

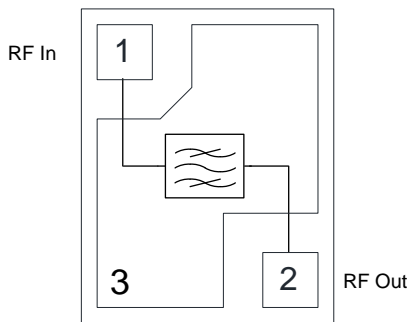
Product Overview

The QPQ1280 is an ultra-high performance Bulk Acoustic Wave (BAW) filter that provides 100 MHz bandwidth for uplink/downlink applications in Band 41. With low pass-band insertion loss and high out-of-band attenuation, the QPQ1280 is an ideal choice for TDD Macro Cells and Small Cells.

The QPQ1280 filter is fabricated using Qorvo’s world class BAW technology and is housed in a compact, industry standard 2.0 mm x 1.6 mm x 0.73 mm package that is lead free and RoHS compliant.

The QPQ1280 is part of Qorvo’s extensive portfolio of RF BAW and SAW filters.

Functional Block Diagram



Top View

Pin Configuration

| Pin No. | Label |
|---------|--------|
| 1 | RF In |
| 2 | RF Out |
| 3 | GND |



3 Pad, 2.0 mm x 1.6 mm x 0.73 mm SMT Package

Key Features

- 100 MHz Bandwidth – Band 41
- High Attenuation
- Low Insertion Loss
- Internally Matched to 50 Ohms
- Excellent Wi-Fi Rejection
- Single Input, Single Output Operation
- Small Size: 2.00 x 1.60 x 0.73 mm
- Surface Mount Device
- RoHS Compliant, Pb-Free

Applications

- Band 41
- Base Station Infrastructure
- Small Cells
- Repeaters
- Routers
- LTE Dongles
- General Purpose Wireless

Ordering Information

| Part No. | Description |
|---------------|--------------------------------------|
| QPQ1280SR | 100 pieces on a 7" reel |
| QPQ1280TR7 | 2,500 pieces on a 7" reel (standard) |
| QPQ1280PCB401 | Evaluation Board |

Absolute Maximum Ratings

| Parameter | Rating |
|-------------------------------|----------------|
| Storage Temperature | -40 to +125 °C |
| Operation Temperature | -40 to +95 °C |
| DC Voltage (at pin1 or pin 2) | +5 V |

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.

Life Test

| Conditions ^(1,2) | Rating |
|-----------------------------|-------------|
| +29 dBm, +95 °C | >93.7K Hrs |
| +29 dBm, +85 °C | >269.5K Hrs |
| +24 dBm, +95 °C | >1.1M Hrs |

Notes:

