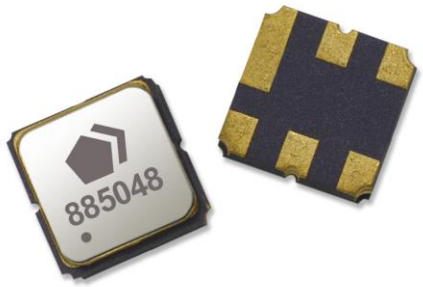
885048

1882.5 MHz BAW Filter

Applications

- General purpose RF filterwireless
- Wireless infrastructure
- 4G, Multi-standard
- Band 25 Uplink



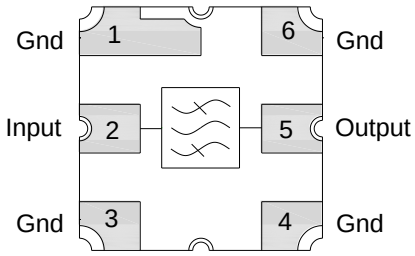
SMP-12A - 3.00 x 3.00 x 1.22 mm

Product Features

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

Functional Block Diagram

Top View



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

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 (1)	-40 to + 85 ° C
Operable Temperature (1)(2)(3)	- 30 to + 105 ° C
RF Input Power (1)	(2) +30 dBm
RF Input Power (1)	(3) +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

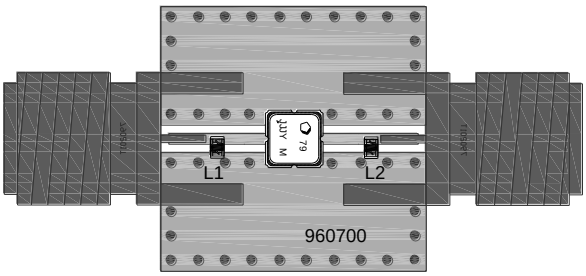
Electrical Specifications (1)

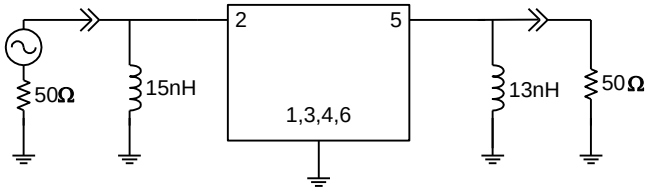
Conditions unless otherwise noted: Device Temperature = -30° C to +85° C.

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





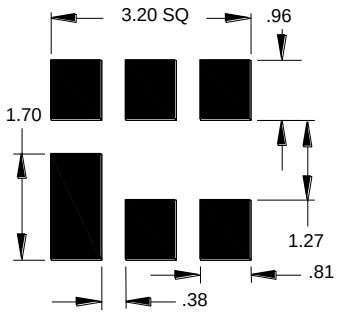
Notes:

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



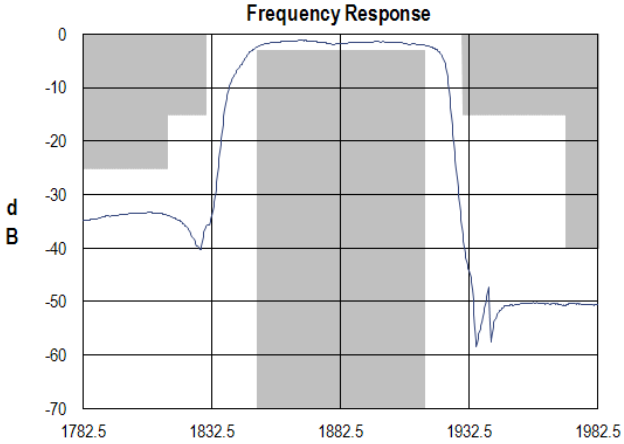
Notes:

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.

