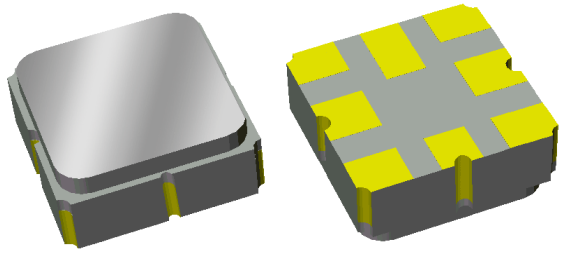
856298

1220 MHz SAW Filter

Applications

- Broadband access applications
- Application B
- Application C



Product Features

- Usable bandwidth 10 MHz
- Low loss
- High attenuation
- Balanced operation
- No impedance matching required for operation at 200 Ω
- Small Size: 3.00 x 3.00 x 1.22 mm
- Ceramic Surface Mount Package (SMP)
- Hermetic **RoHS** compliant, **Pb**-free

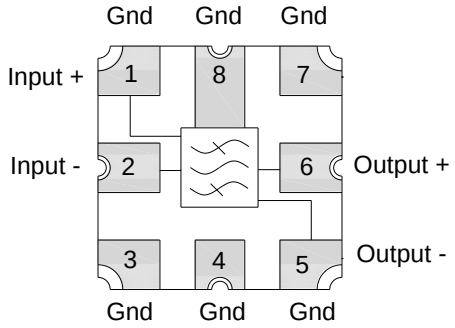
General Description

856298 is a high-performance IF SAW filter with a center frequency of 1220 MHz and bandwidth of 10 MHz

It features low loss with excellent attenuation, and is designed to be used with a balanced input and output. The small size of this surface mounted filter makes it an economical choice for demanding applications such as DOCSIS 3.0 cable modem termination systems and other broadband applications.
This device is RoHS compliant and Pb-free.

Functional Block Diagram

Top view



Pin Configuration

Pin # Bal/Bal	Description
1	Input +
2	Input -
5	Output -
6	Output +
3,4,7,8	Case Ground

Ordering Information

Part No.	Description
856298	packaged part
856298-EVB	evaluation board

Standard T/R size = 5000 units/reel.

Specifications

Electrical Specifications [1]

Specified Temperature Range: [2] -10 to +70 ºC

Parameter [3]	Conditions	Min	Typical [4]	Max	Units
Center Frequency		-	1220	-	MHz
Maximum Insertion Loss	1215– 1225 MHz	-	4.5	5.5	dB
Lower 1.5 dB Bandedge[5]		-	1209.5	1215	MHz
Upper 1.5 dB Bandedge[5]		1225	1230.5	-	MHz
Amplitude Variation	1215– 1225 MHz	-	0.5	1.5	dB p-p
Group Delay Variation	1215– 1225 MHz	-	30	-	ns p-p
Stopband Rejection [5]	500 – 1152 MHz	55	60	-	dB
	1152 – 1190 MHz	30	55	-	dB
	1250 – 1288 MHz	30	55	-	dB
	1288 – 2000 MHz	50	55	-	dB
Source/Load Impedance [6]	Balanced	-	200	-	Ω
Source/Load Impedance [6]	Balanced	-	200	-	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. Relative to insertion loss at center frequency
6. This is the optimum impedance in order to achieve the performance shown

Absolute Maximum Ratings

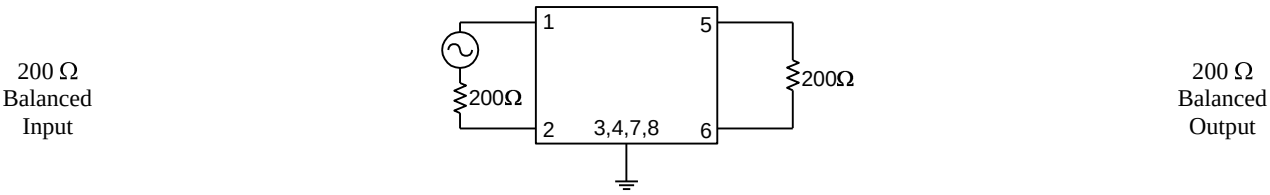
Parameter	Rating
Operating Temperature [7]	-40 to +85 ºC
Storage Temperature	-40 to +85 ºC

7. Device may operate over this range with degraded Electrical Specifications

Operation of this device outside the parameter ranges given above may cause permanent damage.

