

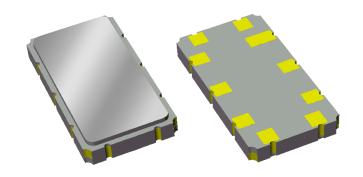
Data Sheet

Part Number 856698 140 MHz SAW Filter

Features

- For multiple applications
- Usable bandwidth 28 MHz
- High attenuation
- Balanced or single-ended operation
- Ceramic Surface Mount Package (SMP)
- Hermetic
- RoHS compliant (2002/95/EC), Pb-free (pa)





Package

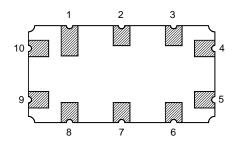
Surface Mount 9.10 x 4.80 x 1.24 mm SMP-35C

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

Body: Al₂O₃ ceramic Lid: Kovar, Ni plated Terminations: Au plating 0.5 - 1.0μm, over a 2 - 6μm Ni plating

Pin Configuration

Bottom View



Pin No. Balanced	Description
9	Input +
10	Input -
4	Output +
5	Input - Output + Output -
1,2,3,6,7,8	Case Ground

Pin No. Single-Ended	Description
9	Input
10	Ground
4	Output
5	Ground
1,2,3,6,7,8	Case Ground



Data Sheet

Electrical Specifications (1)

Operating Temperature Range: (2) -40 to +85 °C

Parameter (3)	Minimum	Typical (5)	Maximum	Unit
Center Frequency	-	140	-	MHz
Insertion Loss @ Center Frequency	-	18.0	20	dB
Amplitude Variation				
126 – 154 MHz	-	0.6	1.2	dB p-p
Phase Linearity				
129 – 151 MHz	-	3.0	6	o p-p
126 – 154 MHz	-	3.5	7	° р-р
Average Group Delay				
126 – 154 MHz	0.55	0.60	0.65	μs
Input/Output Return Loss				
126 – 154 MHz	10	13	-	dB
Relative Attenuation (4)				
10 – 112 MHz	38	41	-	dB
168 – 198 MHz	35	42	-	dB
198 – 225 MHz	40	47	-	dB
225 – 250 MHz	35	41	-	dB
Triple Transit Suppression	45	50	-	dB
Source Impedance (balanced or single-ended) (6)	-	50	-	Ω
Load Impedance (balanced or single-ended) ⁽⁶⁾	-	50	-	Ω

Notes:

- 1. All specifications are based on the TriQuint matching schematics shown on page 5
- 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. Relative to insertion loss at center frequency
- 5. Typical values are based on average measurements at room temperature
- 6. This is the optimum impedance in order to achieve the performance shown



Data Sheet

Electrical Specifications (1)

Operating Temperature Range: (2) -20 to +85 °C

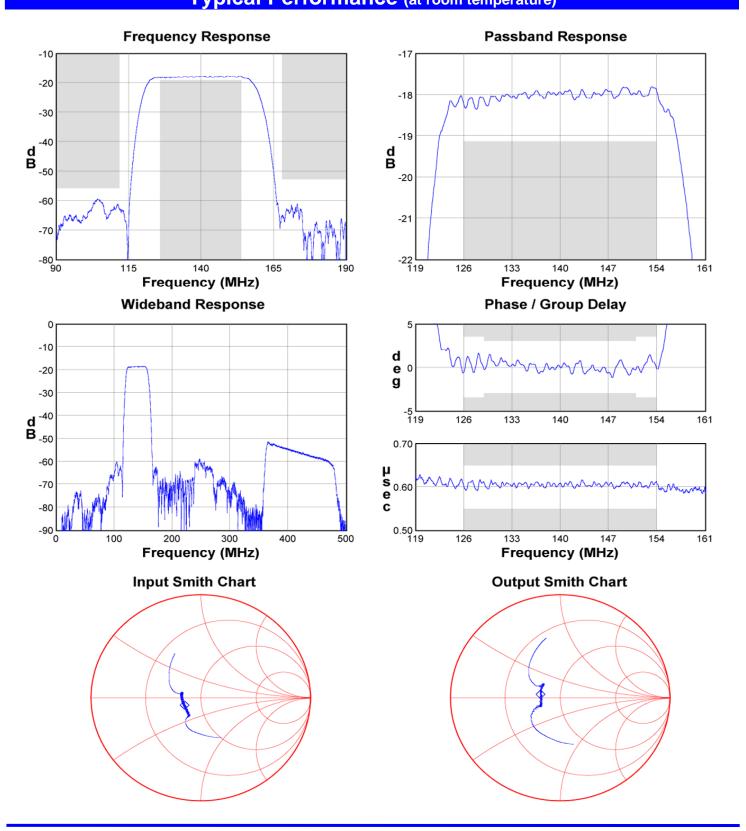
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Typical Performance (at room temperature)



