

## Applications

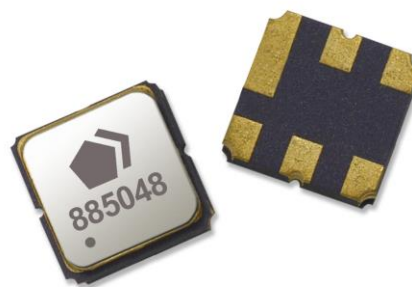
- General purpose RF filter/wireless
- Wireless infrastructure
- 4G, Multi-standard
- Band 25 Uplink

## Product Features

- Usable bandwidth 65 MHz
- High Attenuation
- Low Loss
- Single-ended operation
- Matching required for operation at 50  $\Omega$
- Small size; 3.00 x 3.00 x 1.22 mm
- Ceramic Surface Mount Package (SMP)
- Hermetically sealed
- RoHS compliant, Pb-free 

## General Description

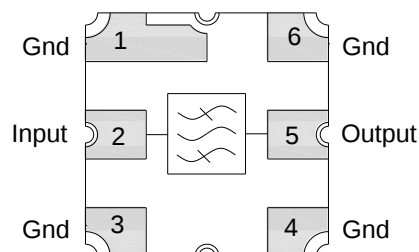
885048 is a general purpose Uplink filter for Band 25. This filter was specifically designed in a 3x3mm hermetic package for Base Station applications and is part of our wide portfolio of RF filters in the same package. Low insertion loss, coupled with high attenuation and excellent power handling, makes this filter a natural choice for our customers Uplink RF filtering needs and other general purpose applications



SMP-12A - 3.00 x 3.00 x 1.22 mm

## Functional Block Diagram

Top View



## Pin Configuration

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

## Ordering Information

| Part No.   | Description      |
|------------|------------------|
| 885048     | Packaged part    |
| 885048-EVB | Evaluation board |

Standard T/R size = 5,000 units/reel

## Absolute Maximum Ratings

| Parameter                                 | Rating                 |
|-------------------------------------------|------------------------|
| Storage Temperature <sup>(1)</sup>        | - 40 to + 85 ° C       |
| Operable Temperature <sup>(1)(2)(3)</sup> | - 30 to + 105 ° C      |
| RF Input Power <sup>(1)</sup>             | <sup>(2)</sup> +30 dBm |
| RF Input Power <sup>(1)</sup>             | <sup>(3)</sup> +22 dBm |

1. Operation of this device outside the parameter ranges given may cause permanent damage
2. Input Power with applied CW signal at +95°C for 1000 hours
3. Input Power with applied CW signal at +105°C for 24 hours

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

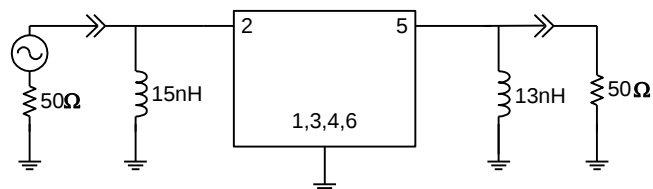
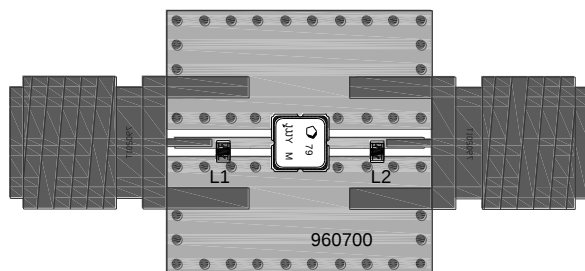
Conditions unless otherwise noted: Device Temperature = - 30° C to + 85° C.

