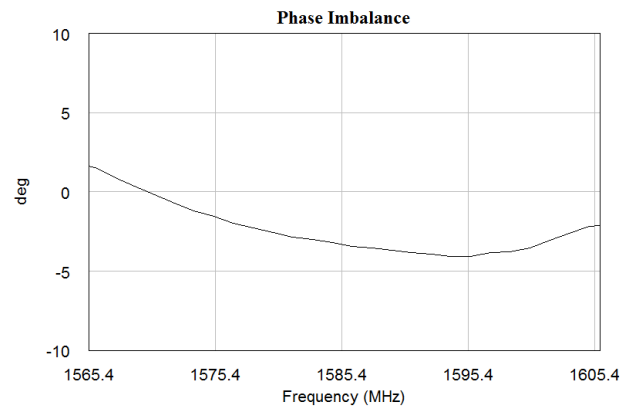
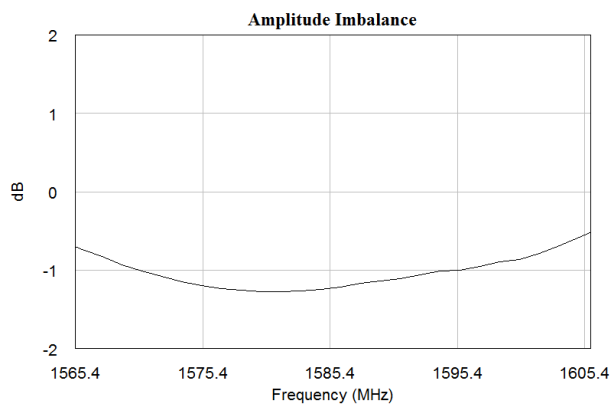
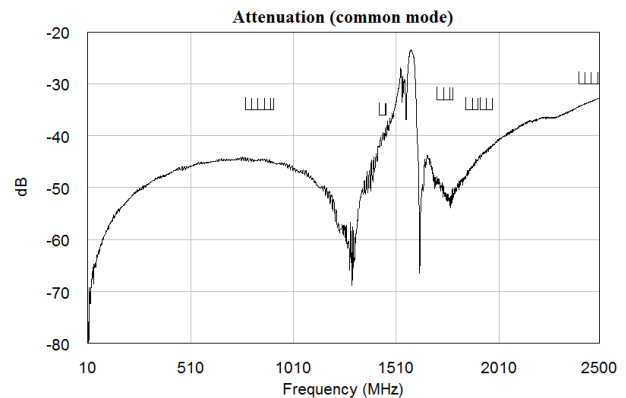
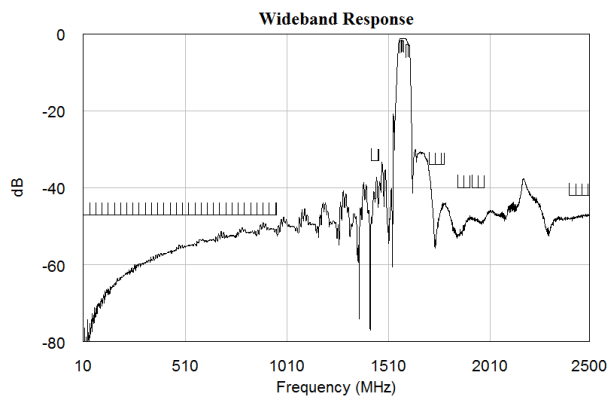
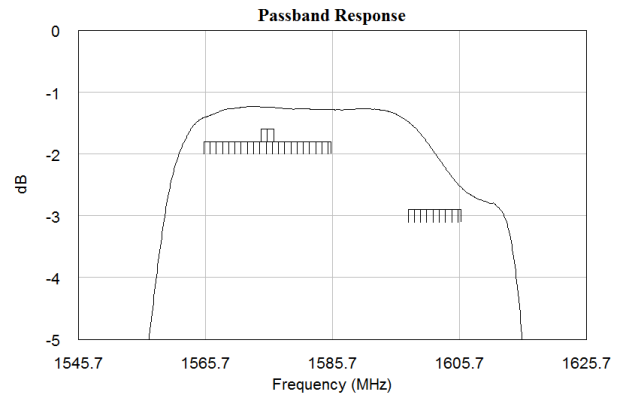
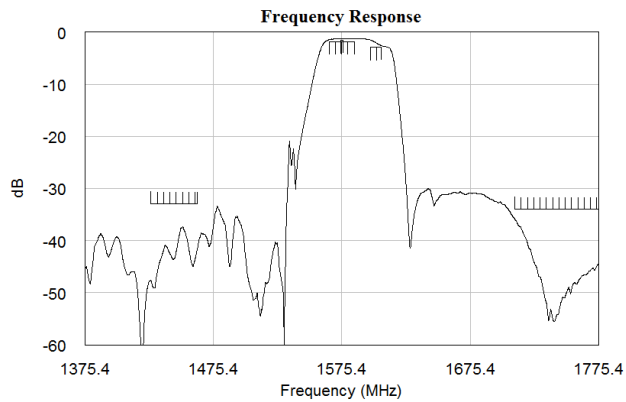
Bill of Material

Reference Desg.	Value	Description	Manufacturer	Part Number
SMA	N/A	SMA connector	Radiall USA Inc.	9602-1111-018
PCB	N/A	3-layer	multiple	960668

