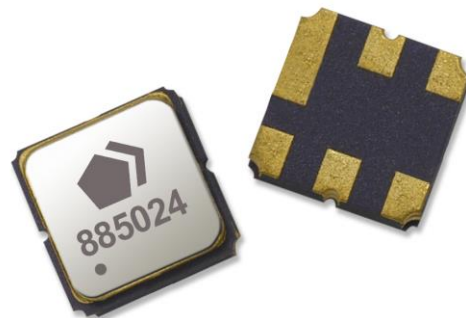



Applications

- General purpose RF filter
- Wireless infrastructure
- 4G, Multi-standard
- Band 2 Downlink
- Repeaters



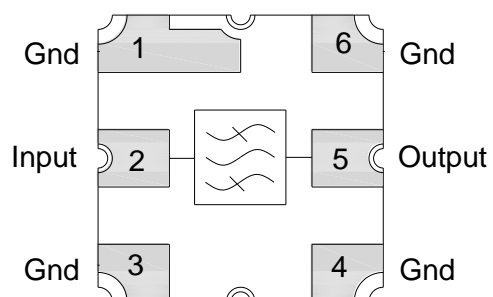
SMP-12A - 3.00 x 3.00 x 1.22 mm

Product Features

- Usable bandwidth 60 MHz
- High attenuation,
- 20dB rejection at 1920 MHz
- Low Loss
- Excellent power handling
- Single-ended operation
- No matching required for operation at 50Ω
- 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

885024 is a general purpose Downlink filter for Band 2. 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 Downlink RF filtering needs.

Pin Configuration

Pin #	SE	Description
2		Input
5		Output
1,3,4,6		Case Ground

Ordering Information

Part No.	Description
885024	Packaged Part
885024-EVB	Evaluation board

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

Absolute Maximum Ratings

Parameter	Rating
Storage Temperature	-40 to +85 °C
Operable Temperature ⁽¹⁾	-40 to +85 °C
Input Power (10Khrs @ 55 °C under CW signal) ⁽²⁾	+33 dBm

1. Specifications are not guaranteed over all operable condition.
2. Operation of this device outside the parameter ranges given may cause permanent damage

Electrical Specifications ⁽¹⁾

Temperature Range ⁽²⁾ -30 to +85 °C

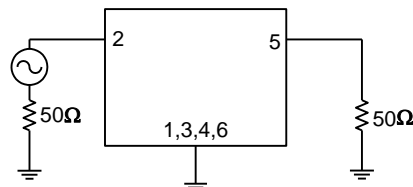
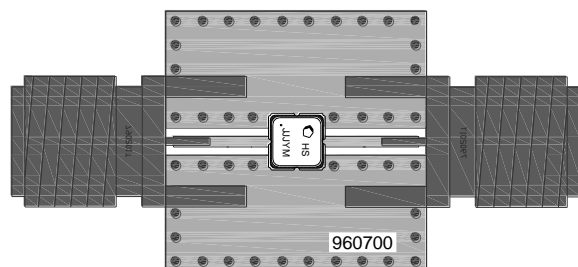
Parameter ⁽³⁾	Conditions	Min	Typical ⁽⁴⁾	Max	Units
Center Frequency		-	1960	-	MHz
Maximum Insertion Loss	1930 – 1990 MHz	-	3.7	5.5	dB
Amplitude Variation ⁽⁵⁾	1930 – 1990 MHz	-	1.9	4.5	dB p-p
Amplitude Variation (any 3.84 MHz in passband) ⁽⁵⁾	1930 – 1990 MHz	-	1.3	2.6	μsec
Absolute Attenuation ⁽⁶⁾	825 – 849 MHz	32	34	-	dB
	1850 – 1910 MHz	38	45	-	dB
	1910 – 1920 MHz	20	33	-	dB
	1920 – 1922.5 MHz ⁽⁸⁾	15	26	-	dB
	2400 – 2484 MHz	37	42	-	dB
	3860 – 3980 MHz	45	52	-	dB
Input/Output VSWR	1930 – 1990 MHz	-	1.8	2.5:1	dB
Source/Load Impedance ⁽⁷⁾	Single-ended	-	50	-	Ω

Notes:

1. All specifications are based on the TriQuint schematic for the main reference design 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. Electrical margin has been built into the design to account for the variations due to temperature drift and manufacturing tolerances
4. Typical values are based on average measurements at room temperature
5. Describes the total variation over the defined frequency range
6. Relative to zero dB
7. This is the optimum impedance in order to achieve the performance shown
8. At 25 °C only

Evaluation Board

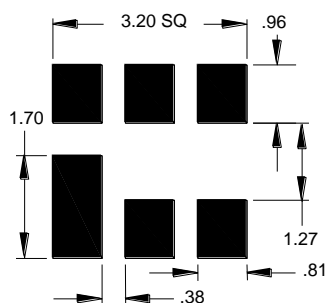
Matching Schematics



Bill of Material

Reference Des.	Value	Description	Manuf.	Part Number
SMA	N/A	SMA connector	Radiall USA Inc.	9602-1111-018
PCB	N/A	3-layer	Multiple	960700

