



# QPQ1296

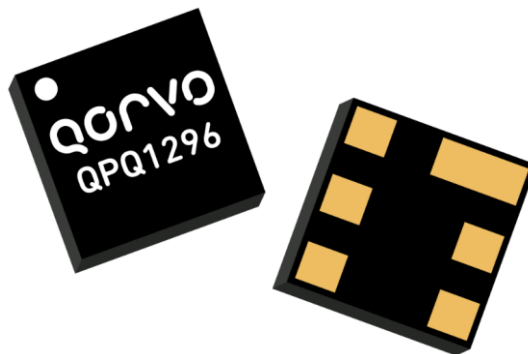
## Band 25 Uplink BAW Filter

### Product Overview

The QPQ1296 is an exceptionally high performance BAW filter for Band 25 Uplink. This filter is housed in a compact 3.00x3.00 x 0.91 mm package for base station applications.

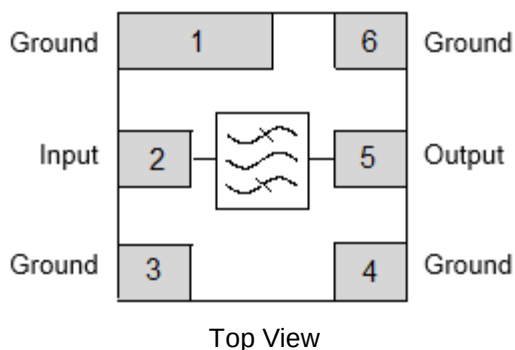
Low insertion loss, coupled with high attenuation makes this filter an ideal choice for RF filtering needs.

The QPQ1296 is part of Qorvo's extensive portfolio of RF BAW and SAW filters.



6 Pad 3.00 mm x 3.00 mm x 0.91 mm SMP

### Functional Block Diagram



### Key Features

- 65 MHz Bandwidth
- High Attenuation
- Low Loss
- Single-ended Operation
- Small Size: 3.00x3.00x0.91 mm
- Surface Mount Device
- RoHS Compliant, Pb-Free

### Applications

- Band 25 UL
- Small Cell
- Base Station Infrastructure
- General Purpose Wireless

### Pin Configuration - Single Ended

| Pin No.    | Label       |
|------------|-------------|
| 2          | Input       |
| 5          | Output      |
| 1, 3, 4, 6 | Case Ground |

### Ordering Information

| Part No.   | Description                    |
|------------|--------------------------------|
| QPQ1296SR  | Sample Reel with 100 pieces    |
| QPQ1296TR7 | 7" Taped Reel with 2500 pieces |
| QPQ1296EVB | Assembled Evaluation Board     |

## Absolute Maximum Ratings <sup>(1)</sup>

| Parameter             | Rating        |
|-----------------------|---------------|
| Storage Temperature   | -40 to +125°C |
| Operating Temperature | 0 to +70 °C   |
| RF in <sup>(2)</sup>  | +37 dBm       |

Notes:

1. Operation of this device outside the parameter ranges given may cause permanent damage.
2. 500ms Pulse Width, 5% Duty Cycle Pulses

## Minimum Lifetime Ratings

| Conditions                          | Rating           |
|-------------------------------------|------------------|
| +27 dBm In-band at Input, +70°C, CW | >1,000,000 hours |
| +28 dBm In-band at Input, +55°C, CW | >800,000 hours   |

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

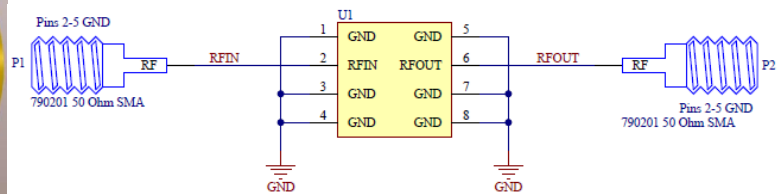
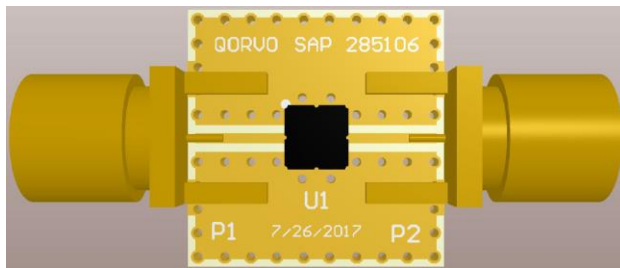
Test conditions unless otherwise specified. Temperature Range: 0 to +70 °C