1. Power is applied to Pin 1.
2. FD-LTE, 5 MHz, 16QAM, PAR=8.5 dB

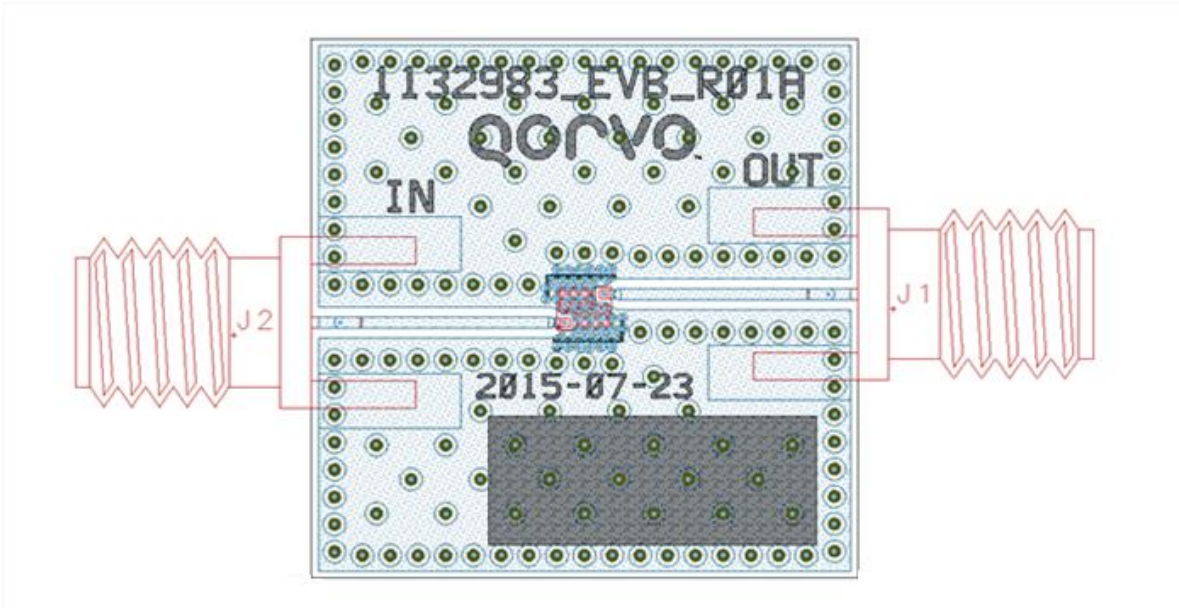
Electrical Specifications

| Parameter | Conditions ^(1,2) | Min | Typ ⁽³⁾ | Max | Unit | |
|------------------------------------|-----------------------------|------------------------|--------------------|--------|------|----|
| Passband | | 2555 | - | 2655 | MHz | |
| Insertion Loss | 2555 – 2655 MHz | Temp.=+25 °C | - | 2.6 | 2.9 | dB |
| | | Temp.=-40 °C to +95 °C | - | 3.0 | 4.0 | |
| Amplitude Variation ⁽⁴⁾ | 2555 – 2655 MHz | Temp.=+25 °C | - | 0.8 | 1.1 | dB |
| | | Temp.=-40 °C to +95 °C | - | 0.7 | 1.7 | |
| Attenuation ⁽⁵⁾ | 10 – 700 MHz | 41 | 46 | - | dB | |
| | 701 – 900 MHz | 27 | 32 | - | | |
| | 901 – 1564 MHz | 22 | 27 | - | | |
| | 1565 – 1615 MHz (GPS) | 35 | 40 | - | | |
| | 1616 – 1709 MHz | 35 | 41 | - | | |
| | 1710 – 1880 MHz (B3) | 26 | 31 | - | | |
| | 1920 – 2170 MHz (B1) | 20 | 24 | - | | |
| | 2300 – 2330 MHz | 35 | 40 | - | | |
| | 2400 – 2483 MHz | 45 | 50 | - | | |
| | 2720 – 3000 MHz | 15 | 20 | - | | |
| | 3000 – 3800 MHz | 30 | 35 | - | | |
| | 3800 – 4700 MHz | 16 | 25 | - | | |
| | 4700 – 5500 MHz | 33 | 38 | - | | |
| | 5500 – 6300 MHz | 23 | 28 | - | | |
| 6300 – 7500 MHz | 25 | 30 | - | | | |
| 7500 – 8000 MHz | 10 | 27 | - | | | |
| Input / Output VSWR | | | 1.43:1 | 1.92:1 | | |
| Input / Output Return Loss | | 10 | 15 | - | dB | |
| Group delay Variation | | | 21 | 40 | nS | |
| PIM | IIP3 | | +60 | | dBm | |
| 2nd Harmonic | Pin = +29 dBm | | 55 | | dBc | |
| 3rd Harmonic | Pin = +29 dBm | | 90 | | dBc | |

