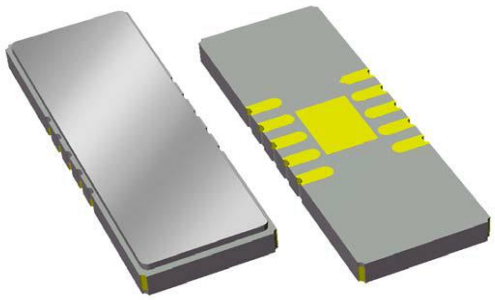
855738

70 MHz SAW Filter

Applications

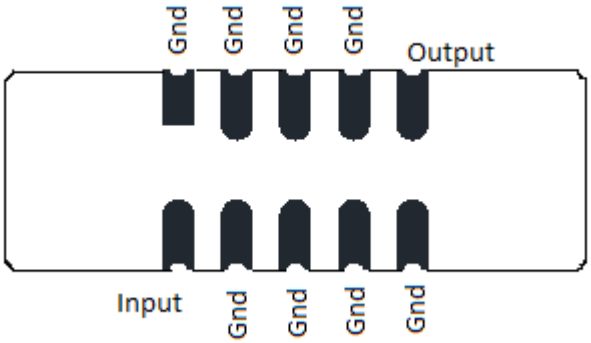
- For broadband applications
- Typical 3dB bandwidth of 1.5 MHz



Product Features

- High Attenuation
- Single-ended operation
- Matching required for operation at 50 Ω
- Replaces Sawtek P/N 851545 (BW 3 dB =1.5 MHz)
- Ceramic Surface Mount Package (SMP)
- Hermetically sealed
- RoHS compliant, Pb-free

Functional Block Diagram



General Description

The 855738 is a 70 MHz, SAW-based IF Filter. It's High Selectivity makes it an excellent choice for a wide range of applications such as instrumentation, test and measurement, military, terrestrial microwave and Network Infrastructure. 855738 has a single-ended input and output and comes in an industry standard hermetically sealed surface mount package that is RoHS compliant and Pb-free.

Pin Configuration

Pin No.	Label
10	Input
5	Output
1,2,3,4,6,7,8,9	Case Ground

Ordering Information

Part No.	Description
855738	Packaged part
855738-EVB	Evaluation board

Standard T/R size = 1,000 units/reel

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Absolute Maximum Ratings

Parameter	Rating
Storage Temperature (1)	-40 to + 85 ° C
Operable Temperature (1)	0 to + 70 ° C

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

Electrical Specifications (1)

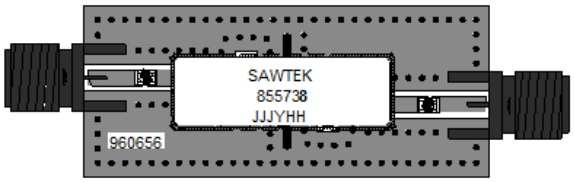
Operating Temperature Range (2) 0 ° C to + 70 ° C.

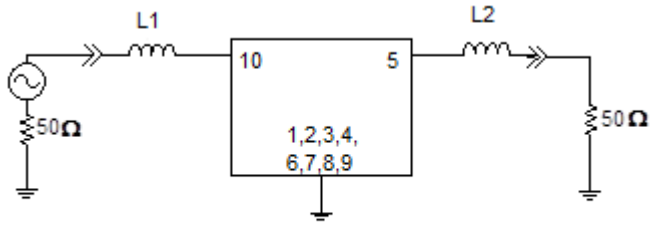
Parameter (3)	Conditions	Min	Typ (3)	Max	Units
Center Frequency		-	70	–	MHz
Minimum Insertion Loss		-	21.6	23	dB
Lower 1 dB Bandedge (4) Upper 1 dB Bandedge		– 70.65	69.30 70.70	69.35 –	MHz
Lower 3 dB Bandedge (4) Upper 3 dB Bandedge		– 70.78	69.18 70.81	69.22 –	MHz
Lower 40 dB Bandedge (4) Upper 40 dB Bandedge		68.71 –	68.74 71.26	– 71.29	MHz
Amplitude Variation	69.35 – 70.65 MHz	–	0.64	1	dB p-p
Phase Linearity	69.35 – 70.65 MHz	–	2.4	5	Deg p-p
Group Delay Variation	69.35 – 70.65 MHz	–	97	200	nsec
Relative Attenuation (4)	10 – 68 MHz 72 – 110 MHz 110 – 118 MHz 118 – 124 MHz 124 – 133 MHz 133 – 200 MHz	50 50 30 50 30 50	64 60 35 66 37 66	– – – – – –	dB
Source Impedance (5)		–	50	–	Ω
Load Impedance (5)		–	50	–	Ω
Substrate		–	–	–	–

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. Electrical margin has been built into the design to account for the variations due to temperature drift and manufacturing tolerances.
4. All attenuation measurements are measured relative to minimum insertion loss.
5. This is the optimum impedance in order to achieve the performance shown.