| Parameter <sup>(2)</sup>                                      | Conditions                                                                                                                                                                                                                                                                                                                              | Min                                                                                              | Typ <sup>(3)</sup>                                                                           | Max                                                                          | Units  |
|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|--------|
| Center Frequency                                              |                                                                                                                                                                                                                                                                                                                                         | -                                                                                                | 1882.5                                                                                       | -                                                                            | dB     |
| Maximum Insertion Loss                                        | 1850 – 1915 MHz<br>1850 – 1915 MHz at +105°C <sup>(7)</sup>                                                                                                                                                                                                                                                                             | -                                                                                                | 2.5<br>2.5                                                                                   | 3.0<br>3.6                                                                   | dB     |
| Amplitude Variation <sup>(4)</sup>                            | 1850 – 1915 MHz<br>1850 – 1915 MHz at +105°C <sup>(7)</sup>                                                                                                                                                                                                                                                                             | -                                                                                                | 1.3<br>1.3                                                                                   | 2.0<br>2.1                                                                   | dB p-p |
| Amplitude Variation (any 3.84 MHz in passband) <sup>(4)</sup> | 1850 – 1915 MHz<br>1850 – 1915 MHz at +105°C <sup>(7)</sup>                                                                                                                                                                                                                                                                             | -                                                                                                | 0.7<br>0.7                                                                                   | 1.0<br>1.1                                                                   | dB p-p |
| Absolute Attenuation <sup>(5)</sup>                           | 10 – 450 MHz<br>450 – 1470 MHz<br>1470 – 1560 MHz<br>1470 – 1560 MHz at +105°C <sup>(7)</sup><br>1560 – 1670 MHz<br>1670 – 1774 MHz<br>1774 – 1815 MHz<br>1815 – 1830 MHz<br>1830 – 1831.4 MHz<br>1930 – 1931.5 MHz<br>1931.5 – 1970 MHz<br>1970 – 1995 MHz<br>1995 – 2300 MHz<br>2300 – 2410 MHz<br>2410 – 3840 MHz<br>3840 – 4000 MHz | 40<br>30<br>36.5<br>36.5<br>39<br>30<br>25<br>29<br>21<br>15<br>21<br>40<br>35<br>30<br>20<br>20 | 51<br>38<br>42<br>42<br>46<br>35<br>32<br>35<br>27<br>38<br>42<br>52<br>41<br>38<br>25<br>24 | -<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>- | dB     |
| Input VSWR                                                    | 1850 – 1915 MHz<br>1850 – 1915 MHz at +105°C <sup>(7)</sup>                                                                                                                                                                                                                                                                             | -                                                                                                | 2.1:1<br>2.1:1                                                                               | 2.5:1<br>2.7:1                                                               | –      |
| Output VSWR                                                   | 1850 – 1915 MHz<br>1850 – 1915 MHz at +105°C <sup>(7)</sup>                                                                                                                                                                                                                                                                             | -                                                                                                | 2.1:1<br>2.1:1                                                                               | 2.5:1<br>2.6:1                                                               | –      |
| Source / Load Impedance <sup>(6)</sup>                        |                                                                                                                                                                                                                                                                                                                                         | -                                                                                                | 50                                                                                           | -                                                                            | Ω      |

Notes:

1. All specifications are based on the TriQuint schematic shown on page 3
2. In production, devices will be tested at room temperature to a guardbanded specification to ensure electrical compliance over temperature
3. Typical values are based on average measurements at room temperature
4. Describes the total variation over the defined frequency range
5. Relative zero dB
6. This is the optimum impedance in order to achieve the performance shown
7. Extended temperature operation: the filter can be operated up to +105°C with de-rated specification as noted.