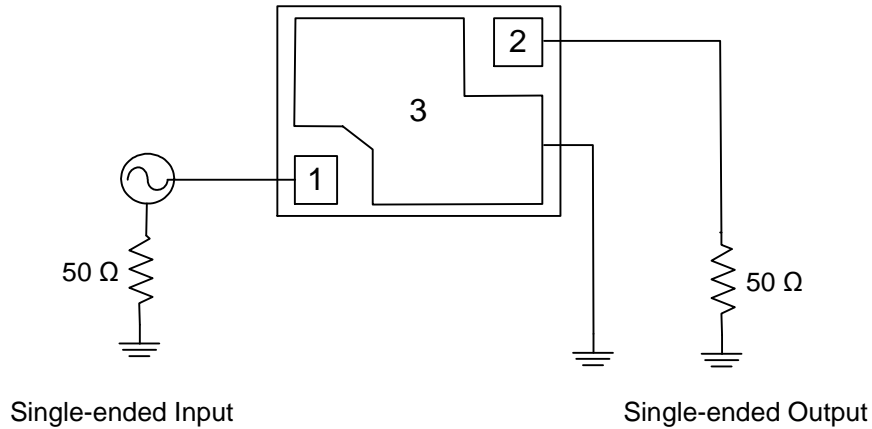
Notes:

1. Temperature Range for specified performance: -40 °C to +95 °C unless otherwise specified.
2. All specifications are based on the QORVO schematic for the main reference design shown on page 3.
3. Typical values are an average of 20 pieces measured at a temperature of +25 °C.
4. Amplitude Variation is defined as the worst difference between a peak and adjacent valley within defined frequency points
5. Attenuation is referenced to ZERO dB

Evaluation Board and Schematic - QPQ1280-PCB



Notes:
 1. Top, middle & bottom layers: 1/2 oz copper, Substrates: FR4 dielectric, .062" thick, Finish plating: Nickel: 3-8 μm thick, Gold: .03-.2 μm thick, Hole plating: Copper min .0008 μm thick.