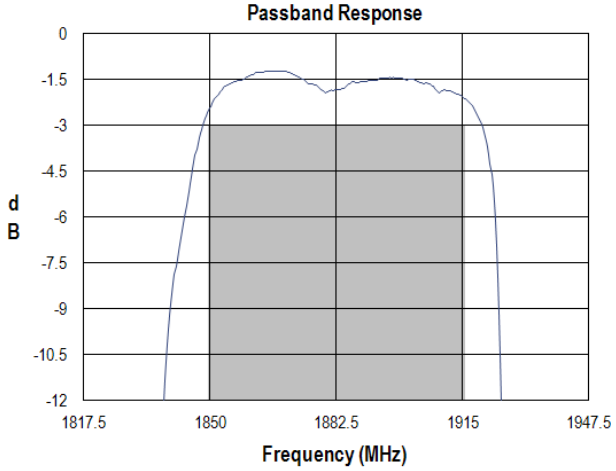
Performance Plots

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

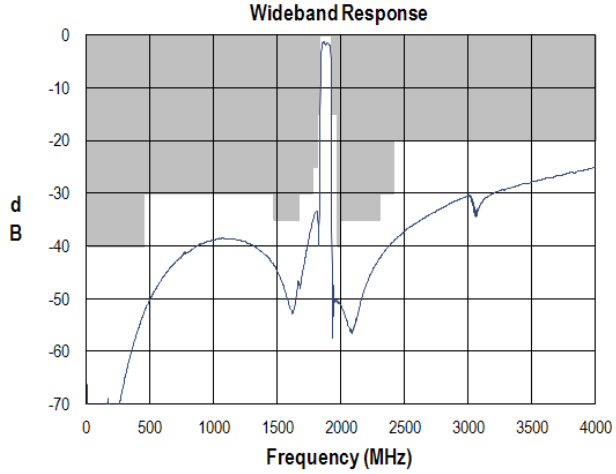
Frequency Response



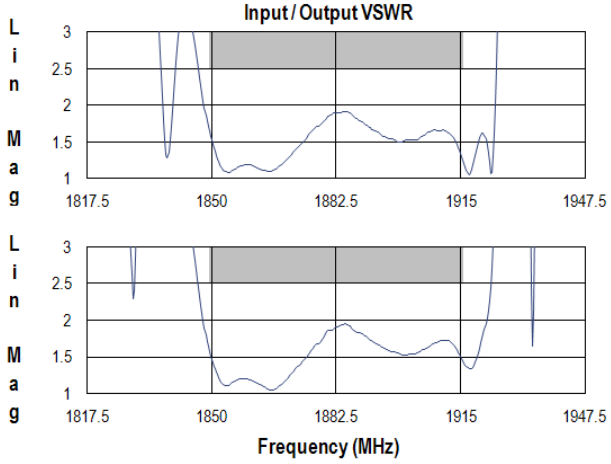
Passband Response



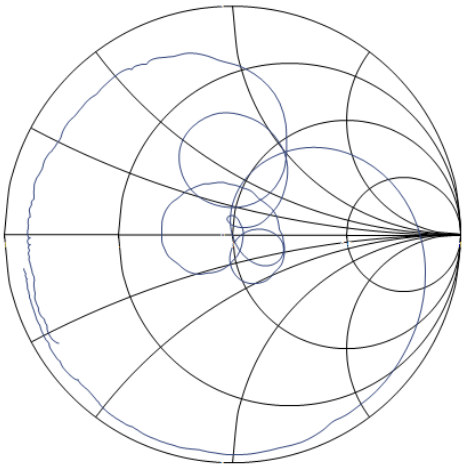
Wideband Response



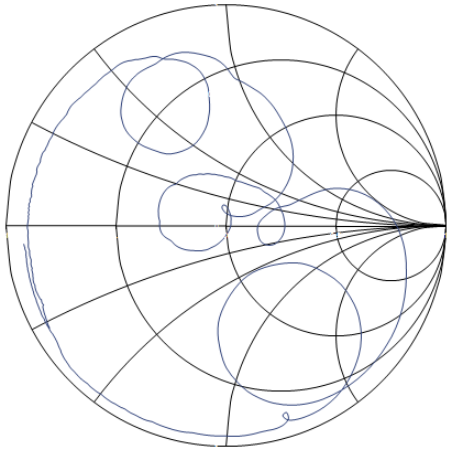
Input / Output VSWR



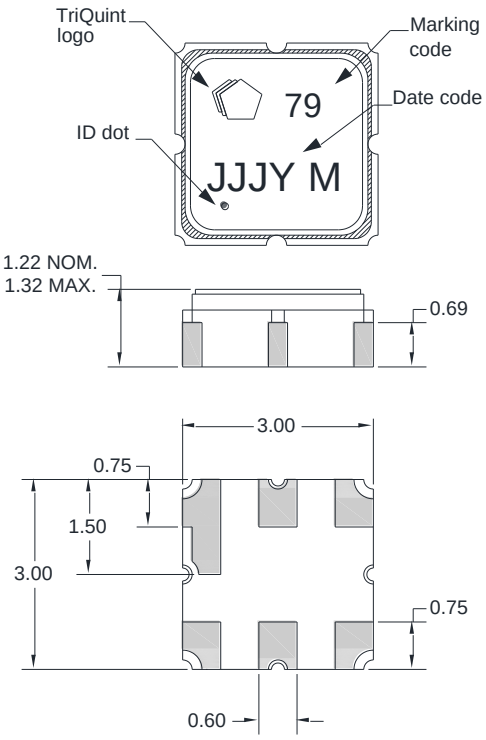
Input Smith Chart



Output Smith Chart



Package Information, Marking and Dimensions



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

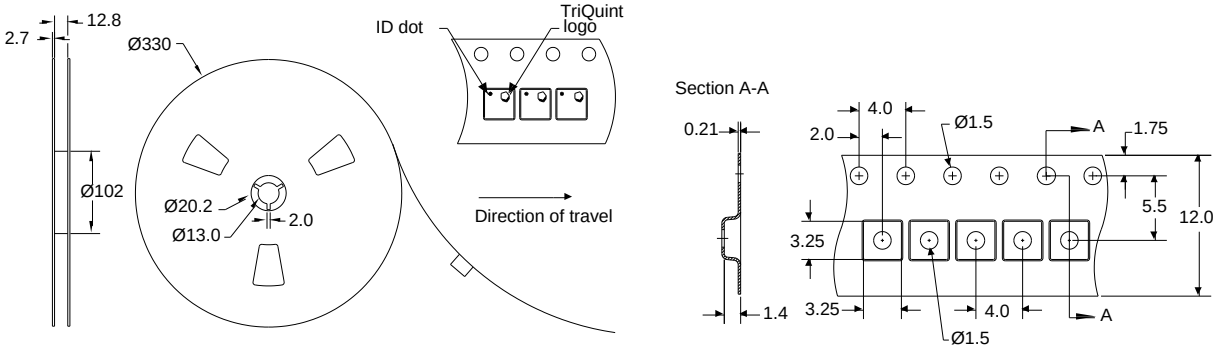
Body: Al_2O_3 ceramic
Lid: *Kovar*, *Ni* plated
Terminations: *Au* plating 0.5 - 1.0µm, over a 2-6µm *Ni* plating

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

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 **Tel: 877-800-8584**
Email: customer.support@qorvo.com

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

Web: www.qorvo.com

For technical questions and application information: **Email:** flapplication.engineering@tqs.com

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