| Parameter                     | Conditions <sup>(1, 2)</sup> | Min | Typ   | Max  | Unit |
|-------------------------------|------------------------------|-----|-------|------|------|
| Insertion Loss <sup>(2)</sup> | 1850 – 1913 MHz              | -   | 2.0   | 3.5  | dB   |
|                               | 1913 – 1915 MHz              | -   | 2.7   | 7.0  | dB   |
| Input VSWR                    | 1850 – 1915 MHz              | -   | 1.7:1 | 2.0  | -    |
| Output VSWR                   | 1850 – 1913 MHz              | -   | 1.7:1 | 2.3  | -    |
|                               | 1913 – 1915 MHz              | -   | 1.8:1 | 2.75 | -    |
| Attenuation <sup>(4)</sup>    | 1922.5 – 1930 MHz at +25°C   | 17  | 37    | -    | dB   |
|                               | 1930 – 1995 MHz              | 35  | 38    | -    | dB   |
|                               | 2110 – 2155 MHz              | 35  | 40    | -    | dB   |
|                               | 2155 – 2800 MHz              | 30  | 34    | -    | dB   |
|                               | 2800 – 3000 MHz              | 27  | 33    | -    | dB   |
|                               | 3000 – 6000 MHz              | 15  | 21    | -    | dB   |

Notes:

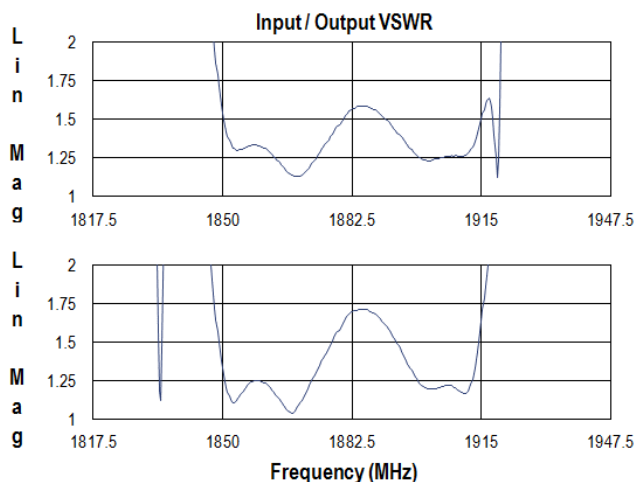
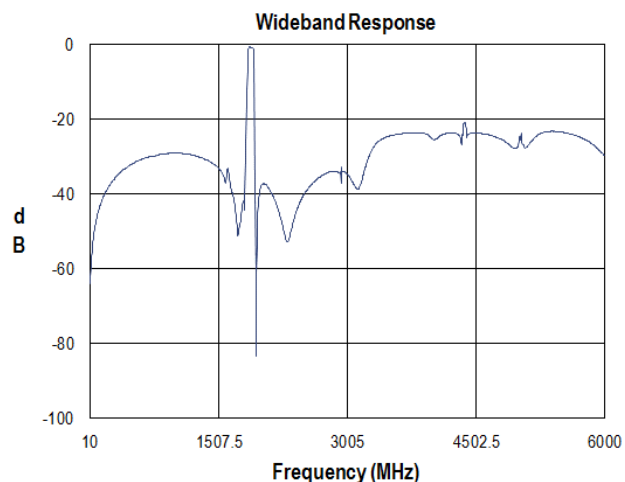
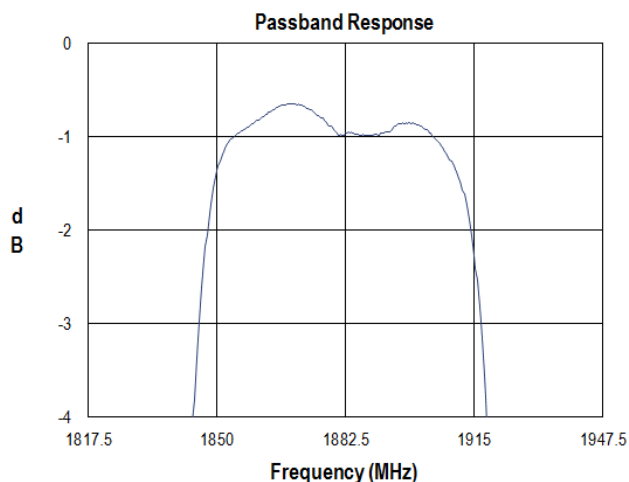
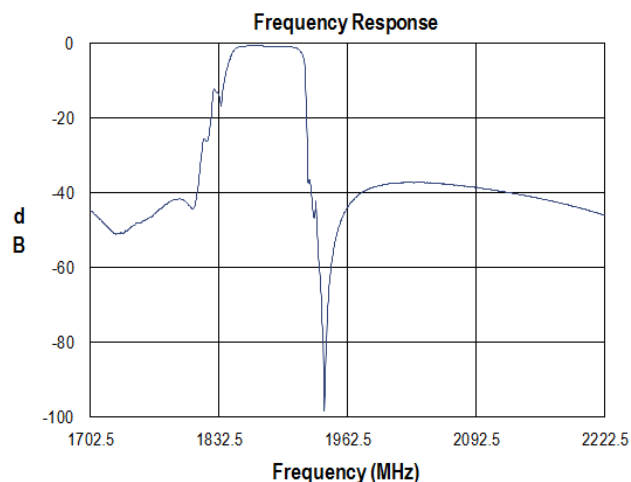
1. All specifications are based on the QORVO schematic for the main reference design.
2. Maximum Insertion Loss within defined frequency range.
3. Attenuation is referenced to zero dB

