

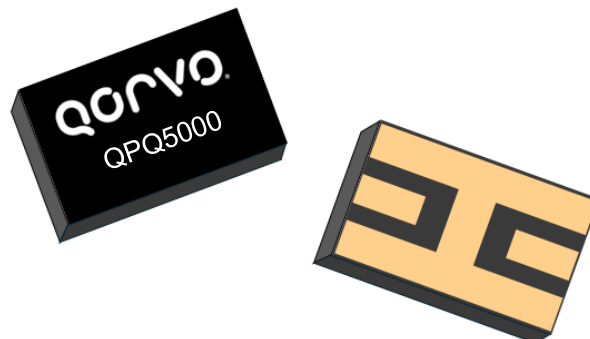


QPQ5000

5000 MHz BAW Filter

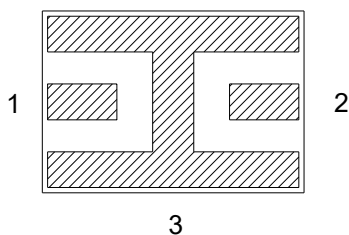
General Description

The QPQ5000 is a high-performance Bulk Acoustic Wave (BAW) band pass filter designed at 5000 MHz for high selectivity applications. The filter is housed in a compact 2.03mm x 1.27mm hermetic chip-scale package.



3 Pin CSP: 2.03 x 1.27 x 0.889 mm

Functional Block Diagram



Bottom View

Pin Configuration - Single Ended

Pin No.	Label
1,2	Input / Output
3	Ground

Product Features

- Single-Ended Operation
- No External Matching Required
- 50 Ohm Impedance at Input/Output
- Ceramic Chip-Scale Package
- Hermetically Sealed
- **RoHS** Compliant, **Pb**-Free

Applications

- C-Band
- For High-Selectivity Applications

Ordering Information

Part	Description
QPQ5000	5000 MHz BAW Filter
QPQ5000SR	100 Piece 7" Reel
QPQ5000TR7	1000 Piece 7" Reel
QPQ5000EVB01	QPQ5000 Evaluation Board



QPQ5000

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Absolute Maximum Ratings

Parameter	Rating
Storage Temperature	-55 to 125 °C
Operation Temperature	-40 to +85 °C
RF Input Power ⁽¹⁾ - Test conditions: PW = 200ms; DC = 50% @ +25 °C	40 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 device may reduce device reliability.

⁽¹⁾ Input Power for both Input & Output ports

Minimum Lifetime Ratings

Conditions	Rating
RF Input Power ⁽¹⁾ , for both Input and Output ports	>500k hours

