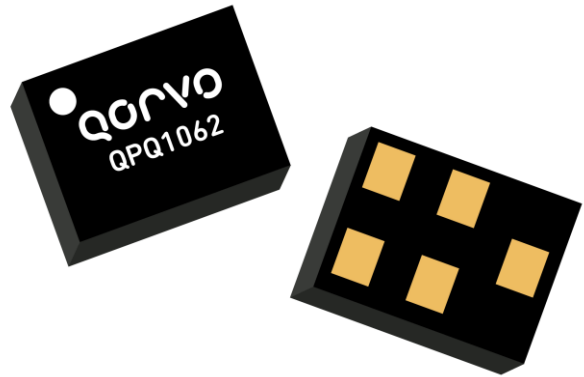


### General Description

QPQ1062 is a L5 GPS Band Pass Filter in a compact size for use in any GPS application. Designed for rejection of unwanted GPS signals, this SAW filter also has excellent power handling capability for low power transmitters.

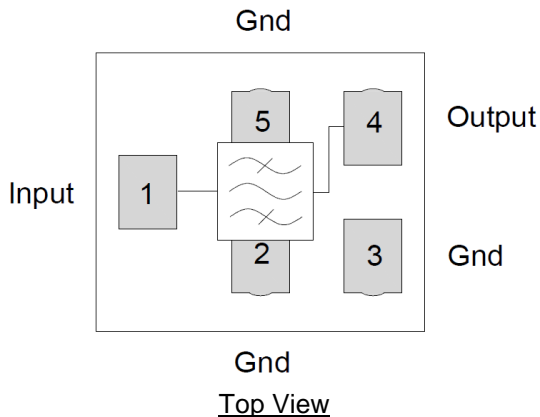
Housed in a 1.4 x 1.2 mm laminate with over mold package, this device allows for a compact and cost-effective diplexer solution for GPS applications.

No matching components are required, making the PCB design and implementation easy.



1.4 X 1.2 X 0.84 mm

### Functional Block Diagram



### Pin Configuration - Single Ended

Pin No.	Label
1	Antenna Input <sup>(1)</sup>
2, 3, 5	Ground
4	L5 Output <sup>(1)</sup>

<sup>(1)</sup> Blocking capacitors are required on any ports where a DC voltage may be present.

### Product Features

- Usable bandwidth 31 MHz
- No matching required for operation at 50Ω
- Excellent rejection for GPS operation
- High Isolation
- High Rejection
- Laminate with Over Mold Surface Mount Package (SMP)
- Small Size: 1.4 x 1.2 x 0.84mm

*Performance is typical across frequency. Please reference electrical specification table and data plots for more details.*

### Applications

- General purpose GPS
- Communication Systems

### Ordering Information

Part No.	Description
QPQ1062TR7	7" Taped Reel with 2500 pieces
QPQ1062EVB-01	Evaluation board

## Absolute Maximum Ratings

Parameter	Rating
Storage Temperature	-40 to 125°C
Operation Temperature	-55 to 105°C
RF Input Power <sup>(1)</sup> - Test conditions: PW = 200ms; DC = 50% @ +25 °C	33 dBm

Exceeding any one or a combination of the Absolute Maximum Rating conditions may cause permanent damage to the device. Extended application of Absolute Maximum Rating conditions to the device may reduce device reliability.

<sup>(1)</sup> Input Power for both Input/Output ports

## Minimum Lifetime Ratings

Conditions	Rating
RF Input Power <sup>(1)</sup> , @ Pin 1 (Antenna Port), @ Pin 4 (L5 Port)	>10 years @ +95C >5 years @ +105C

<sup>(1)</sup> Input Power: CW, 25 dBm

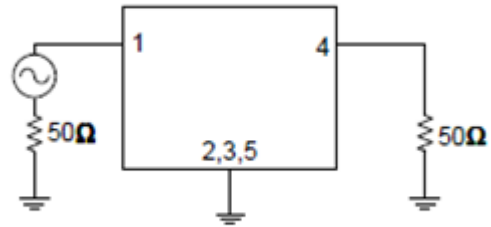
## Electrical Specifications <sup>(1,2)</sup>

