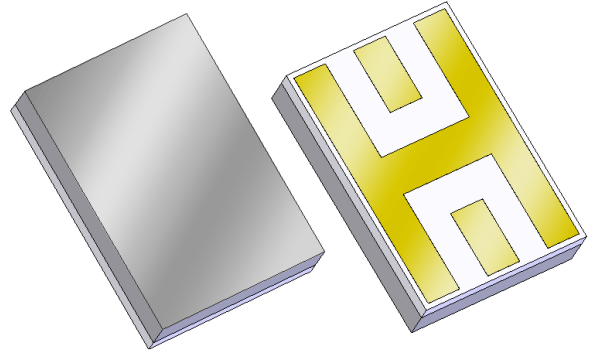


General Description

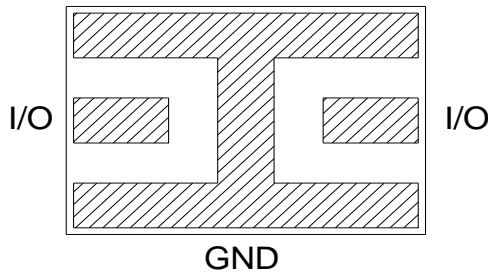
880374 is a 1090 MHz RF Filter designed in a small hermetic package for high selectivity applications.

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



CSP: 3.74 X 2.59 X 0.889 mm

Functional Block Diagram



Bottom View

Pin Configuration - Single Ended

| Pin No. | Label |
|---------|----------------|
| I/O | Input / Output |
| GND | Ground |

Product Features

- Usable bandwidth 16 MHz
- Low Insertion Loss
- High Selectivity
- Single-Ended Operation
- No External Matching Requested
- 50 Ω Impedance at Input / Output
- Ceramic Chip-Scale Package (CSP)
- Small Size
- Hermetically Sealed
- **RoHS** Compliant, **Pb-Free**

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

Applications

- For SSR/IFF Applications
- For High Selectivity Applications

Ordering Information

| Part No. | Description |
|------------|---------------------|
| 880374 | 1090 MHz BAW Filter |
| 880374-T/R | Tape/Reel |
| 880374-EVB | Evaluation board |

Absolute Maximum Ratings

| Parameter | Rating |
|---|--------------|
| Storage Temperature | -55 to 100°C |
| Operation Temperature | -40 to 85°C |
| RF Input Power ⁽¹⁾ - Test conditions: PW = 200ms; DC = 50% @ +25 °C | 42 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.

⁽¹⁾ Input Power for both Input & Output ports

Minimum Lifetime Ratings

| Conditions | Rating |
|---|------------|
| RF Input Power ⁽¹⁾ , Pin 1 & Pin 2 | >10K hours |

⁽¹⁾ Input Power: CW, 24 dBm, @ +71 °C

Electrical Specifications ^(1,2)

Test conditions unless otherwise noted: Temperature Range = -40 °C to +85 °C, 50 Ω system

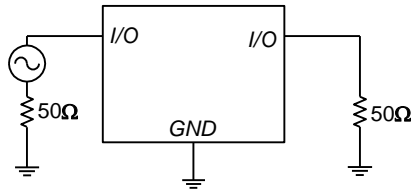
| Parameter ⁽³⁾ | Conditions | Min | Typical ⁽⁴⁾ | Max | Units |
|---------------------------------|------------------------|--------|------------------------|--------|-------|
| Center Frequency (Fo) | | - | 1090 | - | MHz |
| Maximum Insertion Loss | @ Fo | - | 3.0 | 4.0 | dB |
| 3 dB Bandwidth | Reference to Loss @ Fo | 16 | 22 | - | MHz |
| 40 dB Lower Frequency Edge | Reference to Loss @ Fo | 1067.5 | 1073.0 | - | MHz |
| 40 dB Upper Frequency Edge | Reference to Loss @ Fo | - | 1107.0 | 1112.5 | MHz |
| VSWR | @ Fo | - | 1.7:1 | 2.0:1 | |
| Source Impedance ⁽⁵⁾ | Single Ended | - | 50 | - | Ω |
| Load Impedance ⁽⁵⁾ | Single Ended | - | 50 | - | Ω |

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.

