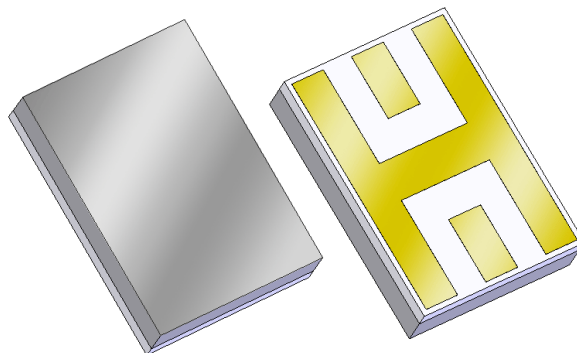


### General Description

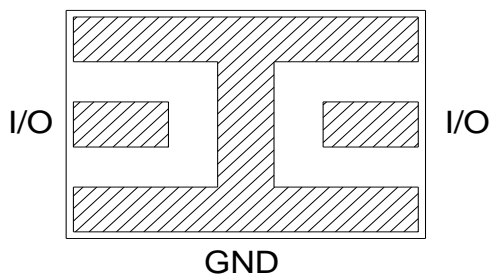
880374 is a 1090 MHz RF Filter designed in a small hermetic package for high selectivity applications.

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

### Product Features

- Usable bandwidth 16 MHz
- Low Insertion Loss
- High Selectivity
- Single-Ended Operation
- No External Matching Requested
- 50  $\Omega$  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

### Pin Configuration - Single Ended

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

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

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

### Minimum Lifetime Ratings

Conditions	Rating
RF Input Power <sup>(1)</sup> , Pin 1 & Pin 2	>10K hours

<sup>(1)</sup> Input Power: CW, 24 dBm, @ +71 °C

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

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

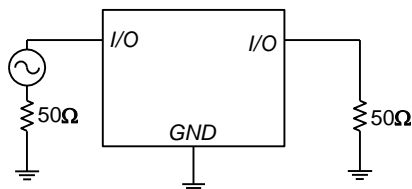
Parameter <sup>(3)</sup>	Conditions	Min	Typical <sup>(4)</sup>	Max	Units
Center Frequency (Fo)		-	1090	-	MHz
Maximum Insertion Loss	@ Fo	-	3.0	4.0	dB
3 dB Lower Frequency Edge	Reference to Loss @ Fo	-	-	1082	MHz
3 dB Upper Frequency Edge	Reference to Loss @ Fo	1098	-	-	MHz
40 dB Lower Frequency Edge	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 <sup>(5)</sup>	Single Ended	-	50	-	Ω
Load Impedance <sup>(5)</sup>	Single Ended	-	50	-	Ω