## Evaluation Board and Schematic – QPQ1296EVB

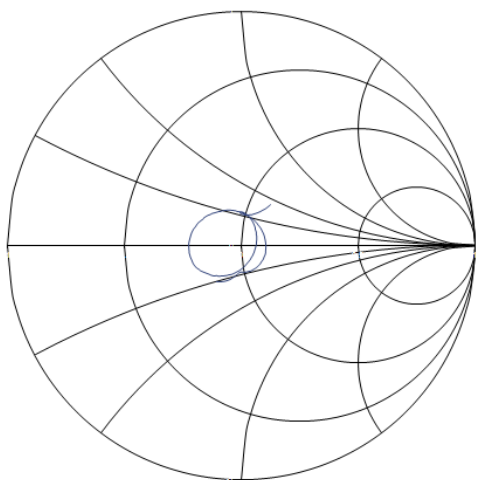


## Performance Plots

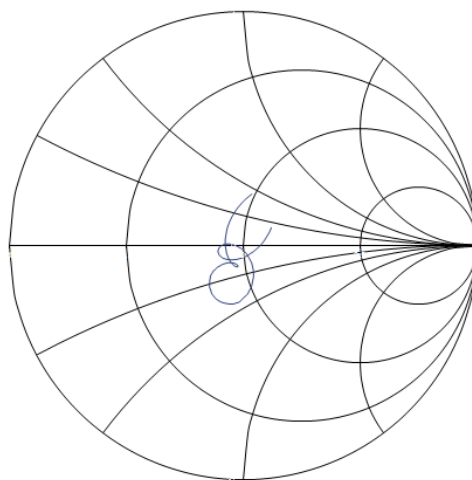
Test conditions unless otherwise noted: Temp= +25°C