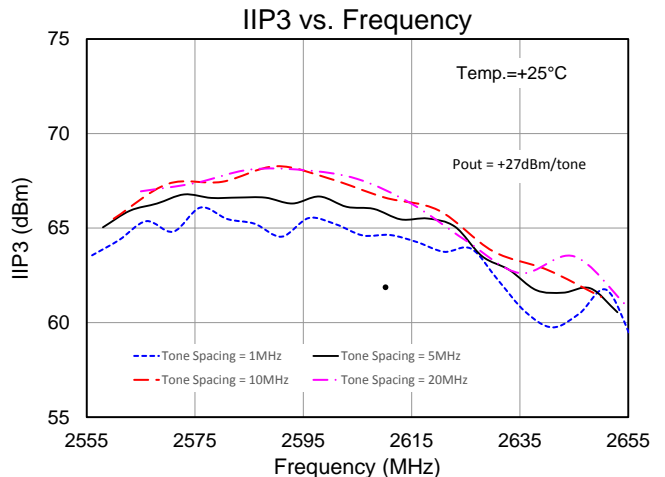
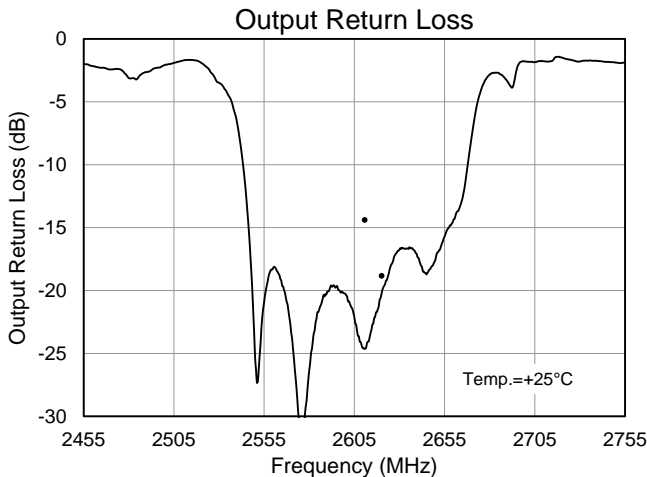
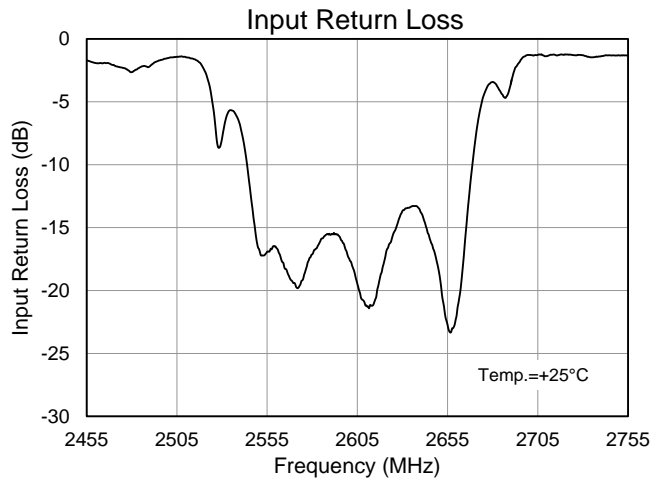
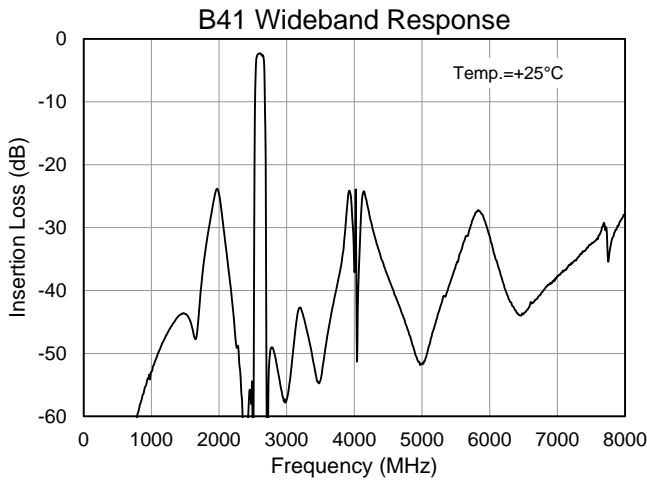
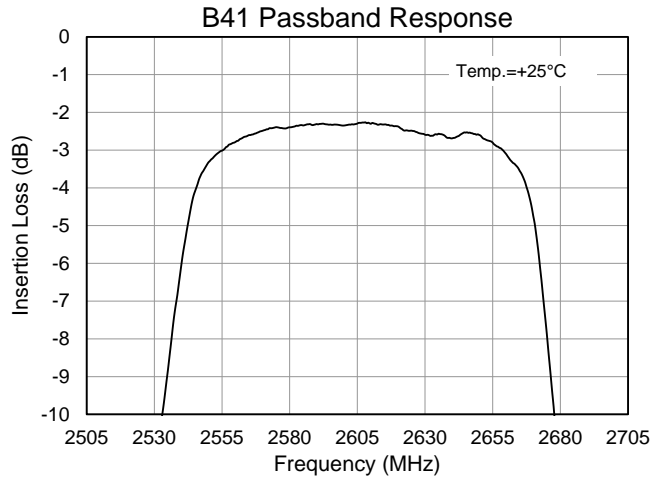
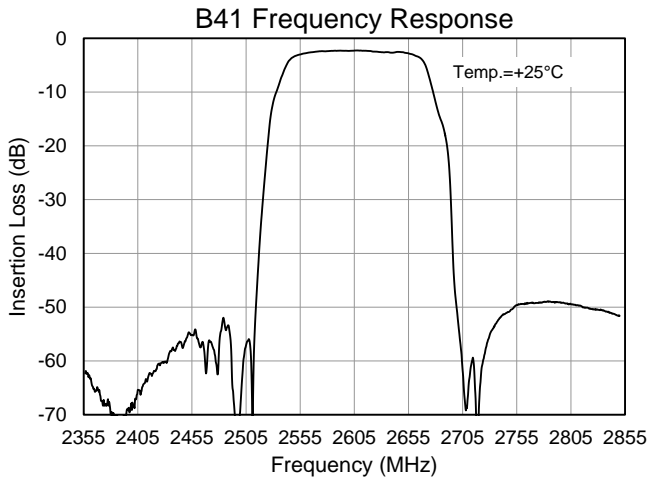