#### Notes:

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

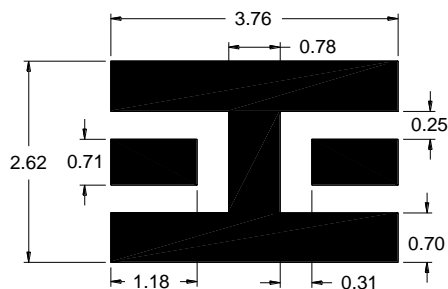
## Matching Schematics

50  $\Omega$   
 Single-ended  
 Input



50  $\Omega$   
 Single-ended  
 Output

## Recommended PCB Mounting Pattern

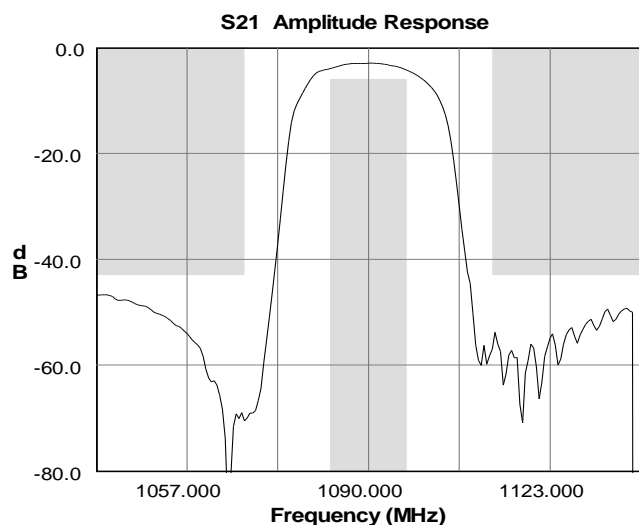


### Notes:

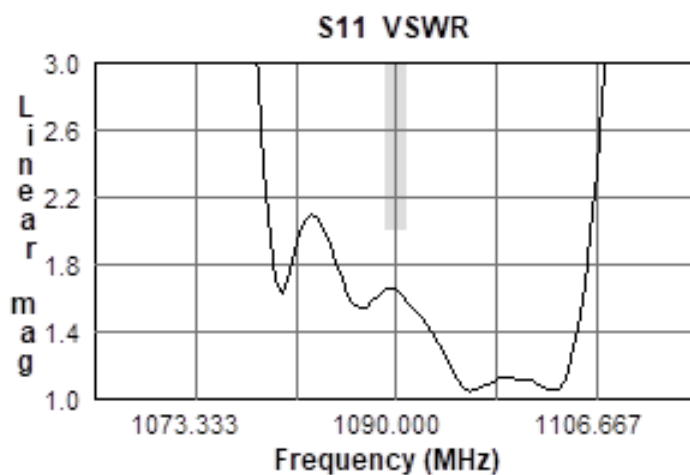
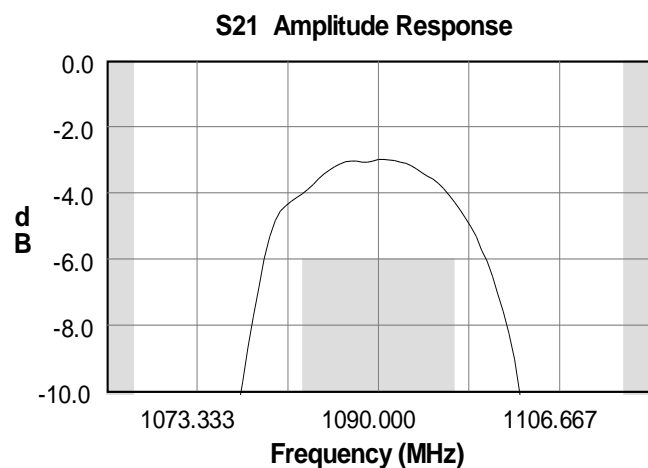
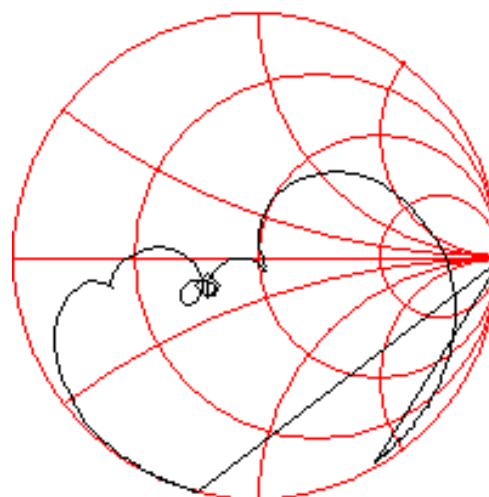
1. All dimensions are in millimeters.
2. Modifications may be necessary to suit end user assembly materials and processes.