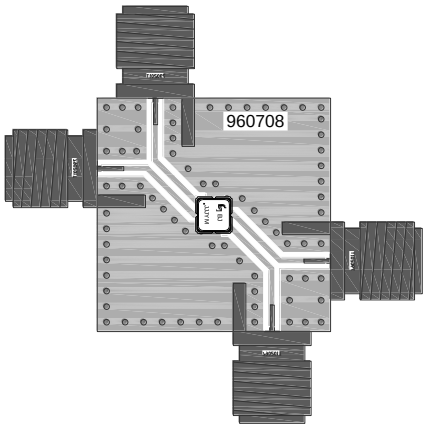
Reference Design 1 – 200Ω Bal Input/output

Schematic



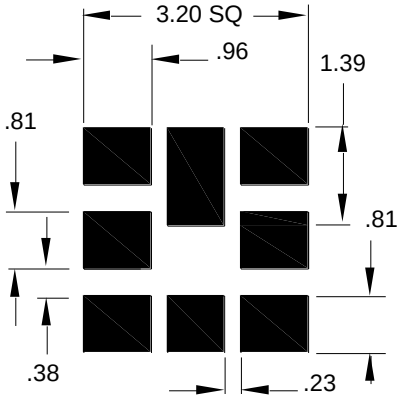
Notes:
1. No impedance matching required
2. Actual matching values may vary due to PCB layout and parasitic

PC Board



Notes:
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

Mounting Configuration



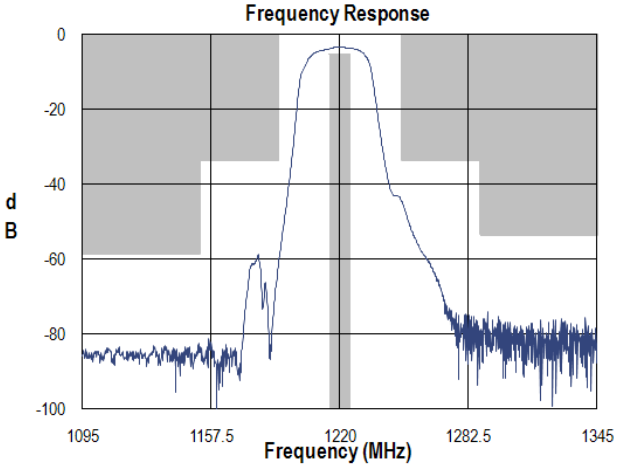
Notes:
1. All dimensions are in millimeters.
2. This footprint represents a recommendation only.

Bill of Material

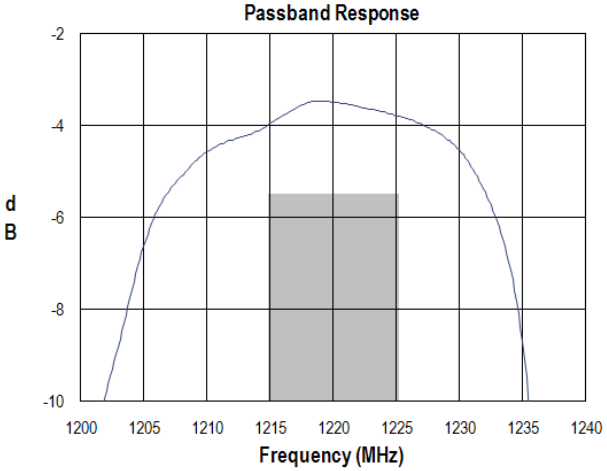
Reference Desg.	Value	Description	Manufacturer	Part Number
SMA	N/A	SMA connector	Radiall USA Inc.	9602-1111-018
PCB	N/A	3-layer	multiple	960708