Bill of Material – QPQ1280-PCB

| Ref. Des. | Value | Description | Manufacturer | Part Number |
|-----------|-------|-----------------------|--------------|---------------|
| U1 | N/A | Band 41 BAW Filter | Qorvo | QPQ1280 |
| N/A | N/A | Printed Circuit Board | Qorvo | 1132983 |
| N/A | N/A | SMA Edge Connector | Radial | 9602-1111-018 |

Performance Plots – QPQ1280-PCB

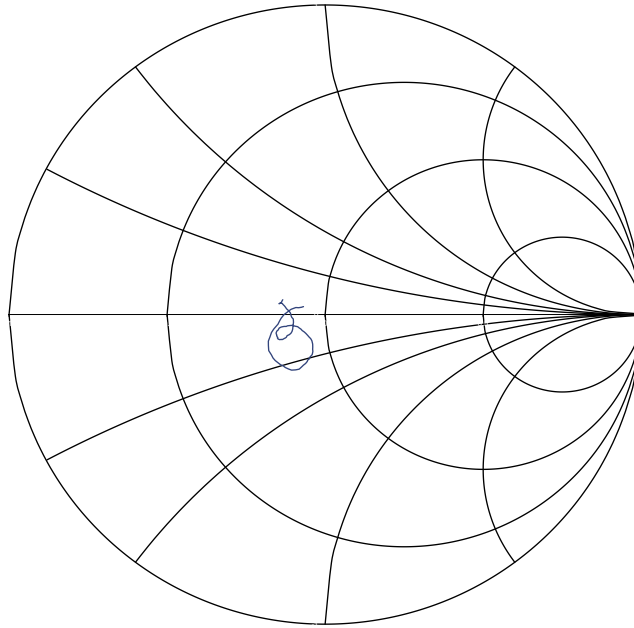
Test conditions unless otherwise noted: Temp.= +25 °C