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Evaluation Board





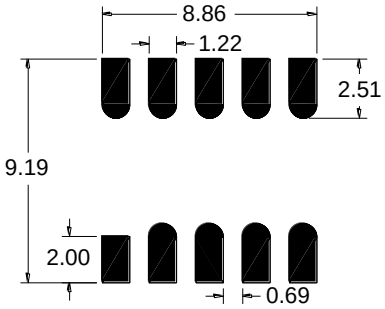
Notes:

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

Bill of Material

Reference Des.	Value	Description	Manuf.	Part Number
L1	330 nH	Coil Wire-wound,1008CS	Coilcraft	1008CS-331XKBC
L2	270 nH	Coil Wire-wound, 1008CS	Coilcraft	1008CS-271XKBC
SMA	N/A	SMA connector	Radiall USA	9602-1111-018
PCB	N/A	3-layer	Multiple	960656

PCB Mounting Pattern



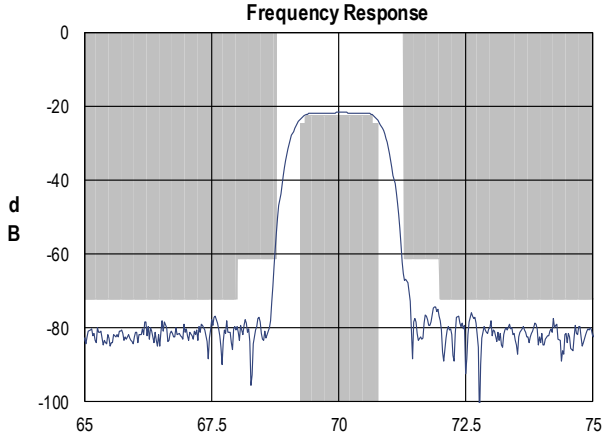
Notes:

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.

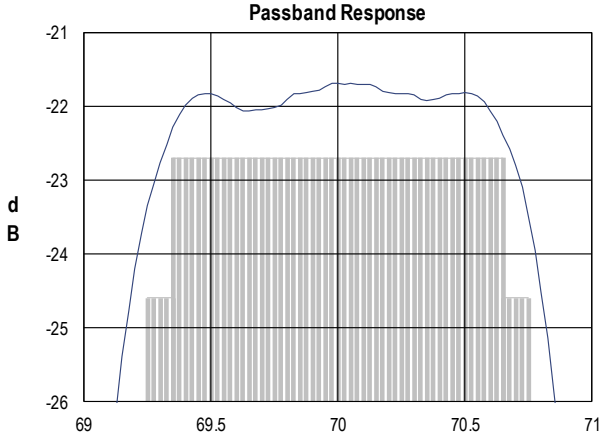
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Performance Plots