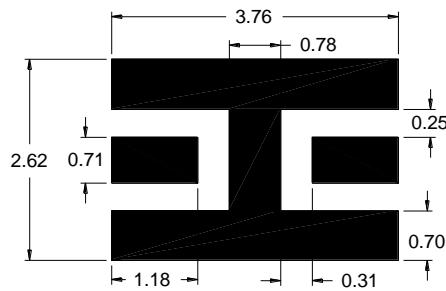
Matching Schematics

50 Ω
Single-ended
Input



50 Ω
Single-ended
Output

Recommended PCB Mounting Pattern

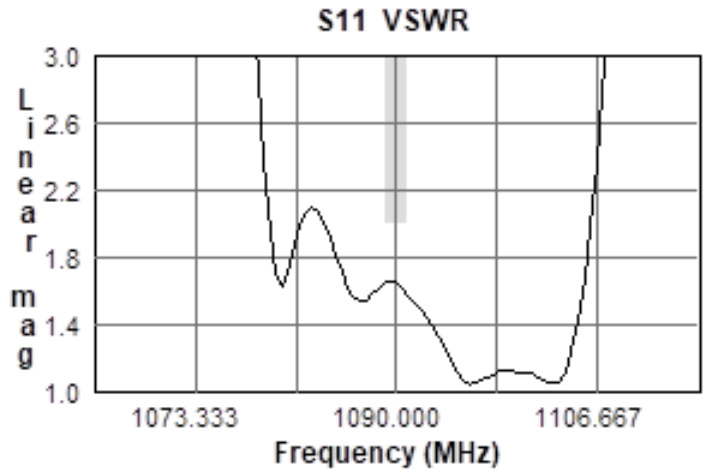
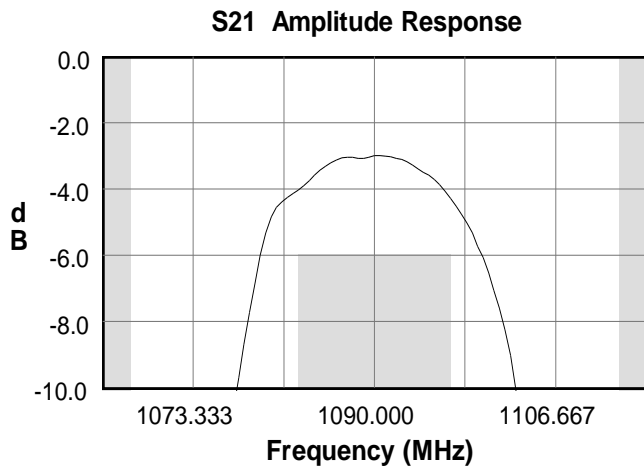
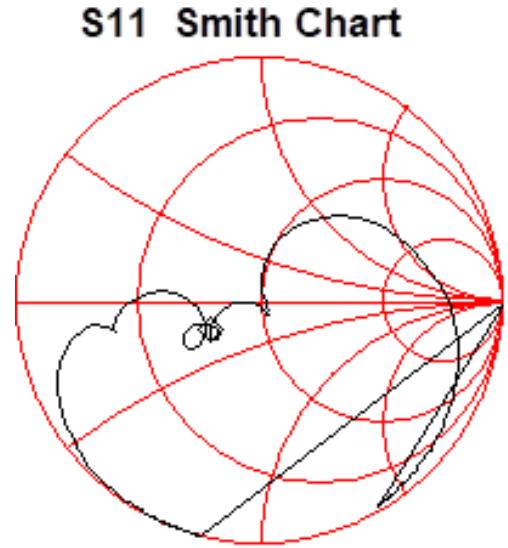
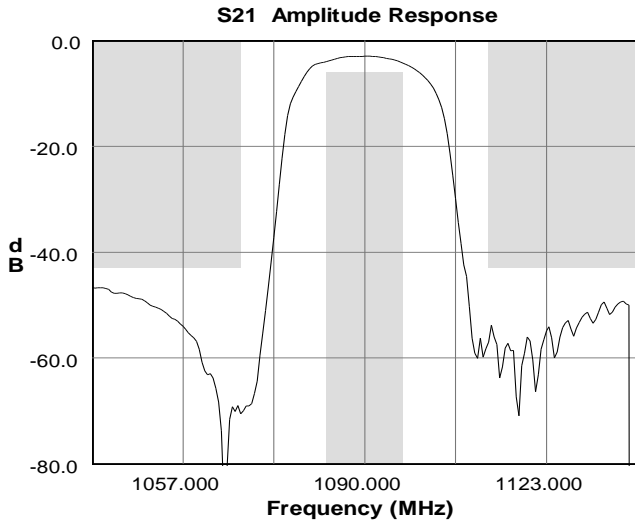