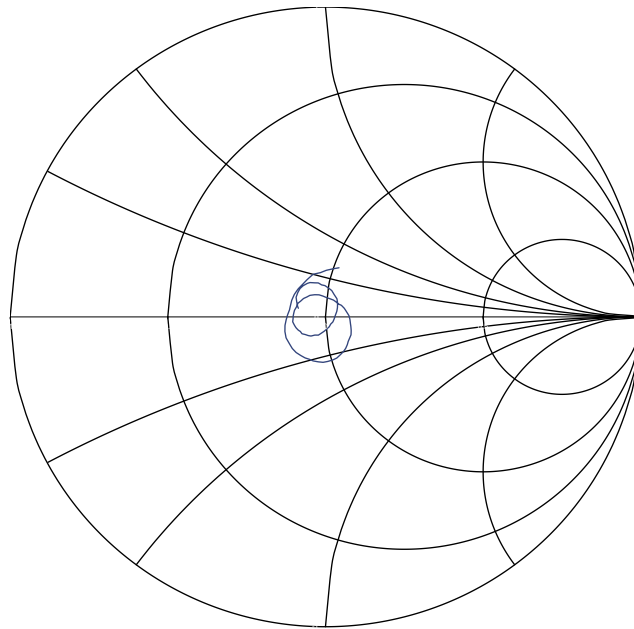
Performance Plots – QPQ1280-PCB

Test conditions unless otherwise noted: Temp. = +25 °C

Input VSWR

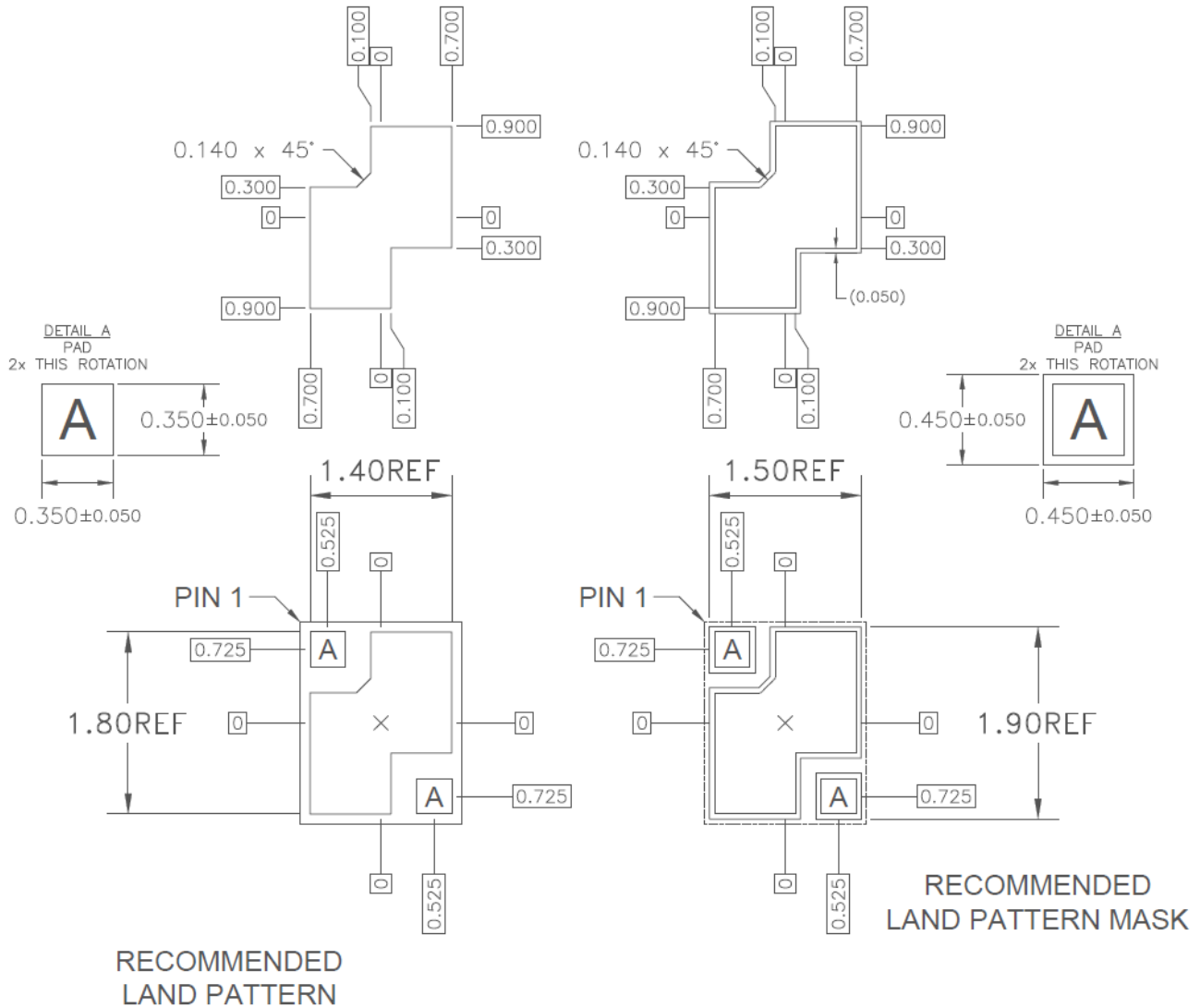


Output VSWR



PCB Mounting Pattern

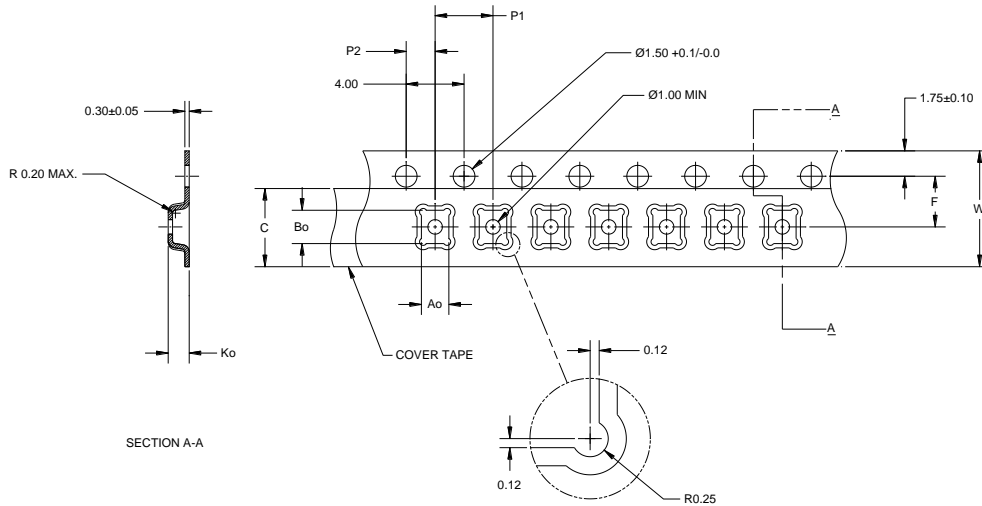
Standard T/R size = 2500 units/ 7" reel. All dimensions are in millimeters



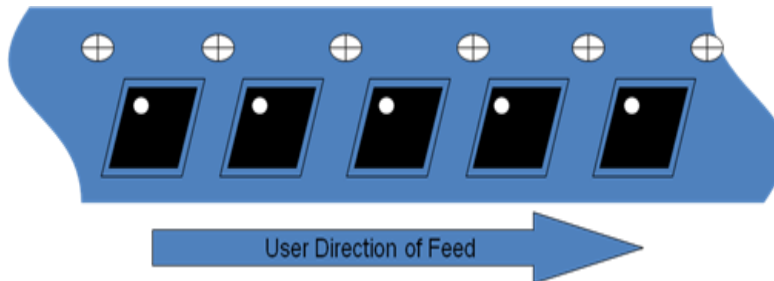
- Notes:
1. All dimensions are in millimeters. Angles are in degrees.
 2. Use 1 oz. copper minimum for top and bottom layer metal.

Tape and Reel Information – Carrier and Cover Tape Dimensions

Tape and reel specifications for this part are also available on the Qorvo website.
 Standard T/R size = 2500 pieces on a 7” reel.

