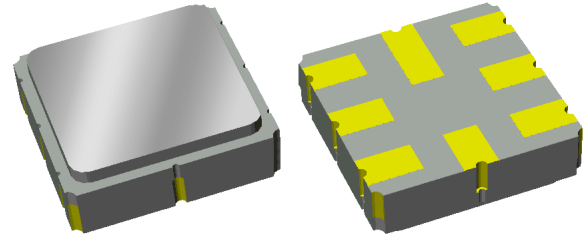


857179


1090 MHz SAW Filter

Applications

- For Military applications



Product Features

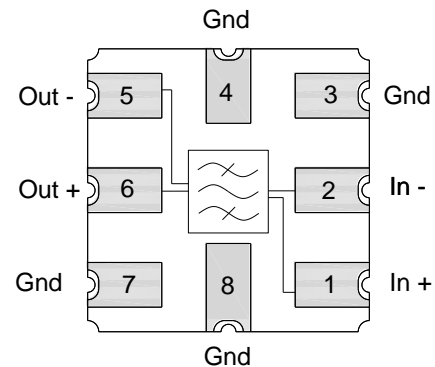
- Usable bandwidth 10 MHz
- Low Loss
- Balanced operation
- Matching is required for optimum performance at 50Ω
- Small Size: 3.80 x 3.80 x 1.27 mm
- Ceramic Surface Mount Package (SMP)
- Hermetically Sealed
- RoHS compliant, Pb-free 

General Description

857179 is a general purpose filter designed in a 3.8 x 3.8 mm hermetic package with low insertion loss and high attenuation.

Functional Block Diagram

Top view



Pin Configuration

Pin #	Balanced	Description
1		Input +
2		Input -
6		Output +
5		Output -
3,4,7,8		Case Ground

Ordering Information

Part No.	Description
857179	packaged part
857179-EVB	evaluation board

Standard T/R size = 4000 units/reel.

Specifications

Electrical Specifications ⁽¹⁾

Specified Temperature Range: ⁽²⁾ -55 to +85 °C

Parameter ⁽³⁾	Conditions	Min	Typical ⁽⁴⁾	Max	Units
Center Frequency		-	1090	-	MHz
Maximum Insertion Loss ⁽⁵⁾	1085 – 1095 MHz	-	5.6	6.3	dB
Lower 1.25 dB Bandedge ⁽⁶⁾		-	1073	1085	MHz
Upper 1.25 dB Bandedge ⁽⁶⁾		1095	1100	-	MHz
Amplitude Variation ⁽⁷⁾	1085 – 1095 MHz	-	0.2	1.25	dB p-p
Group Delay Ripple ⁽⁷⁾	1085 – 1095 MHz	-	7.0	20	ns p-p
Absolute Attenuation ⁽⁸⁾	500 – 1006 MHz	55	68	-	dB
	1006 – 1050 MHz	50	56	-	dB
	1140 – 1160 MHz	50	70	-	dB
	1160 – 1600 MHz	55	67	-	dB
Source Impedance ⁽⁹⁾	Single-ended	-	50	-	Ω
Load Impedance ⁽⁹⁾	Single-ended	-	50	-	Ω

Notes:

1. All specifications are based on the TriQuint schematic 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, unless otherwise noted
5. Referenced to maximum insertion loss within the specified frequency points
6. Relative to insertion loss at center frequency
7. Total variation over the defined frequency range.
8. Absolute Attenuation measurements are referenced to zero dB
9. This is the optimum impedance in order to achieve the performance shown

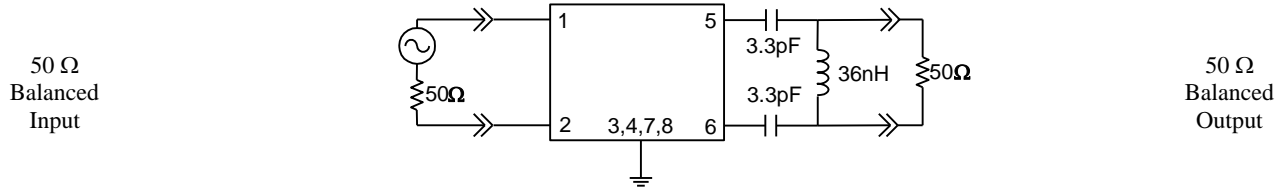
Absolute Maximum Ratings

Parameter	Rating
Operable Temperature	-55 to +85 °C
Storage Temperature	-55 to +85 °C