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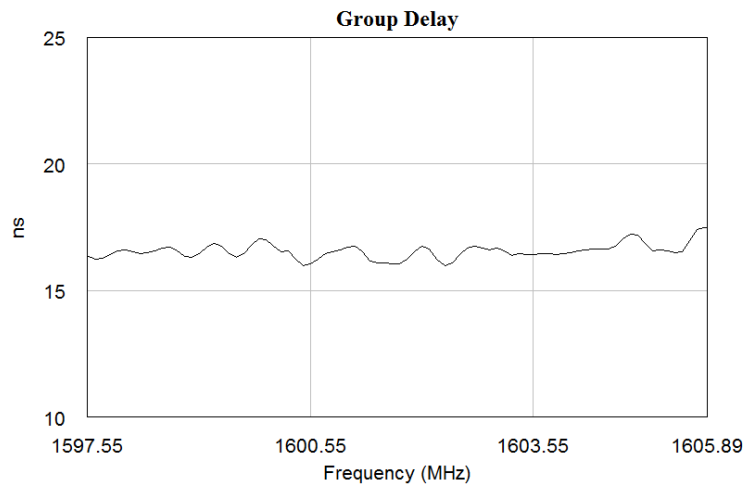
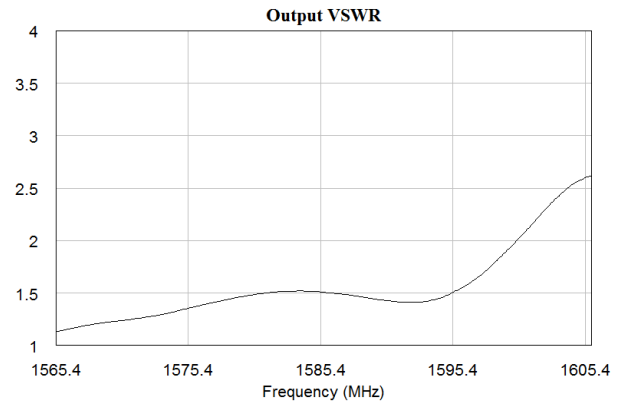
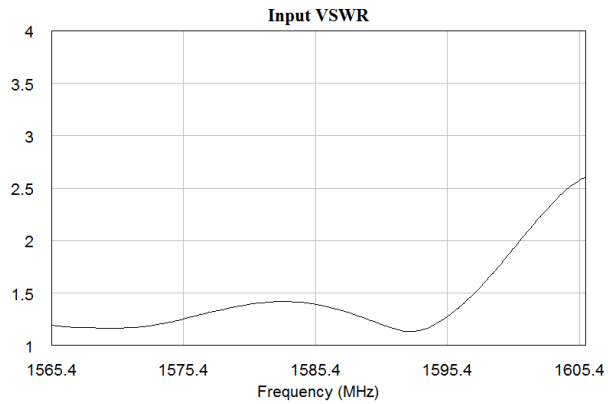
Typical Performance (at room temperature)



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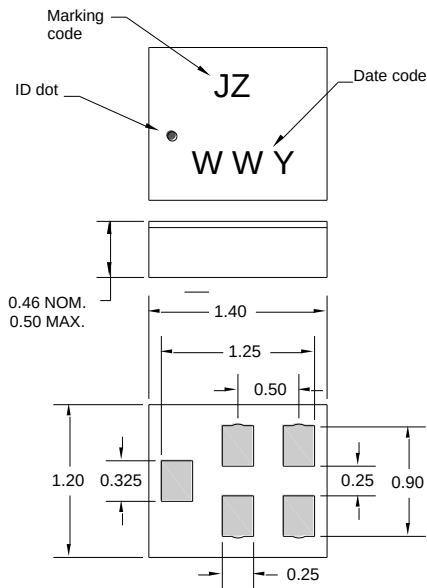
1585.66 MHz SAW filter

Typical Performance (at room temperature)



Mechanical Information

Package Information, Dimensions and Marking



Package Style: CSP-5BT

Dimensions: 1.40 x 1.20 x 0.46 mm

Body: Al_2O_3 ceramic

Lid: Kovar or Alloy 42, Au over Ni plated

Terminations: Au plating 0.5 - 1.0µm, over a 2-6µm Ni plating

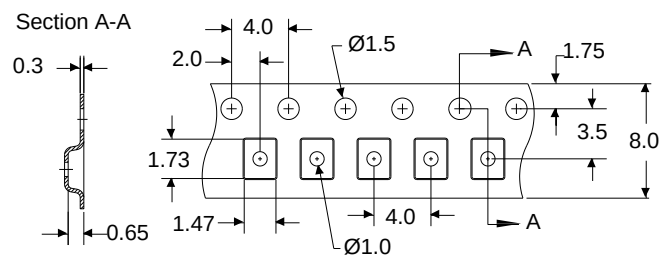
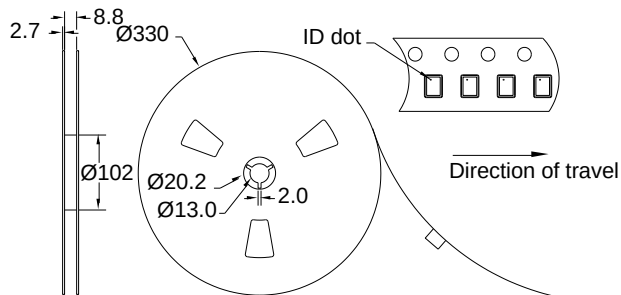
All dimensions shown are nominal in millimeters

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

The date code consists of: WW = 2 digit week
and Y = last digit of year

Tape and Reel Information

Standard T/R size = 10000 units/reel. All dimensions are in millimeters



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Product Compliance Information

ESD Information



Caution! ESD-Sensitive Device

ESD Rating: TBD

Value: Passes $\geq$ TBDV min.

Test: Human Body Model (HBM)

Standard: JEDEC Standard JESD22-A114

ESD Rating: TBD

Value: Passes $\geq$ TBD 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 (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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Fax: +1.407.886.7061

For technical questions and application information:

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