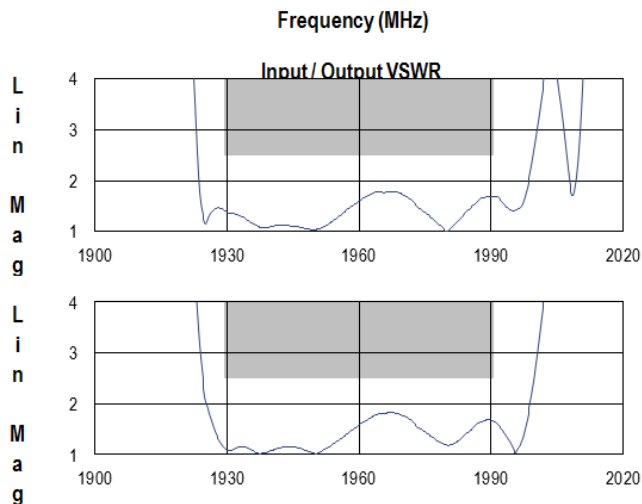
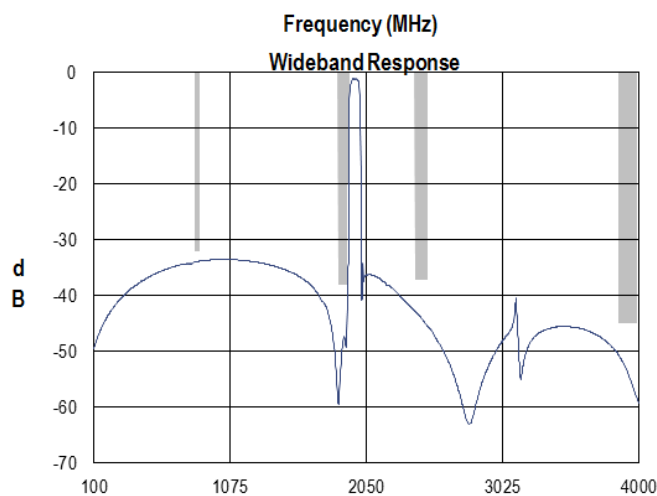
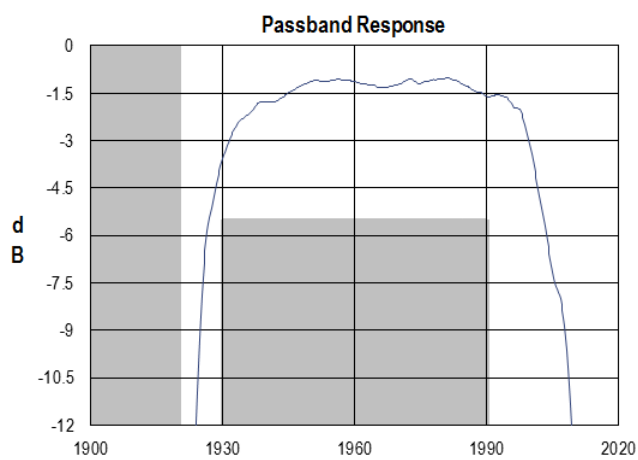
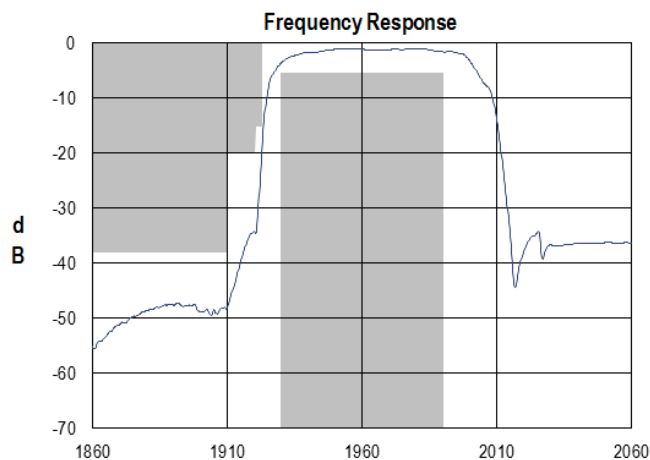
PCB Mounting Pattern



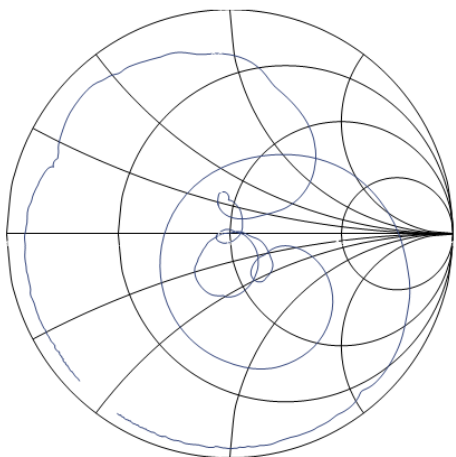
Notes:

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.

