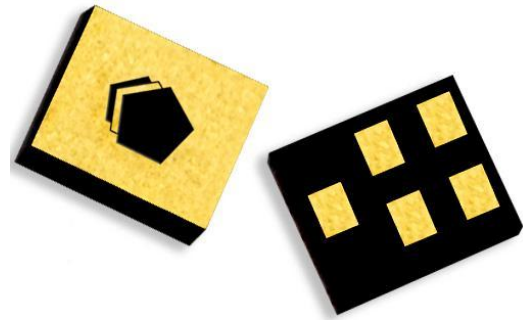


# 857207


1585.66 MHz SAW filter

## Applications

- GPS/GLONASS L1 filter



## Product Features

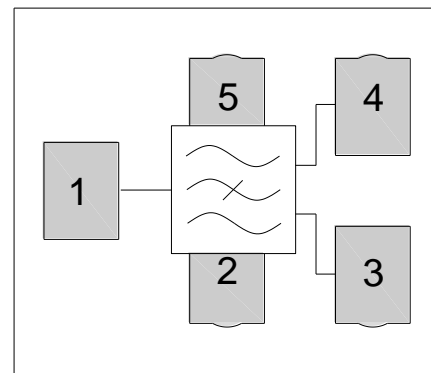
- Usable bandwidth 41 MHz
- High attenuation
- Small Size: 1.40 x 1.20 x 0.46 mm
- Ceramic chip-scale Package (CSP)
- Hermetically sealed
- RoHS compliant, Pb-free 

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

Specified Temperature Range: <sup>(2)</sup> -30 to +85 °C

Parameter <sup>(3)</sup>	Conditions	Min	Typical <sup>(4)</sup>	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 <sup>(5)</sup>	1565.42 – 1585.42 MHz	-	0.18	1.3	dB p-p
Amplitude Ripple <sup>(5)</sup>	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 <sup>(6)</sup>	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 <sup>(8)</sup>	Single-ended	-	50	-	Ω
Load Impedance	Balanced	-	100	-	Ω

#### Notes:

- All specifications are based on the TriQuint schematic for the main reference design shown on page 3
- In production, devices will be tested at room temperature to a guardbanded specification to ensure electrical compliance over temperature
- Electrical margin has been built into the design to account for the variations due to temperature drift and manufacturing tolerances
- Typical values are based on average measurements at room temperature
- Amplitude Ripple is defined as the worst case peak to adjacent valley within the specified passband.
- Relative to zero dB
- 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

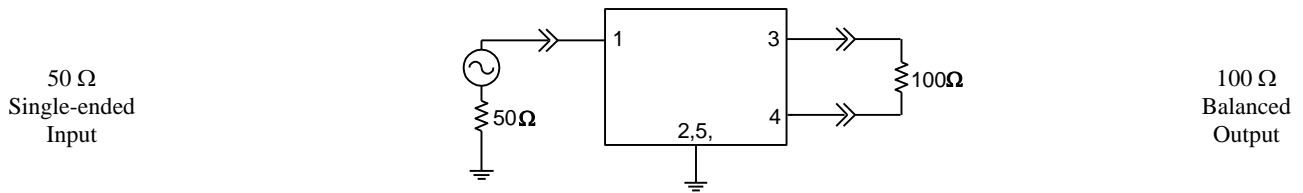
Operation of this device outside the parameter ranges given below may cause permanent damage.

## Reference Design

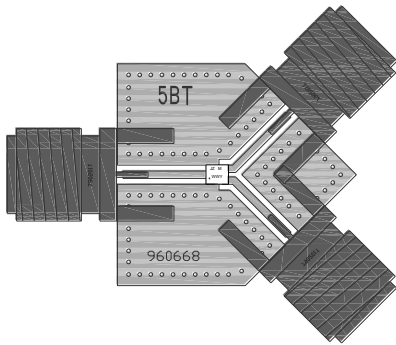
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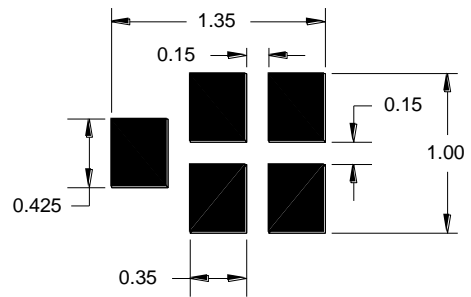
## Schematic