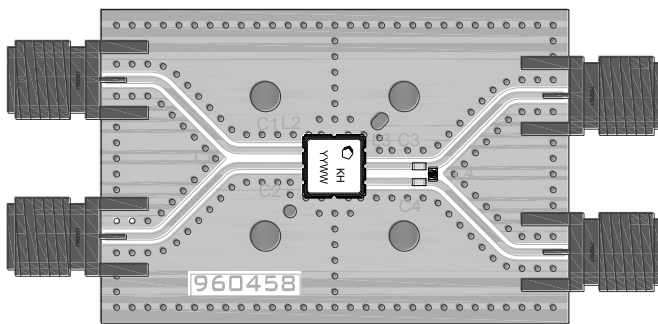
Operation of this device outside the parameter ranges given above may cause permanent damage.

Reference Design

Schematic



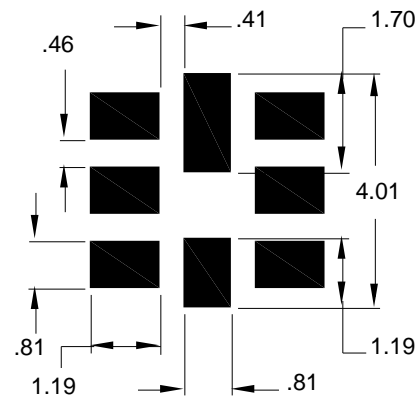
PC Board



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

Mounting Configuration



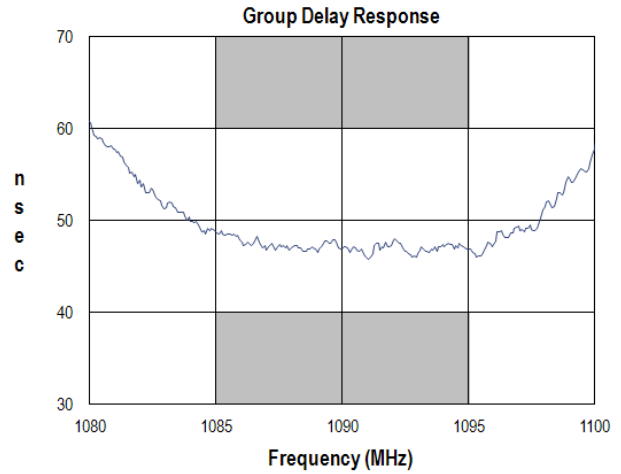
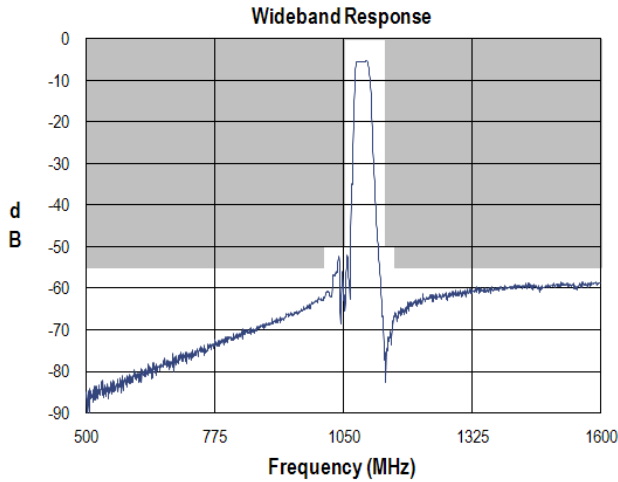
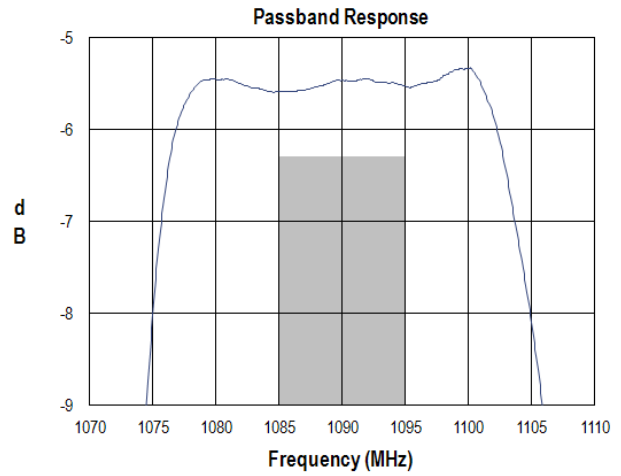
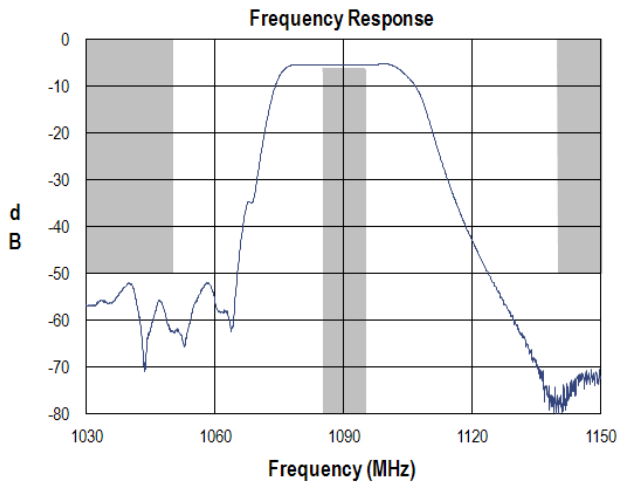
Notes:

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

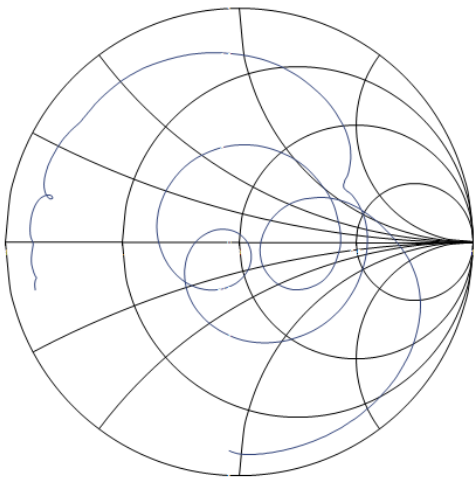
Bill of Material

Reference Desg.	Value	Description	Manufacturer	Part Number
L1	36nH	Coil Wire-wound, 0402, 5%	Murata	LQW15AN36NJ00
C1	3.3pF	Chip Capacitor, 0402, 5%	Murata	GRM1555C1H3R3GZ01
C2	3.3pF	Chip Capacitor, 0402, 5%	Murata	GRM1555C1H3R3GZ01
SMA	N/A	SMA connector	Radiall USA Inc.	9602-1111-018
PCB	N/A	3-layer	multiple	960458

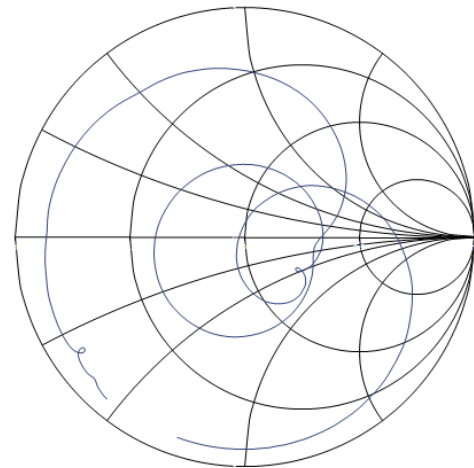
Typical Performance (at room temperature)



Input Smith Chart

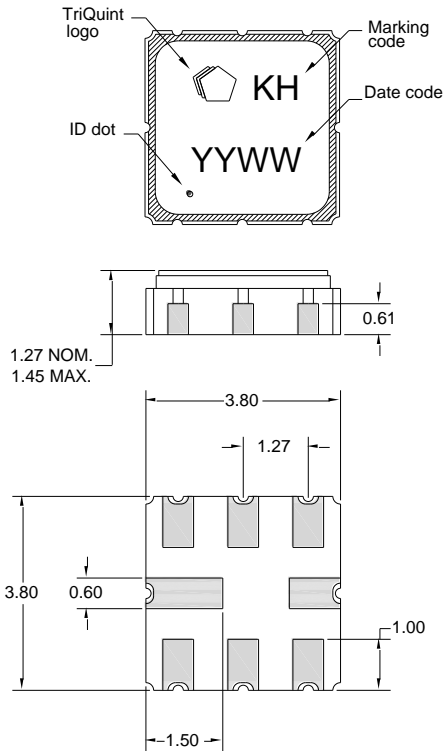


Output Smith Chart



Mechanical Information

Package Information, Dimensions and Marking



Package Style: SMP-15
 Dimensions: 3.80 x 3.80 x 1.27 mm

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

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

The date code consists of: YY = The last two digits of the year (2 Digits), WW = the calendar week of the year (2 Digits)

Tape and Reel Information

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