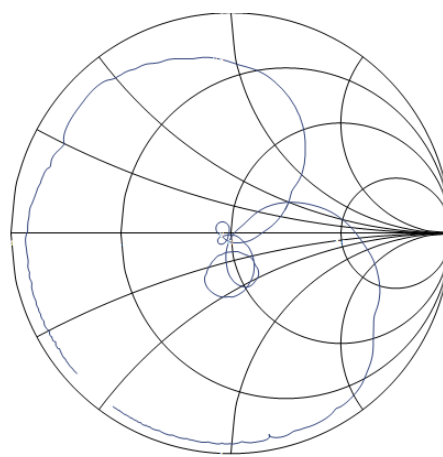
Typical Performance (at room temperature)



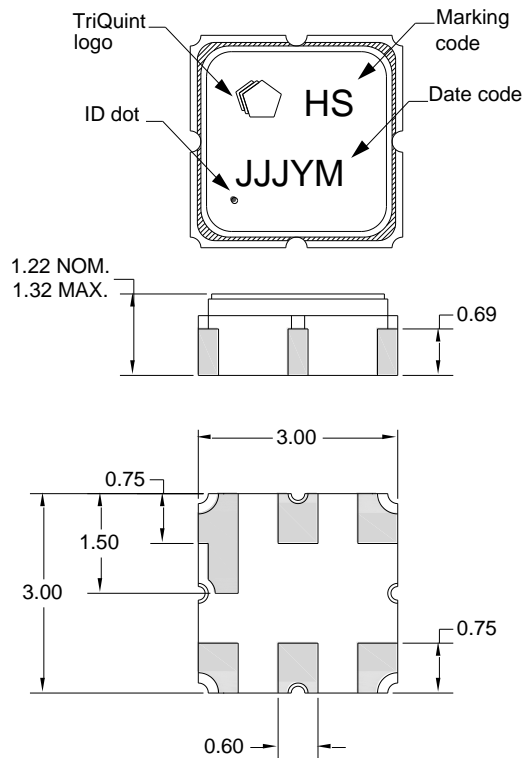
Frequency (MHz)
Input Smith Chart



Frequency (MHz)
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 μ m, over a 2-6 μ m Ni plating

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

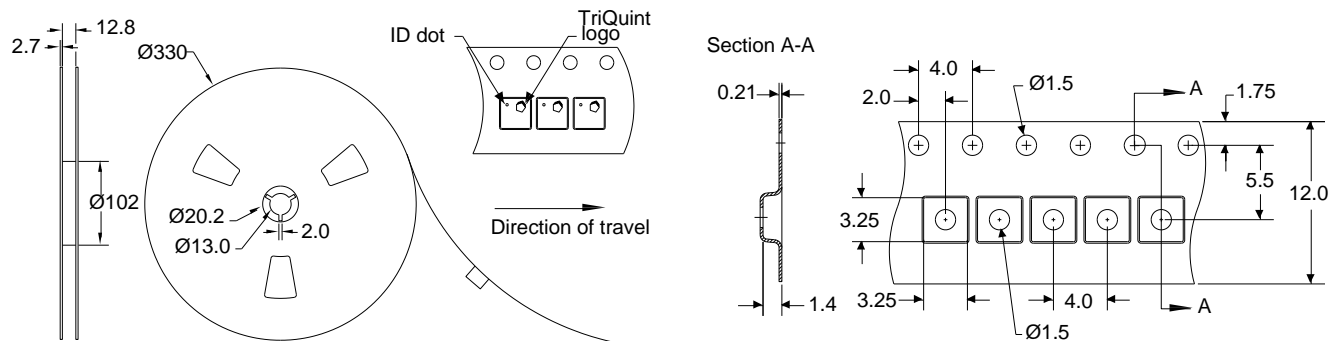
The date code consists of day of the current year (Julian, 3 digits), Y = last digit of the year, and M = manufacturing site code

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 = 5000 units/reel . All dimensions are in millimeters



Product Compliance Information

ESD Sensitivity Ratings



Caution! ESD-Sensitive Device

ESD Rating: Class 3A
Value: Passes ≥ 7950 V min
Test: Electrostatic Discharge Sensitivity Testing,
Human Body Model (HBM) - component level
Standard: ESDA/JEDEC JS-001-2012

ESD Rating: Class C
Value: Passes ≥ 950 V min
Test: Machine Model (MM)
Standard: JEDEC Standard JESD22-A115

MSL Rating

Not applicable. Hermetic package.

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 Free
- Halogen Free (Chlorine, Bromine)
- Antimony Free
- TBBP-A ($C_{15}H_{12}Br_4O_2$) Free
- PFOS Free
- SVHC Free

Contact Information

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