## PC Board



## Mounting Configuration



### Notes:

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

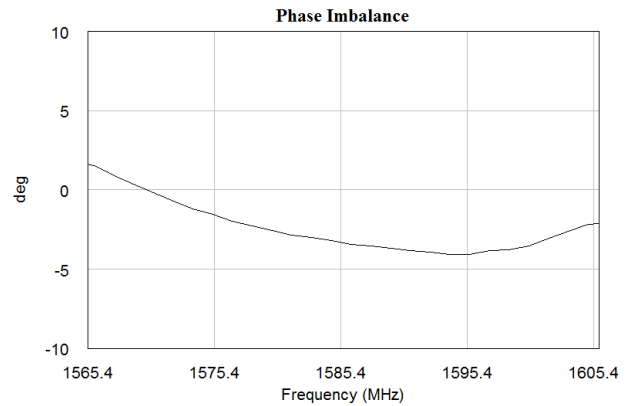
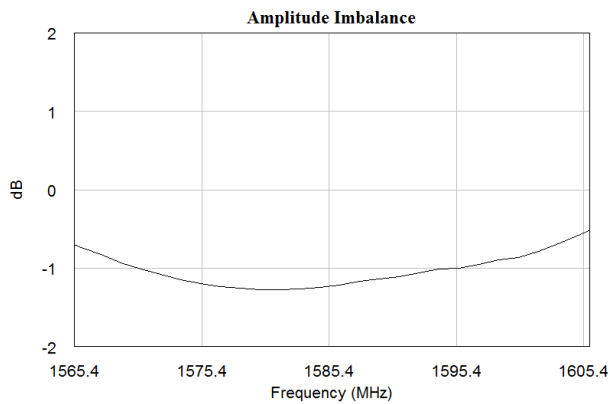
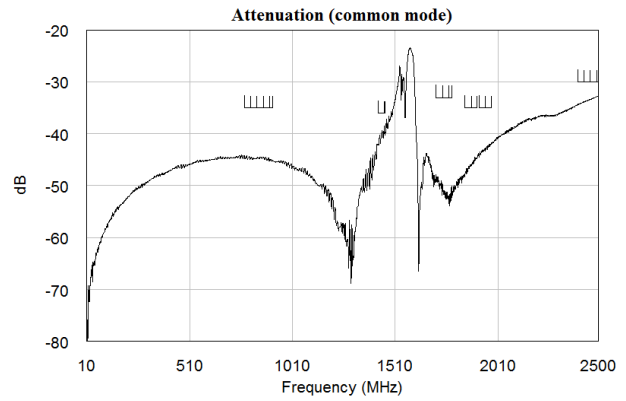
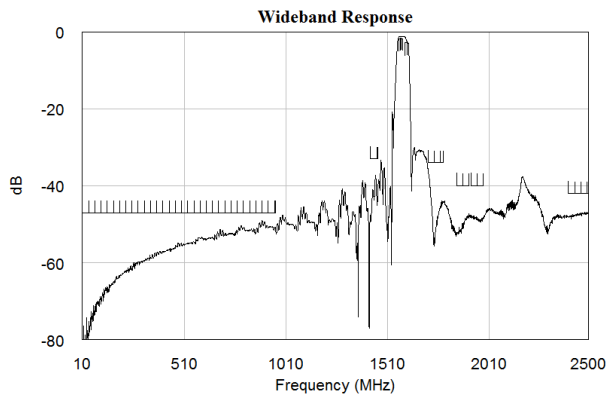
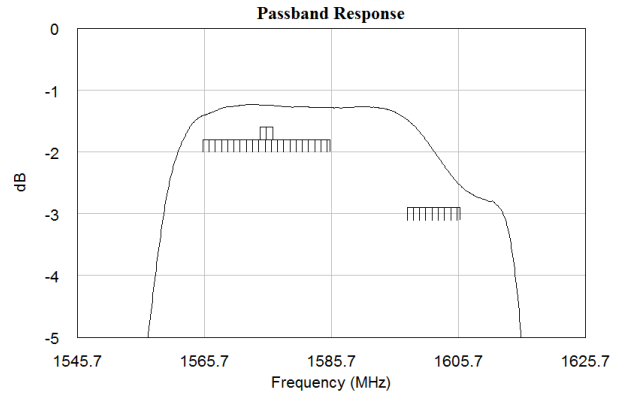
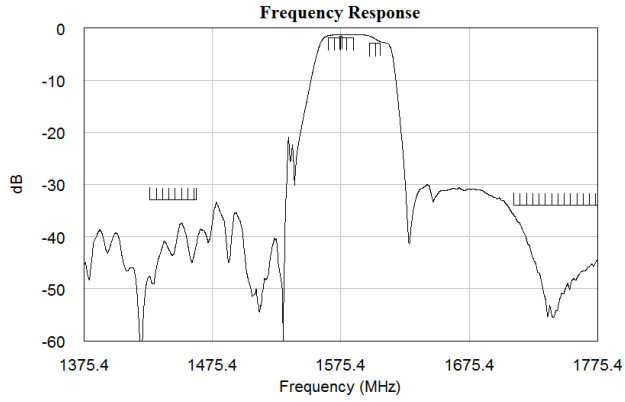
### Notes:

- 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

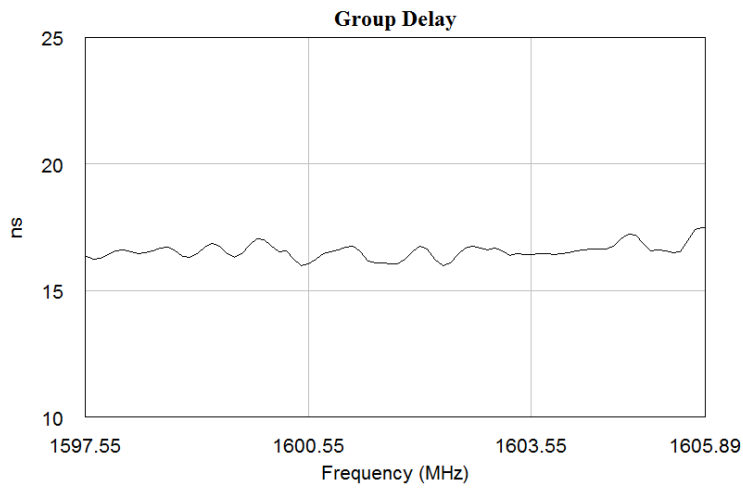
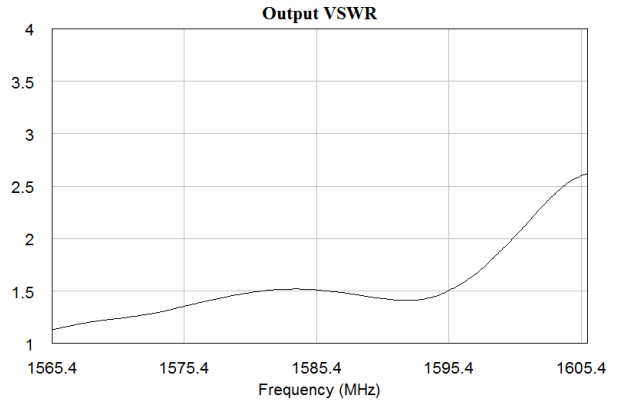
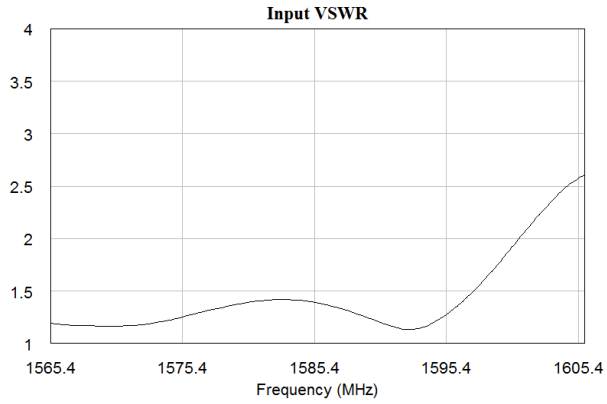
### Typical Performance (at room temperature)



# 857207

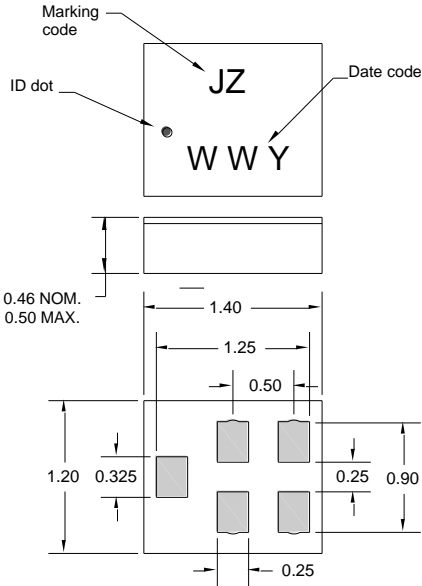
## 1585.66 MHz SAW filter

### 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 - 1.0  $\mu m$ , 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: 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