⁽¹⁾ Input Power: CW, 29 dBm, @ +55 °C

Electrical Specifications ⁽¹⁾

Test conditions, unless otherwise noted ⁽²⁾: +25 °C

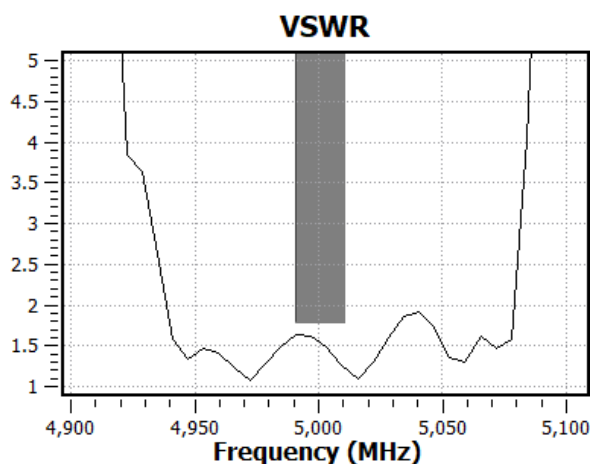
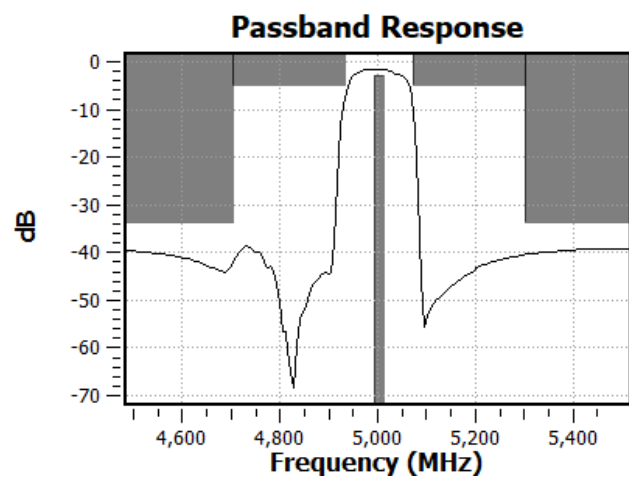
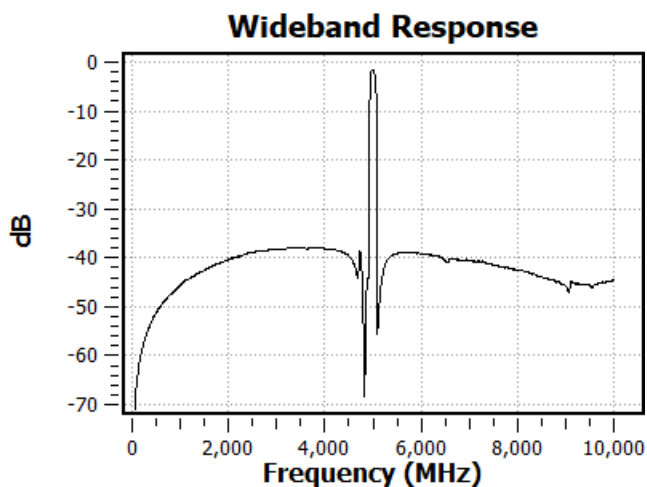
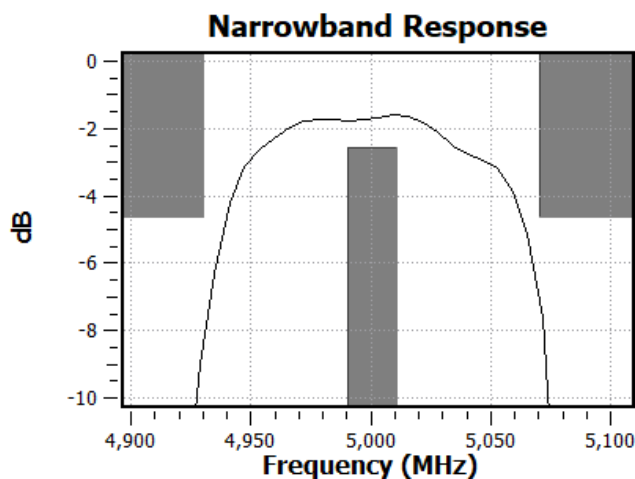
Parameter ⁽³⁾	Conditions	Min	Typical ⁽⁴⁾	Max	Units
Center Frequency (F _o)		-	5000	-	MHz
Maximum Insertion Loss	@ F _o	-	-	2.5	dB
3 dB Bandwidth	Reference loss @ F _o	-	-	140	MHz
Rejection	@ 4700 MHz	32	-	-	dBc
Rejection	@ 5300 MHz	32	-	-	dBc
VSWR	@ F _o	-	-	1.8:1	-
Source Impedance ⁽⁵⁾	Single-ended	-	50	-	Ω
Load Impedance ⁽⁵⁾	Single-ended	-	50	-	Ω

Notes:

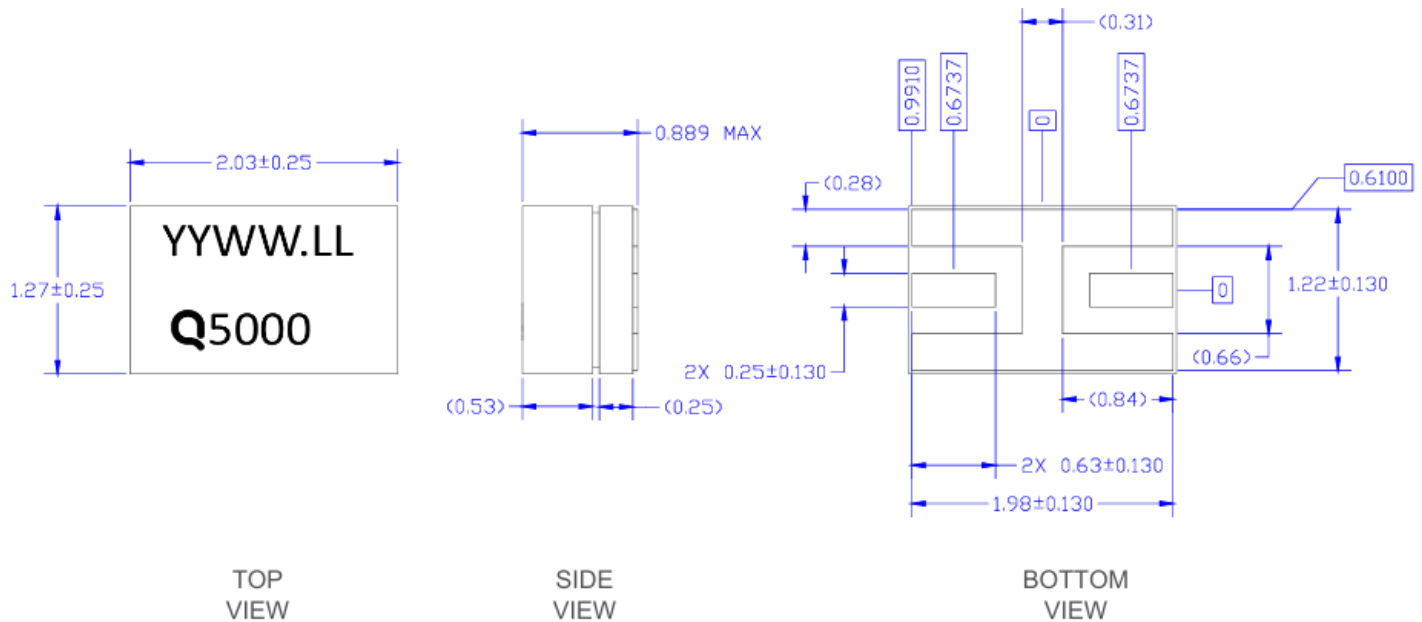
1. All specifications are based on the Matching Schematic shown on page 5.
2. Devices tested at room temperature to a guard band specification to ensure electrical compliance over temperature range.
3. Electrical margin has been built into the design to account for the variations due to temperature drift and manufacturing tolerances.
4. Typical values are based on average measurements at room temperature. (25 °C ±5 °C)
5. Optimum impedance to achieve the performance shown.

Performance

Test conditions: 25 °C ±5 °C



Device Package Information, Marking, and Dimensions



Package Style: CSP
Dimensions: 2.03 x 1.27 x 0.889 mm

Body: Sapphire
Package Lid: Alumina
Termination: Au plating over Ni (2.0-10.0µm Ni, 0.2-0.83µm Au)