Notes:

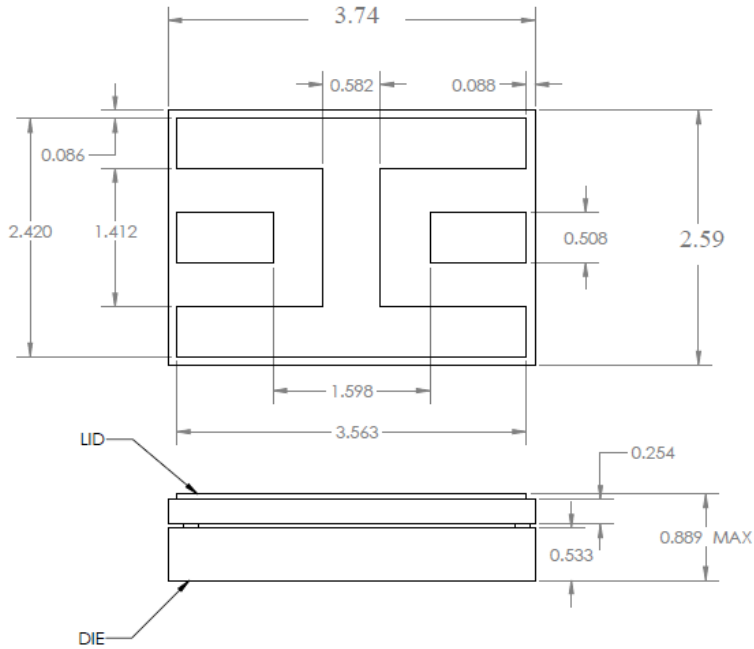
1. All dimensions are in millimeters.
2. Modifications may be necessary to suit end user assembly materials and processes.

Typical Performances

Test conditions unless otherwise noted: Temp = +25 °C ±5 °C, 50 Ω system



Device Package Information, Marking and Dimensions



Package Style: CSP
Dimensions: 3.74 x 2.59 x 0.889 mm

Package Base: Sapphire
Package Lid: Alumina
Terminations: Au plating over Ni (2.0 - 6.0 μm Ni, 0.33 – 1.0 μm Au)

All dimensions shown are nominal in millimeters.
All tolerances are $\pm 0.13\text{mm}$ except overall length and width $\pm 0.25\text{mm}$.
Overall width, length, and thickness are the only critical dimensions. All other dimensions are for reference only.