L5 Band GPS					
Parameter <sup>(3)</sup>	Conditions	Min	Typical <sup>(4)</sup>	Max	Units
Center Frequency	1160.95 - 1191.95 MHz	-	1176.45	-	MHz
Maximum Insertion Loss	1160.95 - 1191.95 MHz	-	1.4	2.0	dB
	1164.45 - 1188.45 MHz	-	1.3	-	
	1166.45 - 1186.45 MHz	-	1.2	-	
Amplitude Variation	1160.95 - 1191.95 MHz	-	0.6	1.1	dB
	1164.45 - 1188.45 MHz	-	0.5	-	
	1166.45 - 1186.45 MHz	-	0.4	-	
Group Delay Variation	1160.95 - 1191.95 MHz	-	32	49	ns
	1164.45 - 1188.45 MHz	-	28	-	
	1166.45 - 1186.45 MHz	-	24	-	
Absolute Attenuation (Relative to 0 dB)	10 – 1123.95 MHz	39	41	-	dB
	1228.95 - 2500 MHz	38	41	-	
Input Return Loss	1160.95 - 1191.95 MHz	10	13	-	dB
	1164.45 - 1188.45 MHz	-	14	-	
	1166.45 - 1186.45 MHz	-	16	-	
Output Return Loss	1160.95 - 1191.95 MHz	10	12	-	dB
	1164.45 - 1188.45 MHz	-	13	-	
	1166.45 - 1186.45 MHz	-	15	-	
Nominal Impedance <sup>(5)</sup>	Single Ended	-	50	-	Ohm

**Notes:**

- All specifications are based on the Qorvo schematics for the reference designs shown on page 3.
- In production, devices will be tested at room temperature to a guard banded 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 manufacture tolerances.
- Typical values are based on average measurements at room temperature on pcb. (25 °C ±5 °C)
- Optimum impedance to achieve the performance shown.