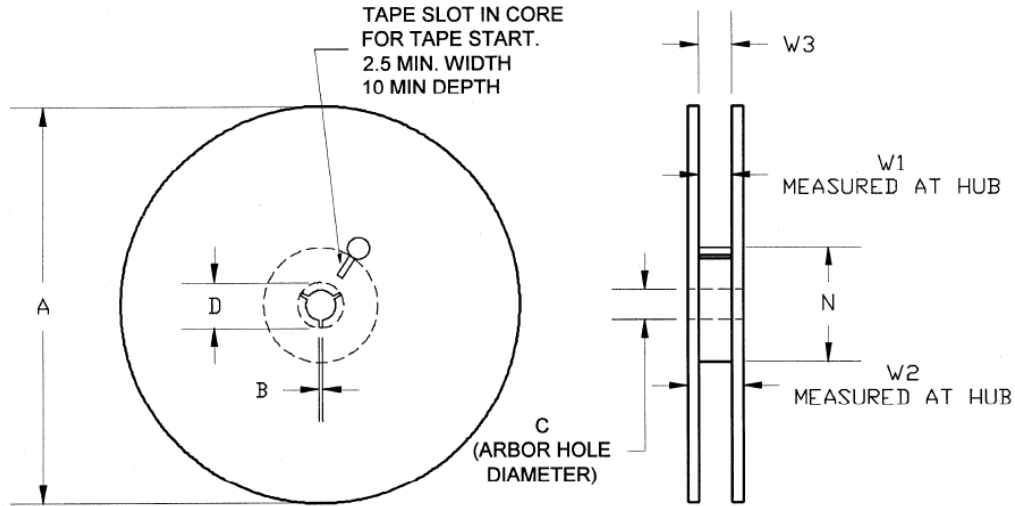


| Feature | Measure | Symbol | Size (in) | Size (mm) |
|---------------------|--|--------|-----------|-----------|
| Cavity | Length | A0 | 0.077 | 1.95 |
| | Width | B0 | 0.093 | 2.35 |
| | Depth | K0 | 0.045 | 1.15 |
| | Pitch | P1 | 0.157 | 4.00 |
| Centerline Distance | Cavity to Perforation - Length Direction | P2 | 0.079 | 2.00 |
| | Cavity to Perforation - Width Direction | F | 0.138 | 3.50 |
| Cover Tape | Width | C | 0.213 | 5.40 |
| Carrier Tape | Width | W | 0.315 | 8.00 |



Tape and Reel Information – Reel Dimensions

Tape and reel specifications for this part are also available on the Qorvo website.
 Standard T/R size = 2500 pieces on a 7" reel.



| Feature | Measure | Symbol | Size (in) | Size (mm) |
|---------|----------------------|--------|-----------|-----------|
| Flange | Diameter | A | 6.969 | 177.0 |
| | Thickness | W2 | 0.559 | 14.2 |
| | Space Between Flange | W1 | 0.346 | 8.8 |
| Hub | Outer Diameter | N | 2.283 | 58.0 |
| | Arbor Hole Diameter | C | 0.512 | 13.0 |
| | Key Slit Width | B | 0.079 | 2.0 |
| | Key Slit Diameter | D | 0.787 | 20.0 |

Handling Precautions

| Parameter | Rating | Standard |
|----------------------------------|----------|---------------------------|
| ESD – Human Body Model (HBM) | Class 1C | ANSI / ESD / JEDEC JS-001 |
| ESD – Charged Device Model (CDM) | Class C3 | ANSI / ESD / JEDEC JS-002 |
| MSL – Moisture Sensitivity Level | Level 3 | IPC/JEDEC J-STD-020 |



Caution!
ESD-Sensitive Device

Solderability

Compatible with lead-free (260°C max. reflow temp.) soldering process.
Solder profiles available upon request.

Contact plating: ENIG (Electroless Nickel Immersion Gold)

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

For technical questions and application information:

Email: appsupport@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, life-saving, or life-sustaining applications, or other applications where a failure would reasonably be expected to cause severe personal injury or death.

Copyright 2018 © Qorvo, Inc. | Qorvo is a registered trademark of Qorvo, Inc.

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [Signal Conditioning](#) category:

Click to view products by [Qorvo](#) manufacturer:

Other Similar products are found below :

[MAPDCC0001](#) [MAPDCC0004](#) [PD0409J5050S2HF](#) [880157](#) [HHS-109-PIN](#) [DC1417J5005AHF](#) [AFS14A30-2185.00-T3](#) [AFS14A35-1591.50-T3](#) [DS-323-PIN](#) [B39321R801H210](#) [1A0220-3](#) [JP510S](#) [LFB212G45SG8C341](#) [LFB322G45SN1A504](#) [LFL182G45TC3B746](#) [SF2159E](#) [30057](#)
[FM-104-PIN](#) [CER0813B](#) [MAPDCC0005](#) [3A325](#) [40287](#) [41180](#) [ATB3225-75032NCT](#) [BD0810N50100AHF](#) [BD2425J50200AHF](#)
[C5060J5003AHF](#) [JHS-115-PIN](#) [JP503AS](#) [DC0710J5005AHF](#) [DC2327J5005AHF](#) [DC3338J5005AHF](#) [43020](#) [LFB2H2G60BB1C106](#)
[LFL15869MTC1B787](#) [X3C19F1-20S](#) [XC3500P-20S](#) [10013-20](#) [SF2194E](#) [CDBLB455KCAX39-B0](#) [TGL2208-SM, EVAL](#) [RF1353C](#)
[PD0922J5050D2HF](#) [1E1305-3](#) [1F1304-3S](#) [1G1304-30](#) [B0922J7575AHF](#) [2020-6622-20](#) [TP-103-PIN](#) [BD1222J50200AHF](#)