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

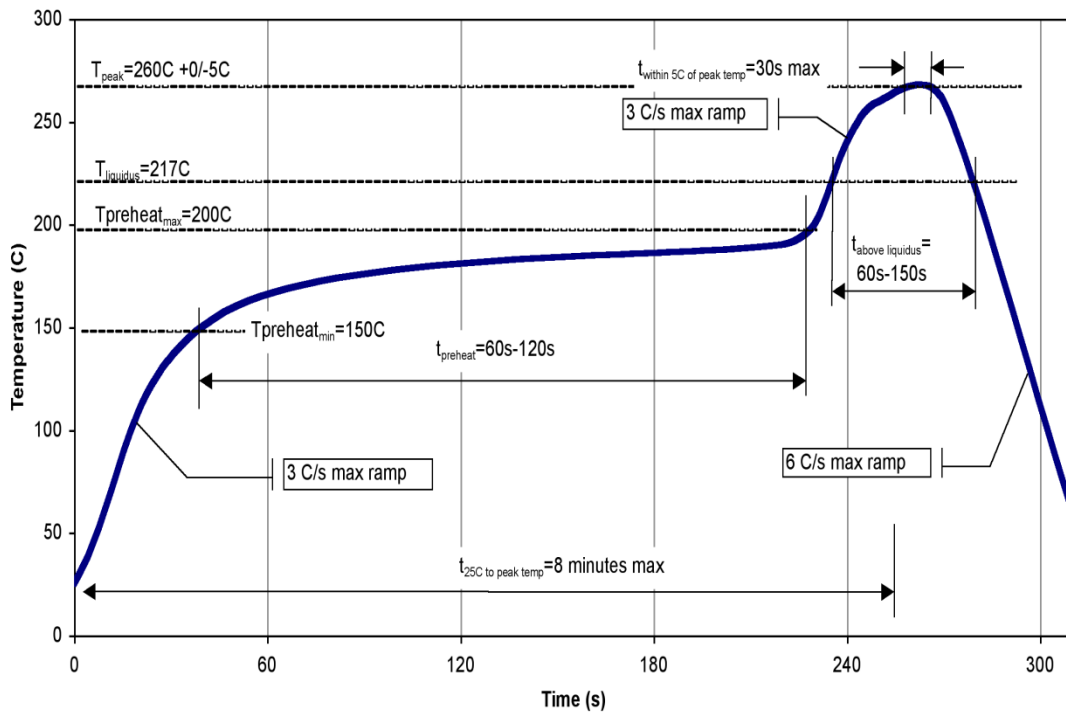
Packaging Information

- Tape and Reel per EIA-481 available. 7" Reel. Additional information available upon request.

Assembly Notes

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

Recommended Soldering Profile



Handling Precautions

| Parameter | Rating | Standard |
|----------------------------------|-----------------------|---------------------|
| ESD – Human Body Model (HBM) | Class 2 | ESDA / JEDEC JS-001 |
| ESD – Charged Device Model (CDM) | Class C3 | ESDA / 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
- SVHC Free
- PFOS 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

Important Notice

The information contained herein is believed to be reliable; however, Qorvo makes no warranties regarding the information contained herein and assumes no responsibility or liability whatsoever for the use of the information contained herein. All information contained herein is subject to change without notice. Customers should obtain and verify the latest relevant information before placing orders for Qorvo products. The information contained herein, or any use of such information does not grant, explicitly or implicitly, to any party any patent rights, licenses, or any other intellectual property rights, whether with regard to such information itself or anything described by such information. **THIS INFORMATION DOES NOT CONSTITUTE A WARRANTY WITH RESPECT TO THE PRODUCTS DESCRIBED HEREIN, AND QORVO HEREBY DISCLAIMS ANY AND ALL WARRANTIES WITH RESPECT TO SUCH PRODUCTS WHETHER EXPRESS OR IMPLIED BY LAW, COURSE OF DEALING, COURSE OF PERFORMANCE, USAGE OF TRADE OR OTHERWISE, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.**

Without limiting the generality of the foregoing, Qorvo products are not warranted or authorized for use as critical components in medical, lifesaving, or life-sustaining applications, or other applications where a failure would reasonably be expected to cause severe personal injury or death.

Copyright 2021 © Qorvo, Inc. | Qorvo is a registered trademark of Qorvo, Inc.