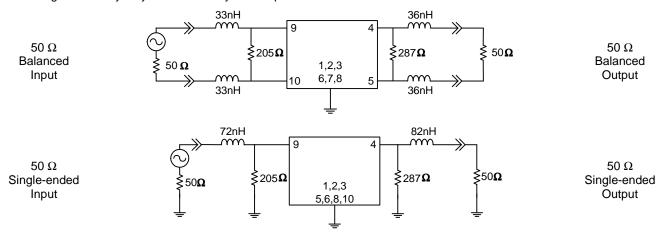


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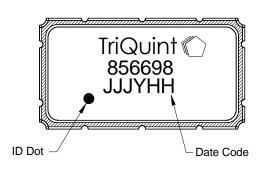
Matching Schematics

Actual matching values may vary due to PCB layout and parasitics

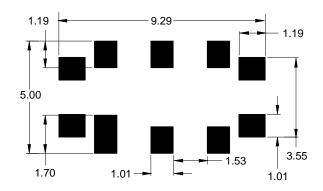


Marking

PCB Footprint

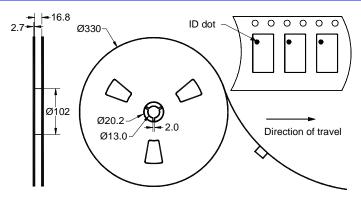


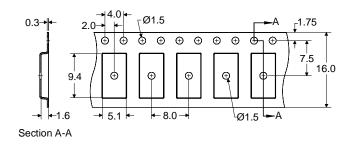
The date code consists of: day of the current year (Julian, 3 digits), last digit of the year (1 digit) and hour (2 digits)



This footprint represents a recommendation only Dimensions shown are nominal in millimeters

Tape and Reel





Dimensions shown are nominal in millimeters Packaging quantity: 4000 units/reel



Data Sheet

Maximum Ratings				
Parameter	Symbol	Minimum	Maximum	Unit
Operating Temperature Range	T	-40	+85	°C
Storage Temperature Range	T _{stg}	-55	+125	°C
Pyroelectric Voltage	V_{Pyro}	-	50	mV p-p
Input Power	P _{in}	-	+10	dBm

Important Notes

Warnings

Electrostatic Sensitive Device (ESD)



Avoid ultrasonic exposure

RoHS Compliance

This product complies with EU directive 2002/95/EC (RoHS)



Solderability

Compatible with JEDEC J-STD-020C Pb-free process, 260℃ peak reflow temperature (see soldering profile)

Links to Additional Technical Information

PCB Layout Tips Qualification Flowchart Soldering Profile

S-Parameters **RoHS Information** Other Technical Information

TriQuint's liability is limited only to the Surface Acoustic Wave (SAW) component(s) described in this data sheet. TriQuint does not accept any liability for applications, processes, circuits or assemblies, which are implemented using any TriQuint component described in this data sheet.

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