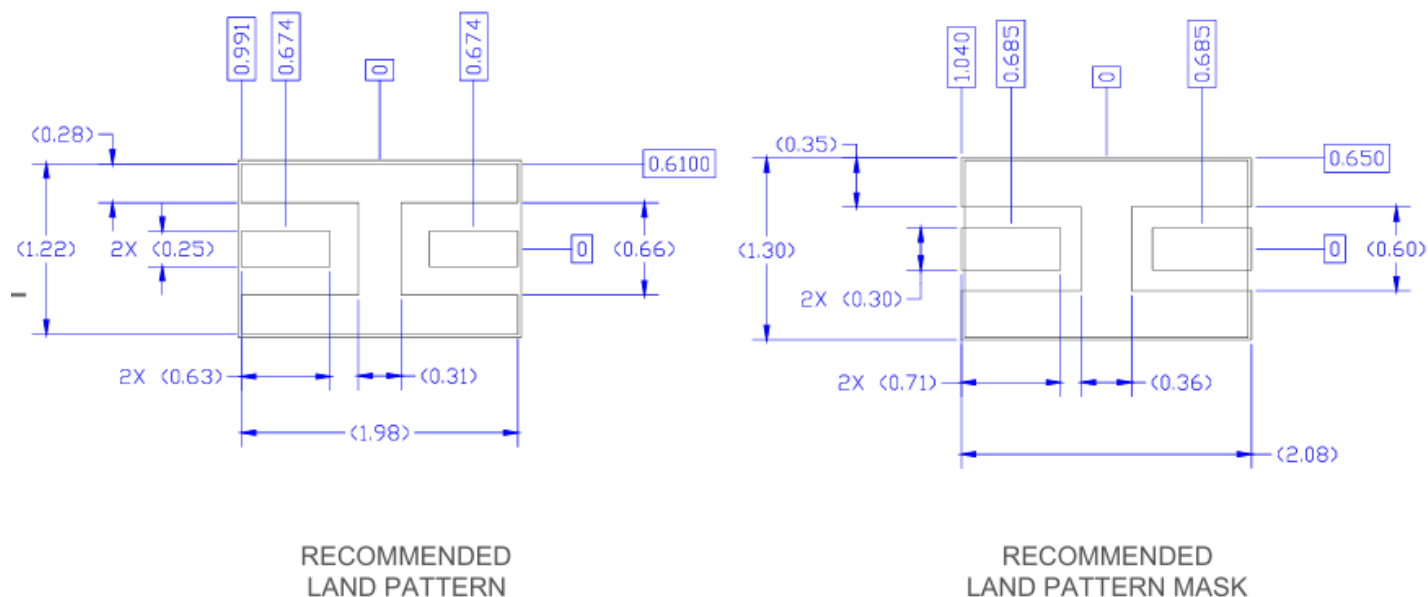
All dimensions shown are nominal in millimeters.
All tolerances are ± 0.13 mm except overall length and width ± 0.25 mm
Overall width, length, and thickness are the only critical dimensions. All other dimensions are for reference only.

Marking includes date code, and product part number.
The date code consists of, YY = last 2 digits of the year, WW = 2 digits of calendar work week, and LL = Lot ID
Marking Diagram is for Reference Only.

Packaging Information

- Solder tinning is available per IPC J-STD-001.

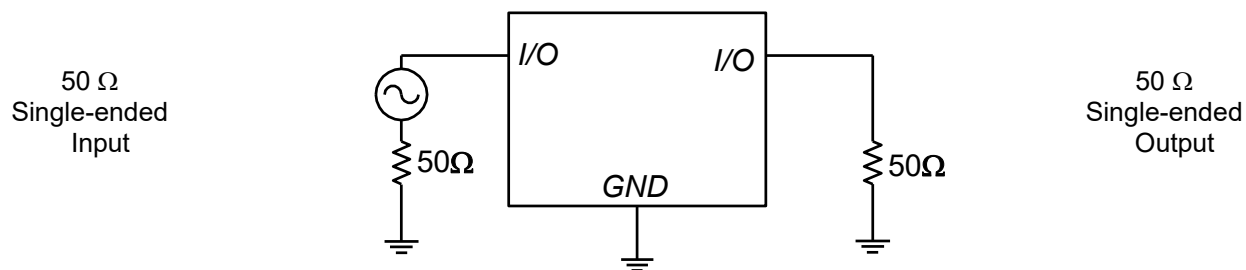
Recommended PCB Mounting Pattern



Notes:

1. All dimensions are in millimeters.
2. Modifications may be necessary to suit end user assembly materials and processes.