## Evaluation Board



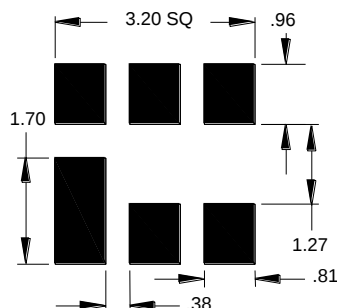
### Notes:

1. Matching component values shown are for the specified TriQuint evaluation board. Value adjustment may be required in end user product circuits depending on component manufacturer and PCB material.
2. PCB: Construction Top, middle & bottom layers: 1 oz copper; Substrates: FR4 dielectric, .031" thick; Finish plating: Nickel: 3-8μm thick, Gold: .03-.2μm thick; Hole plating: Copper min .0008μm thick

## Bill of Material

| Reference Des. | Value | Description               | Manuf.      | Part Number   |
|----------------|-------|---------------------------|-------------|---------------|
| L1             | 15 nH | Coil Wire-wound, 0402, 5% | Murata      | LQW15AN15NJ00 |
| L2             | 13 nH | Coil Wire-wound, 0402, 5% | Murata      | LQW15AN13NJ00 |
| SMA            | N/A   | SMA connector             | Radiall USA | 9602-1111-018 |
| PCB            | N/A   | 3-layer                   | Multiple    | 960700        |

## PCB Mounting Pattern

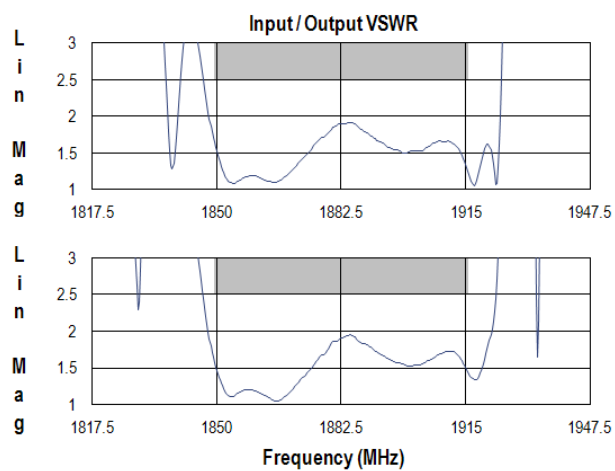
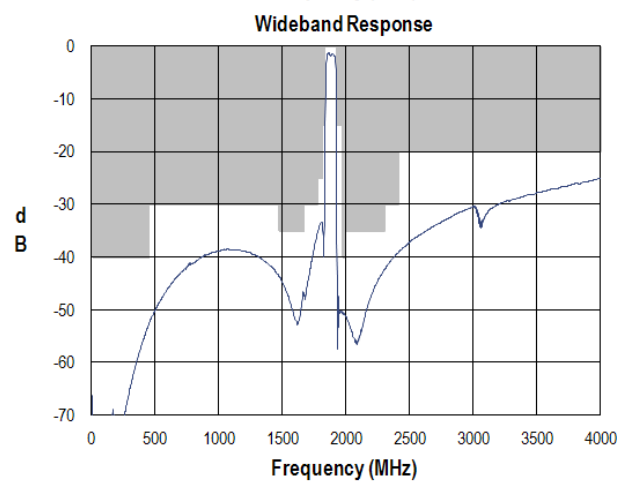
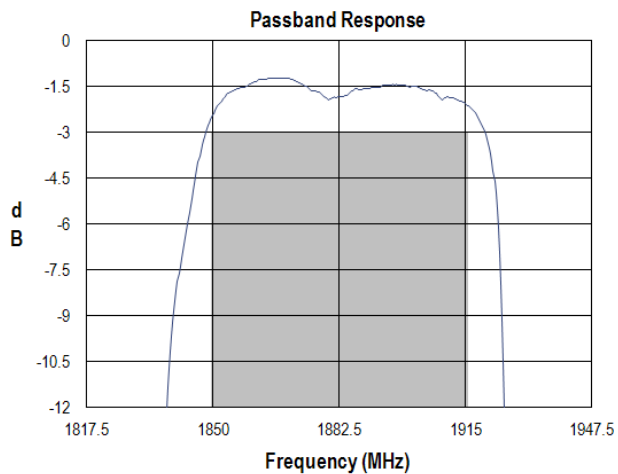
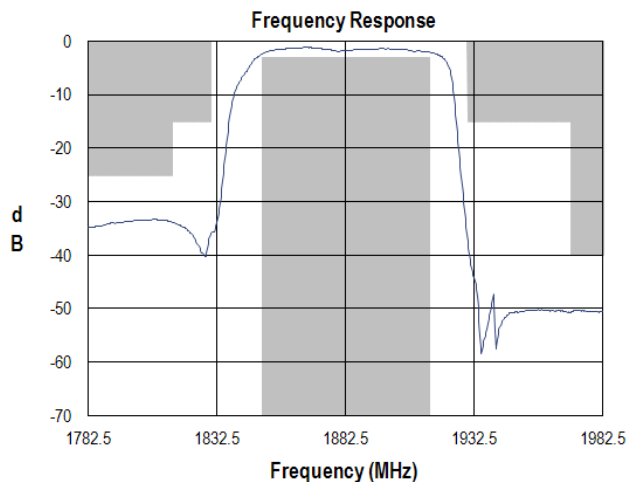