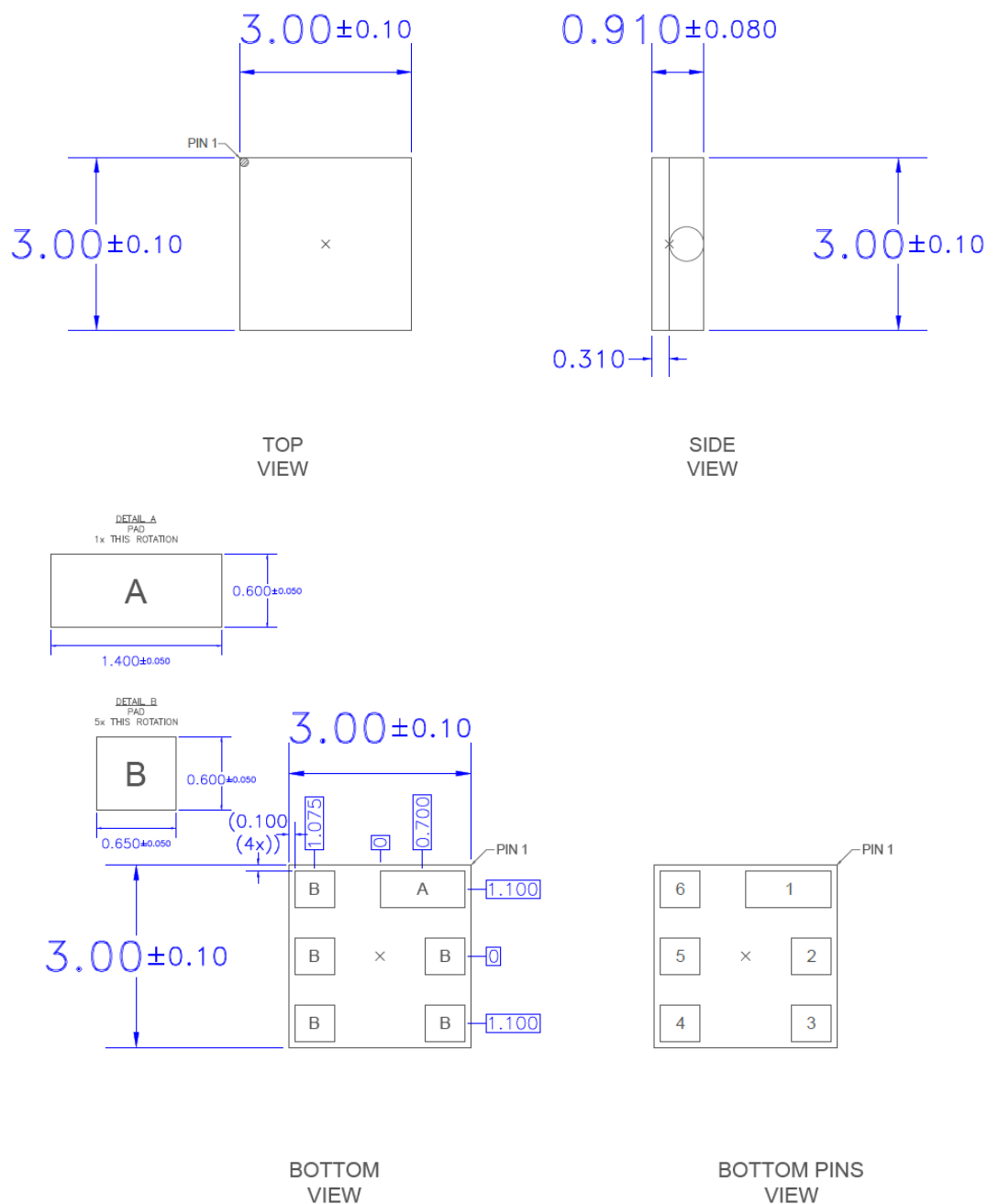
**Input Smith Chart**



**Output Smith Chart**



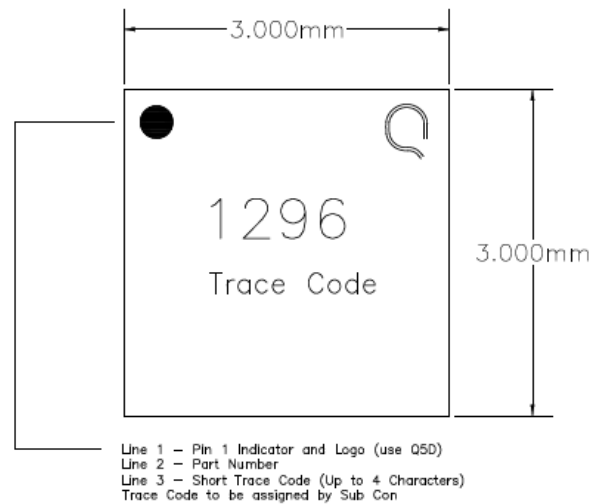
## Package Dimensions



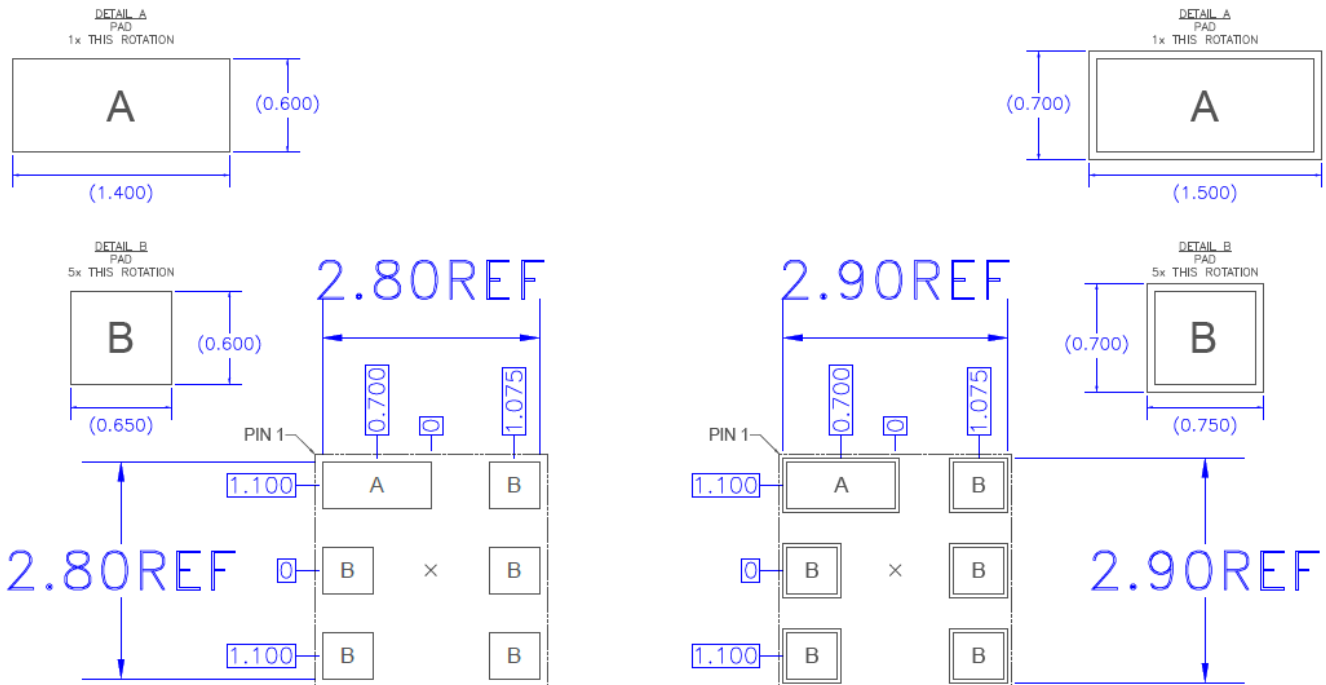
### Notes:

1. All dimensions are in millimeters. Angles are in degrees.
2. Dimension and tolerance formats conform to ASME Y14.4M-1994.
3. The terminal #1 identifier and terminal numbering conform to JESD 95-1 SPP-012.