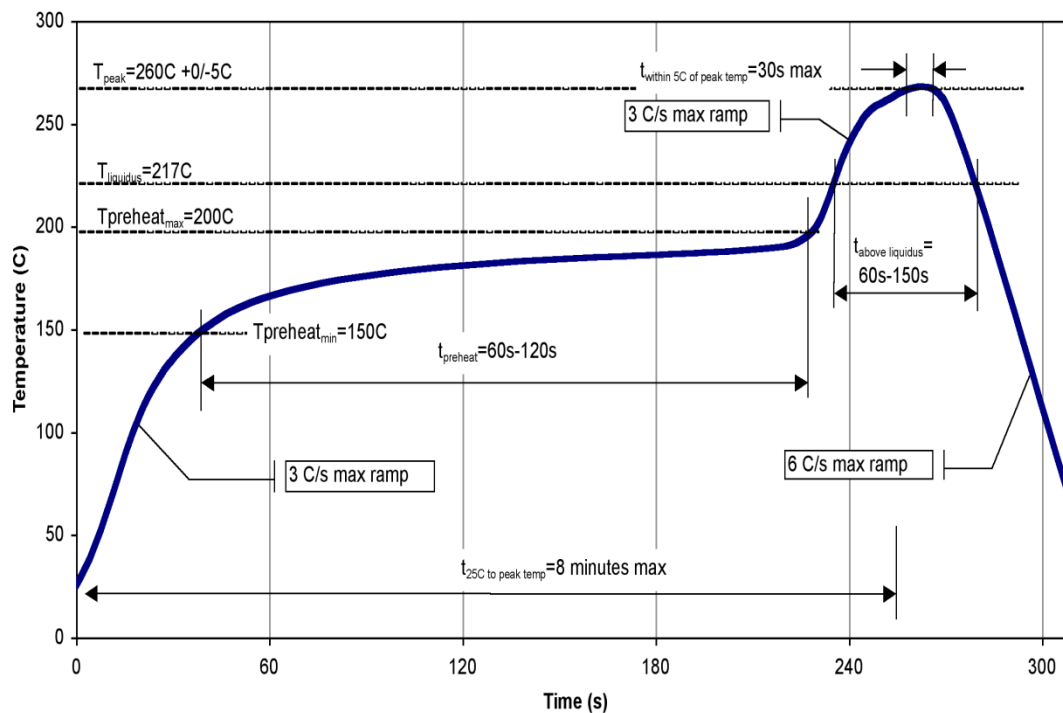
Matching Schematics



Assembly Notes

1. Compatible with lead-free soldering process with 260° C peak reflow temperature.
2. Contact plating: Ni-Au

Recommended Soldering Profile





QPQ5000

5000 MHz BAW Filter

Handling Precautions

Parameter	Rating	Standard
ESD – Human Body Model (HBM)	Class 1B	ANSI /ESD/JEDEC JS-001
ESD – Charged Device Model (CDM)	Class C3	ANSI /ESD/JEDEC JS-002
MSL – Moisture Sensitivity Level	N/A (Hermetic Package)	



Caution!
ESD-Sensitive Device

RoHS Compliance

This part is compliant with 2011/65/EU RoHS directive (Restrictions on the Use of Certain Hazardous Substances in Electrical and Electronic Equipment) as amended by Directive 2015/863/EU.

This product also has the following attributes:

- Lead Free
- 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:

Web: www.qorvo.com

Tel: 1-844-890-8163

Email: customer.support@qorvo.com

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