### Notes:

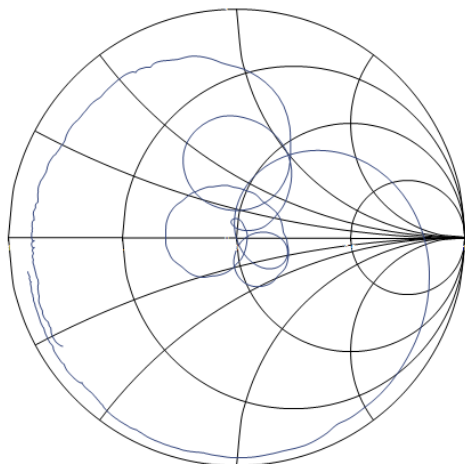
1. All dimensions are in millimeters. Angles are in degrees.
2. This drawing specifies the mounting pattern used on the TriQuint evaluation board for this product. Some modification may be necessary to suit end user assembly materials and processes.

## Performance Plots

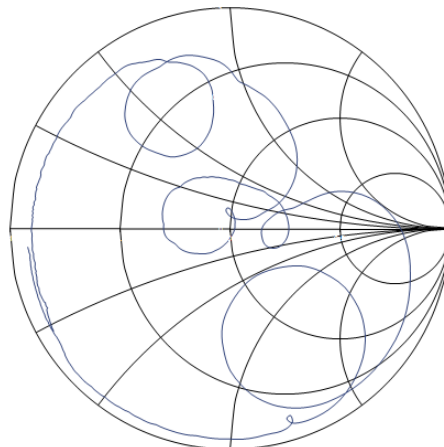
Test conditions unless otherwise noted: Temp = + 25° C



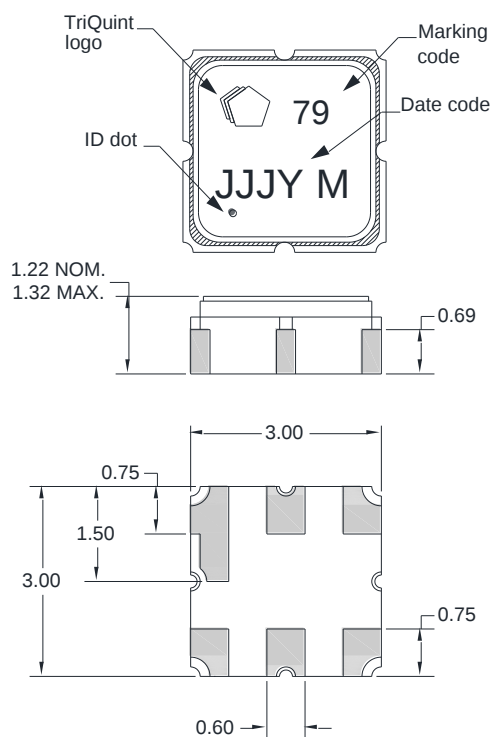
Input Smith Chart



Output Smith Chart



## Package Information, Marking and Dimensions



Package Style: SMP-12A  
Dimensions: 3.00 x 3.00 x 1.22 mm

Body:  $Al_2O_3$  ceramic  
Lid: Kovar, Ni plated  
Terminations: Au plating 0.5 - 1.0 $\mu$ m, over a 2-6 $\mu$ m Ni plating