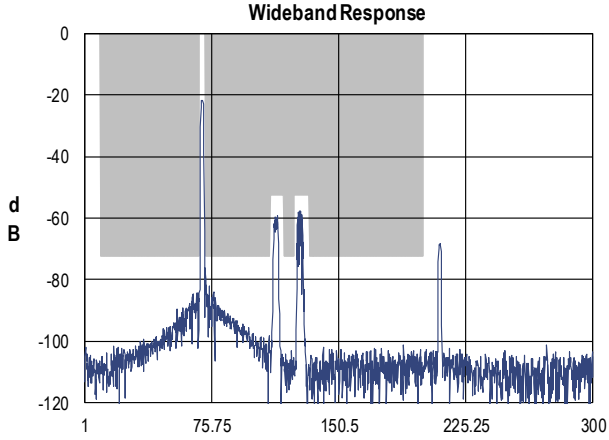
Frequency Response



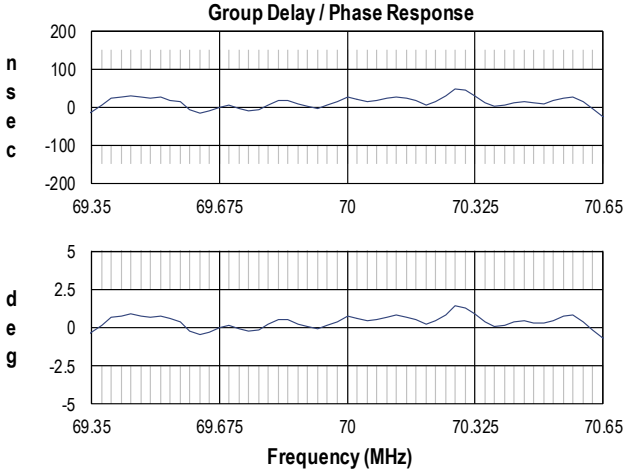
Passband Response



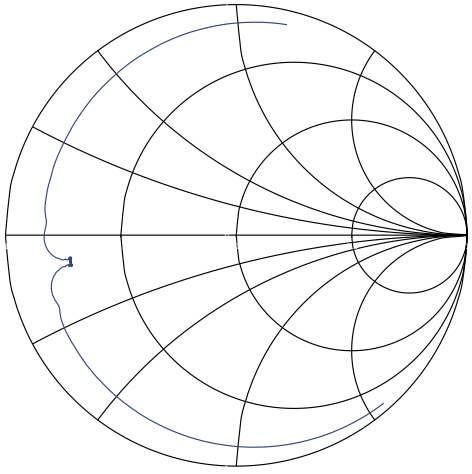
Wideband Response



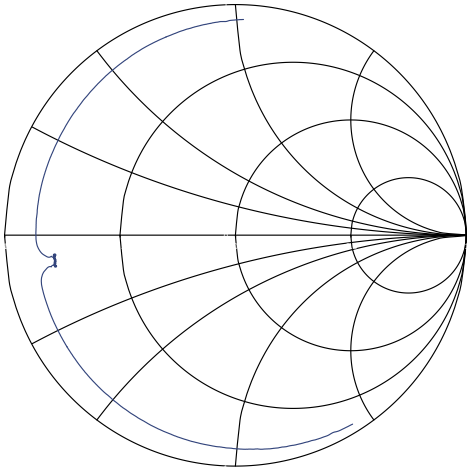
Group Delay / Phase Response



Input Smith Chart

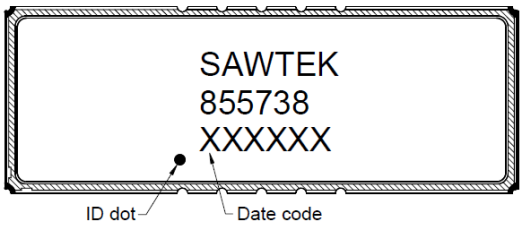


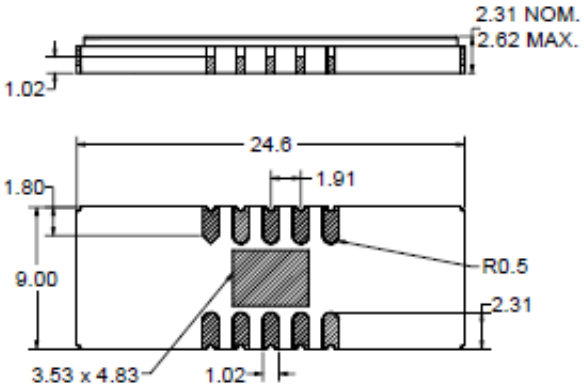
Output Smith Chart



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Package Information, Marking and Dimensions





Package Style: SMP-97
Dimensions: 24.6 x 9.00 x 2.31 mm

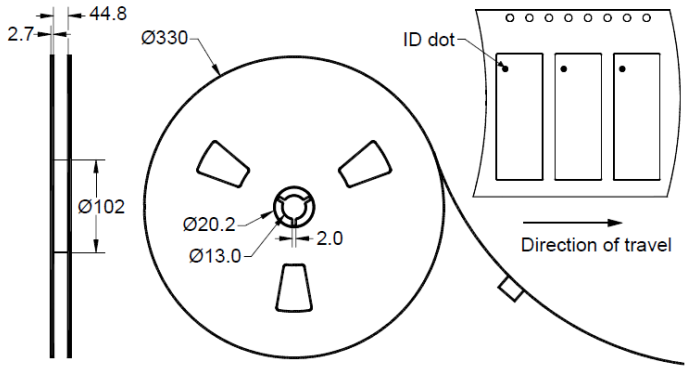
Body: Al_2O_3 ceramic
Lid: *Kovar*, *Ni* plated
Terminations: *Au* plating 0.5 - 1.0µm, over a 2-6µm *Ni* plating

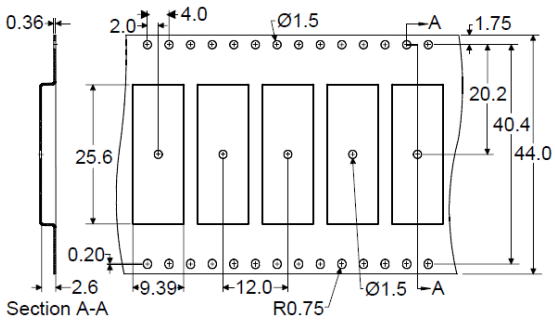
All dimensions shown are nominal in millimeters
All tolerances are ±0.15mm except overall length ±0.20mm and width +0.13/-0.20mm

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





Dimensions shown are nominal in millimeters
Packaging quantity: 1000 units/reel

Standard T/R size = 1000 units/reel. All dimensions are in millimeters.

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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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