## Package Marking



## PCB Mounting Pattern

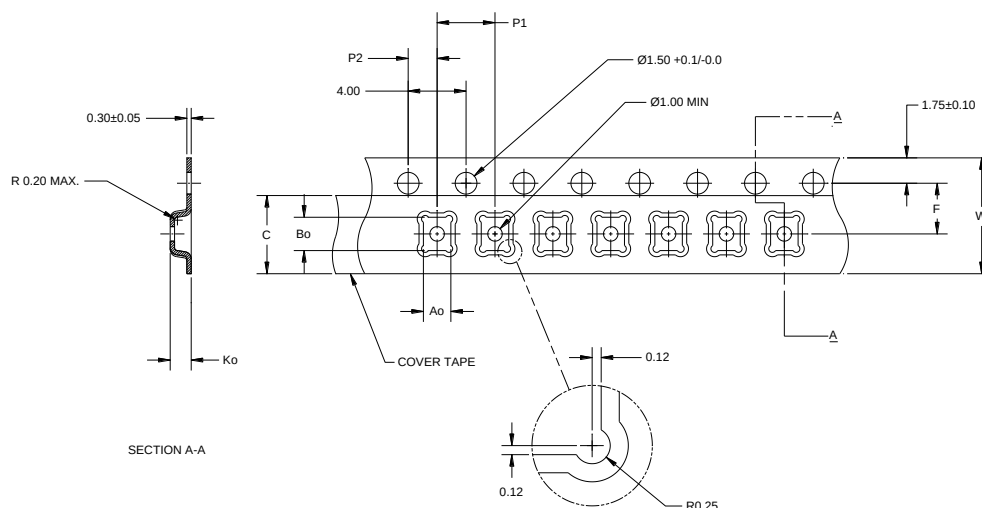


### Notes:

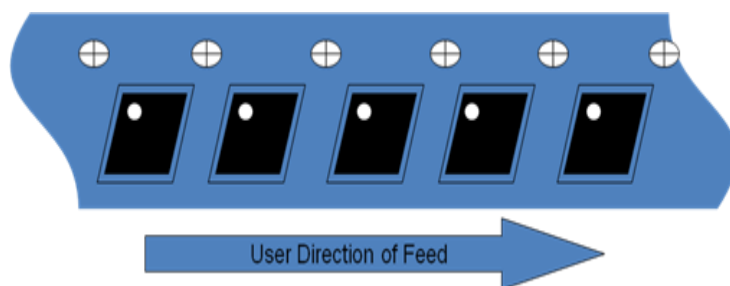
1. All dimensions are in millimeters. Angles are in degrees.
2. This drawing specifies the mounting pattern used on the Qorvo evaluation board for this product. Some modification may be necessary to suit end user assembly materials and processes.

## 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.

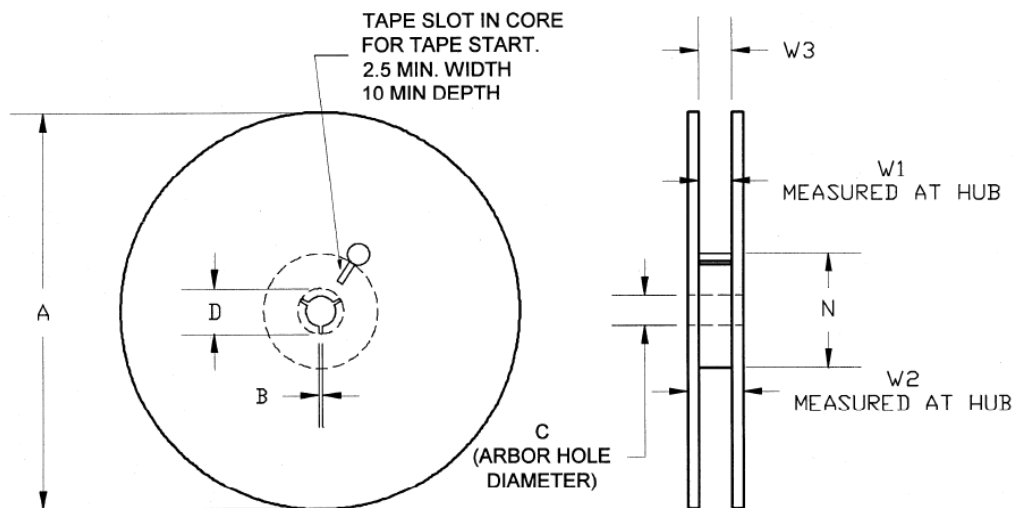


| Feature             | Measure                                  | Symbol | Size (in) | Size (mm) |
|---------------------|------------------------------------------|--------|-----------|-----------|
| Cavity              | Length                                   | A0     | 0.132     | 3.35      |
|                     | Width                                    | B0     | 0.132     | 3.35      |
|                     | Depth                                    | K0     | 0.051     | 1.30      |
|                     | 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 | ESDA / JEDEC JS-001-2012 |
| ESD – Charged Device Model (CDM) | Class C3 | ESDA / JEDEC JS-002-2014 |
| MSL – Moisture Sensitivity Level | Level 3  | IPC/JEDEC J-STD-020      |



Caution!  
ESD-Sensitive Device

## Solderability

Compatible with both lead-free (260°C max. reflow temp.) and tin/lead (245°C max. reflow temp.) soldering processes. 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 (C<sub>15</sub>H<sub>12</sub>Br<sub>4</sub>O<sub>2</sub>) Free
- PFOS Free
- SVHC 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)

For technical questions and application information:

**Email:** [appsupport@qorvo.com](mailto: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.

## Данный компонент на территории Российской Федерации

**Вы можете приобрести в компании MosChip.**

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

<http://moschip.ru/get-element>

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

### Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: [info@moschip.ru](mailto:info@moschip.ru)

Skype отдела продаж:

moschip.ru

moschip.ru\_4

moschip.ru\_6

moschip.ru\_9