## Typical Performances

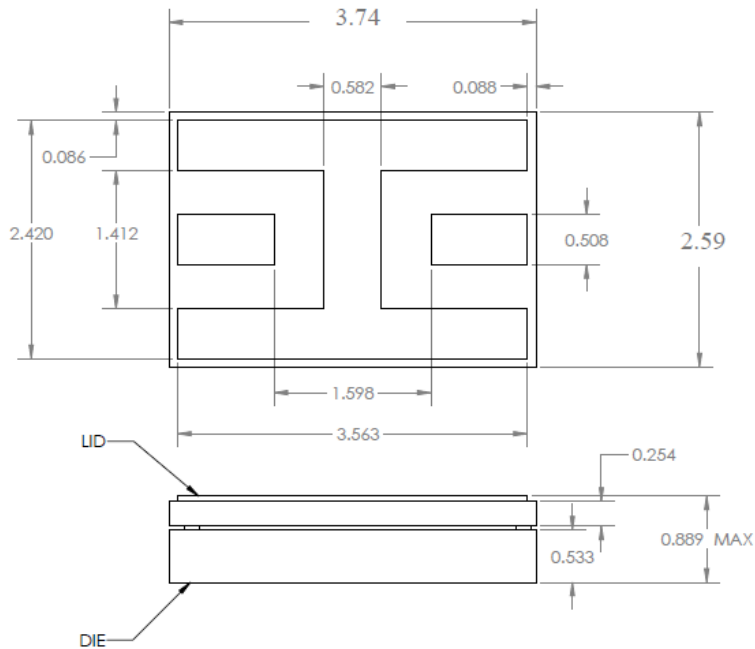
Test conditions unless otherwise noted: Temp = +25 °C ±5 °C, 50 Ω system



**S11 Smith Chart**



## 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  $\mu\text{m}$  Ni, 0.33 – 1.0  $\mu\text{m}$  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.

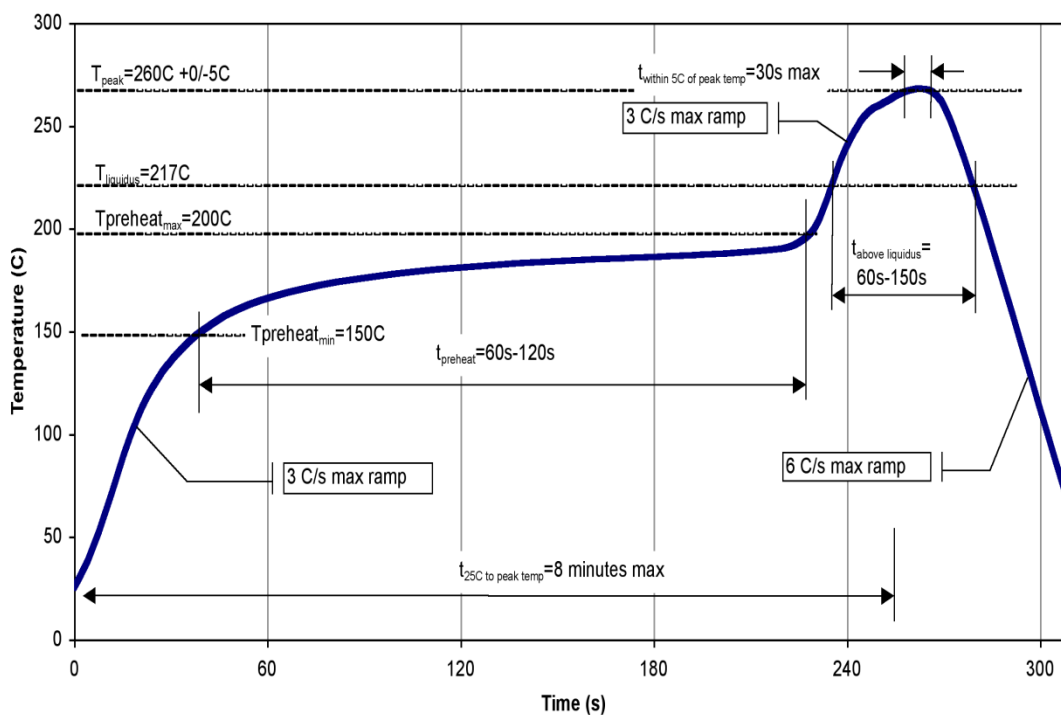
## Packaging Information

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

## Assembly Notes

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: 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 (C<sub>15</sub>H<sub>12</sub>Br<sub>4</sub>O<sub>2</sub>) Free
- SVHC Free
- PFOS Free

## Contact Information

For the latest specifications, additional product information, worldwide sales and distribution locations:

**Web:** [www.qorvo.com](http://www.qorvo.com)

**Tel:** 1-844-890-8163

**Email:** [customer.support@qorvo.com](mailto:customer.support@qorvo.com)

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