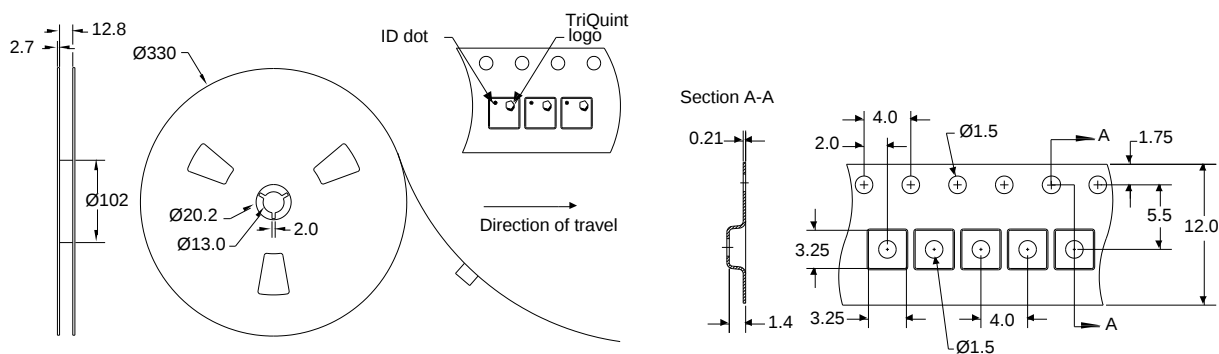
All dimensions shown are nominal in millimeters  
All tolerances are  $\pm 0.15$ mm except overall length and width  $\pm 0.10$ mm

The date code consists of day of the current year (Julian, 3 digits), Y = last digit of the year, and M = manufacturing site code

### Notes:

1. All dimensions shown are typical in millimeters
2. An asterisk (\*) in front of the marking code indicates prototype.

## Tape and Reel information



Standard T/R size = 5,000 units/reel. All dimensions are in millimeters.

## Product Compliance Information

### ESD Sensitivity Ratings



Caution! ESD-Sensitive Device

ESD Class: TBD

Test: Human Body Model (HBM)

Standard: JEDEC JS-001

ESD Class: TBD

Test: Charge Device Model (CDM)

Standard: JEDEC JES-002

### Solderability

Compatible with both lead-free (260°C maximum reflow temperature) and tin/lead (245°C maximum reflow temperature) soldering processes.

Refer to [Soldering Profile](#) for recommended guidelines.

### RoHS Compliance

This part is compliant with EU 2002/95/EC RoHS directive (Restrictions on the Use of Certain Hazardous Substances in Electrical and Electronic Equipment).

This product also has the following attributes:

- Lead

## Contact Information

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

Web: [www.triquint.com](http://www.triquint.com)

Tel: 877-800-8584

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

For information about the merger of RFMD and TriQuint as Qorvo:

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

For technical questions and application information:

Email: [flapplication.engineering@tqs.com](mailto:flapplication.engineering@tqs.com)

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- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
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## JONHON

«JONHON» (основан в 1970 г.)

Разъемы специального, военного и аэрокосмического назначения:

(Применяются в военной, авиационной, аэрокосмической, морской, железнодорожной, горно- и нефтедобывающей отраслях промышленности)

«FORSTAR» (основан в 1998 г.)

ВЧ соединители, коаксиальные кабели,  
кабельные сборки и микроволновые компоненты:

(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).



Телефон: 8 (812) 309-75-97 (многоканальный)

Факс: 8 (812) 320-03-32

Электронная почта: [ocean@oceanchips.ru](mailto:ocean@oceanchips.ru)

Web: <http://oceanchips.ru/>

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, д. 2, корп. 4, лит. А