**Evaluation Board – QPQ1062-EVB**



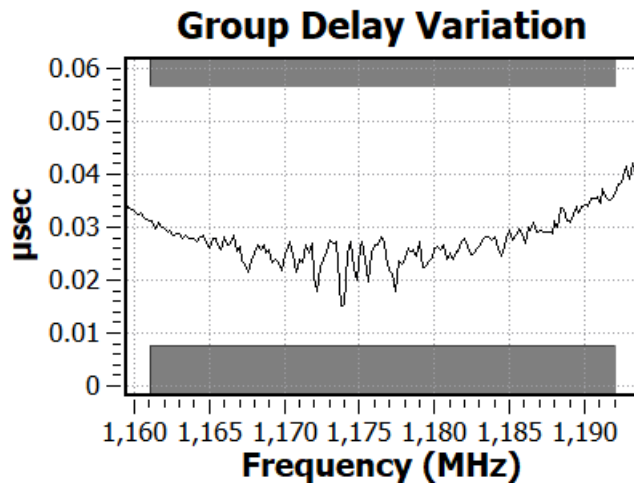
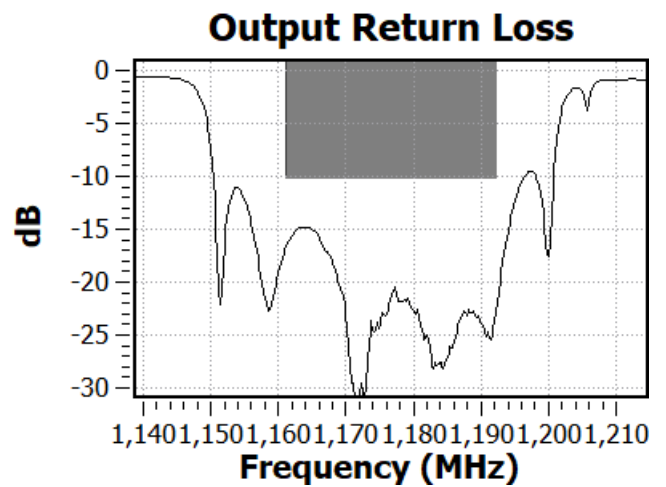
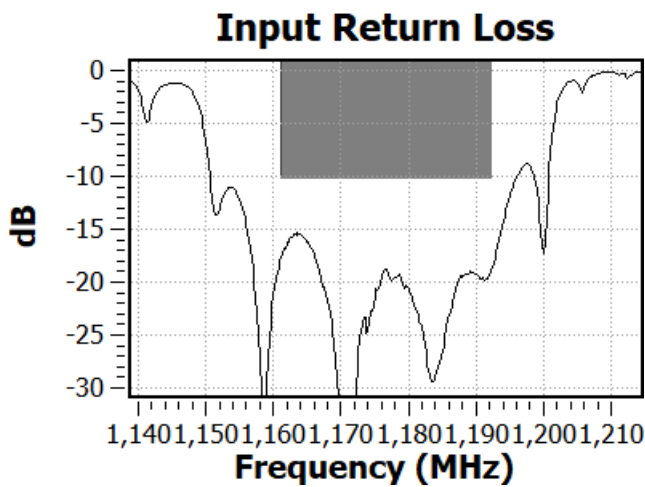
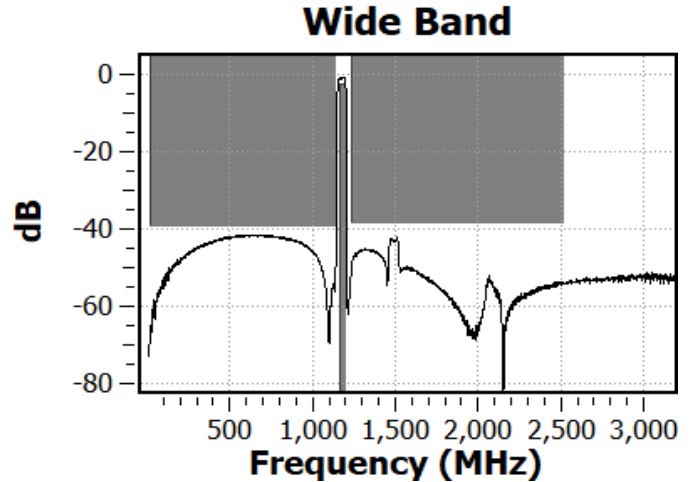
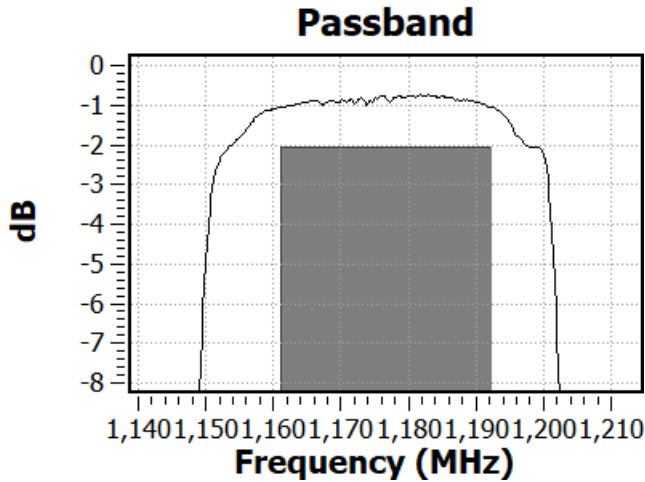
Notes: Blocking capacitors are required on any RF ports where a DC voltage may be present.

**Bill of Material – QPQ1062-EVB**

Reference Des.	Value	Description	Manuf.	Part Number
DUT	-	L5 Low Loss GPS SAW Filter	Qorvo	QPQ1062
SMA	-	SMA connector	Various	
PCB	-	Printed Circuit Board	Various	