Typical Performance (at room temperature) Reference Design 1

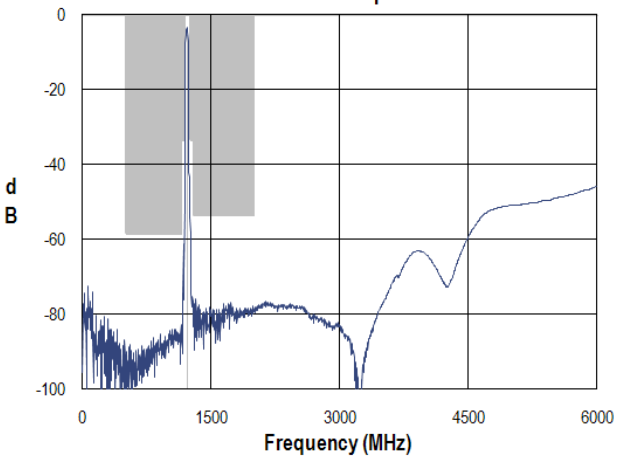
Frequency Response



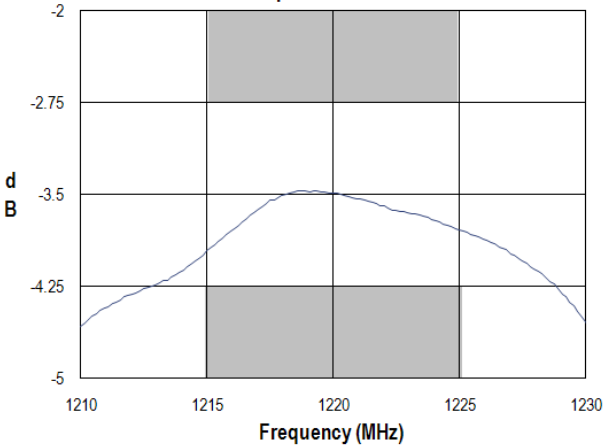
Passband Response



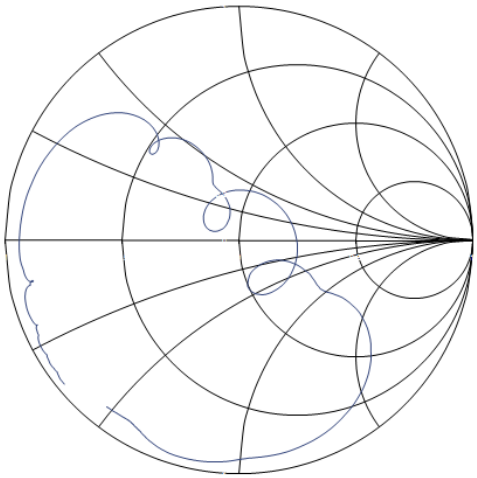
Wideband Response



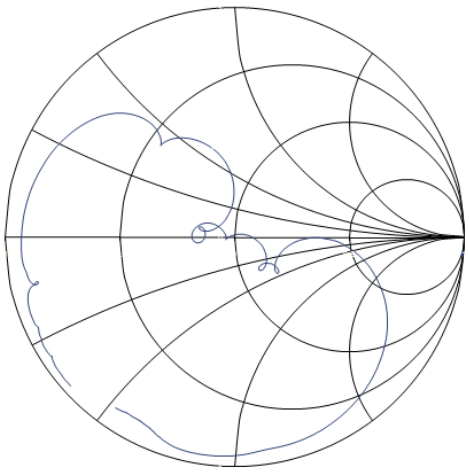
Amplitude Variation



Input Smith Chart

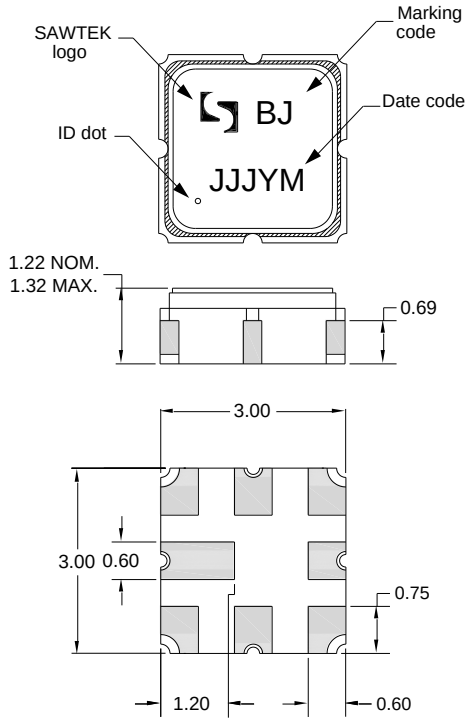


Output Smith Chart



Mechanical Information

Package Information, Dimensions and Marking



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

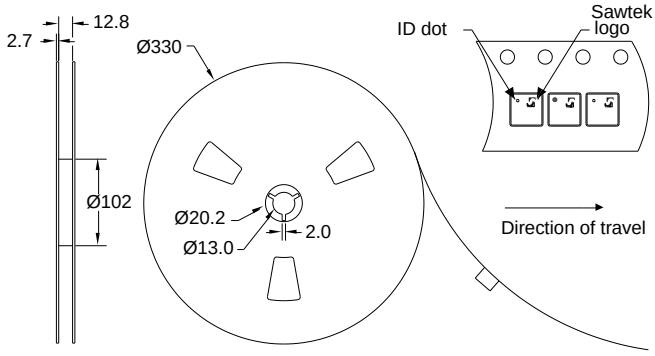
Body: Al_2O_3 ceramic
Lid: *Kovar, Ni* plated
Terminations: *Au* plating 0.5 - 1.0µm, over a 2-6µm *Ni* plating

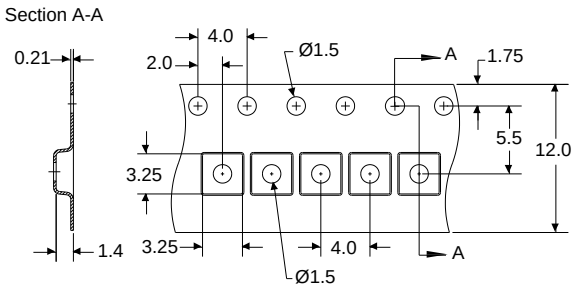
All dimensions shown are nominal in millimeters
All tolerances are ±0.15mm except overall length and width ±0.10mm

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

Tape and Reel Information

Standard T/R size = 5000 units/reel. All dimensions are in millimeters





Product Compliance Information

ESD Information

Caution! ESD-Sensitive Device

ESD Rating: 0
Value: Passes ≥ 200V min.
Test: Human Body Model (HBM)
Standard: JEDEC Standard JESD22-A114

ESD Rating: A
Value: Passes ≥ 150 V min.
Test: Machine Model (MM)
Standard: JEDEC Standard JESD22-A115

MSL Rating

Devices are Hermetic, therefore MSL is not applicable

Solderability

Compatible with the latest version of J-STD-020, lead free solder, 260°C

Refer to **Soldering Profile** for recommended guidelines.

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:

- Halogen Free (Chlorine, Bromine)
- Antimony Free
- TBBP-A ($C_{15}H_{12}Br_40_2$) Free
- PFOS Free
- SVHC Free

Contact Information

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

Web: www.triquint.com **Tel:** +1.407.886.8860
Email: info-sales@tqs.com **Fax:** +1.407.886.7061

For technical questions and application information:

Email: flapplication.engineering@tqs.com

Important Notice

The information contained herein is believed to be reliable. TriQuint makes no warranties regarding the information contain herein. TriQuint assumes no responsibility or liability whatsoever for any of the information contained herein. TriQuint assumes no responsibility or liability whatsoever for the use of the information contained herein. The information contained herein is provided "AS IS, WHERE IS" and with all faults, and the entire risk associated with such information is entirely with the user. All information contained herein is subject to change without notice. Customers should obtain and verify the latest relevant information before placing orders for TriQuint 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.

TriQuint 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.

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 1E1305-3 1F1304-3S 1G1304-30 B0922J7575AHF 2020-6622-20 10017-3 TP-103-PIN BD1222J50200AHF