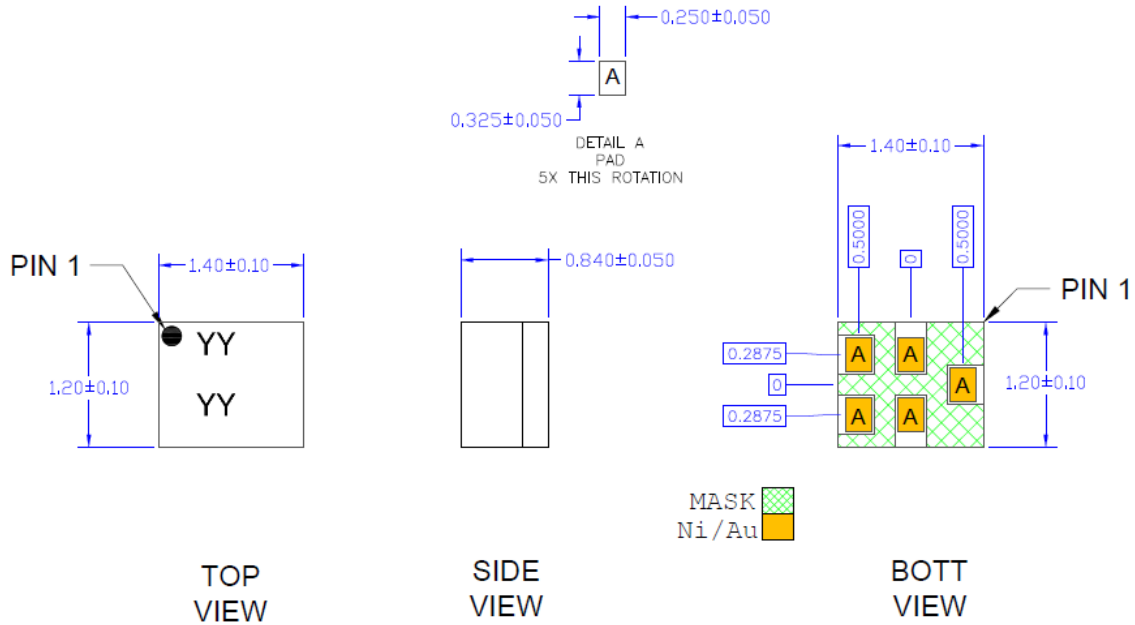
### Typical Performances

Test conditions unless otherwise noted: Temp = +25 °C, 50 Ω system



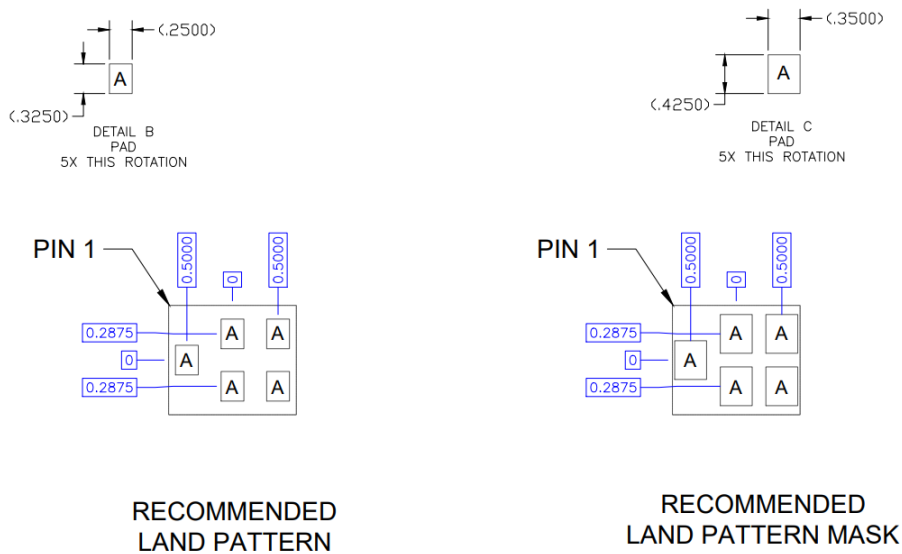
## Package Marking and Dimensions

Marking: Qorvo Logo  
 Part Number – 1062  
 Trace Code – Assigned by subcontractor



- Notes:
1. All dimensions are in millimeters. Angles are in degrees.
  2. The terminal #1 identifier and terminal numbering conform to JESD 95-1 SPP-012

## PCB Mounting Pattern



- Notes:
1. All dimensions are in millimeters. Angles are in degrees. .

## Assembly Notes

1. Compatible with both Lead-free solder (260°C peak reflow temperature) and tin/lead (245°C peak reflow temp.) soldering processes.
2. Contact plating: ENEPIG

## Recommended Soldering Profile

