
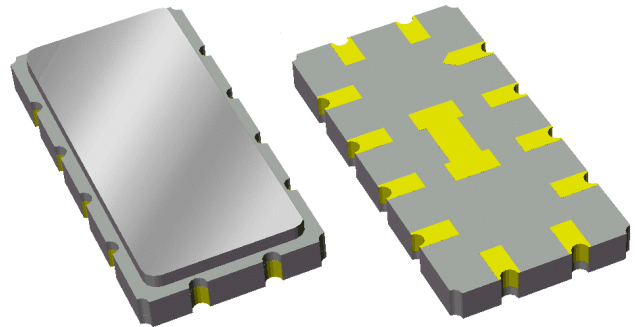


Data Sheet

Features

- For multiple applications
- Usable bandwidth 40 MHz
- High attenuation
- Single-ended operation
- Ceramic Surface Mount Package (SMP)
- Hermetic
- RoHS compliant (2002/95/EC), Pb-free 

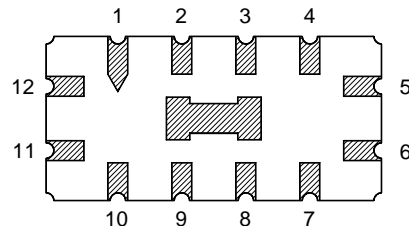
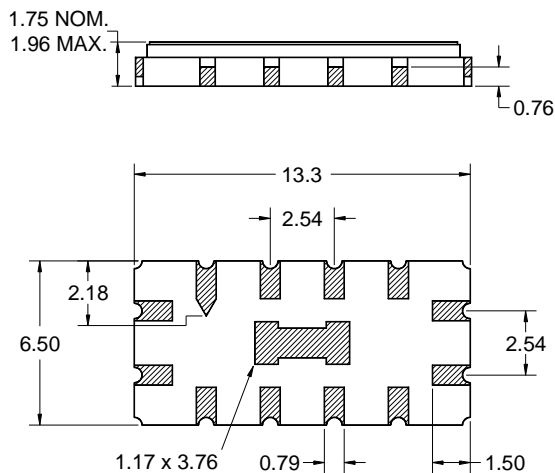


Package

Surface Mount 13.30 x 6.50 x 1.75 mm
SMP-53A

Pin Configuration

Bottom View



Pin No.	Description
5	Output
6	Output Return
11	Input
12	Input Return
1,4,7,10	Ground
2,3,8,9	Case ground

Dimensions shown are nominal in millimeters
All tolerances are $\pm 0.15\text{mm}$ except overall
length and width $\pm 0.10\text{mm}$

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

Data Sheet

Electrical Specifications ⁽¹⁾

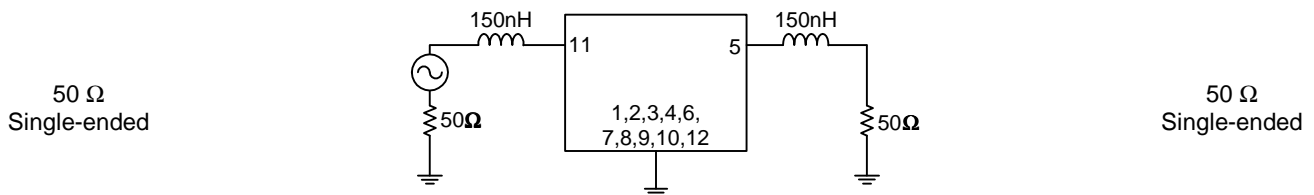
Operating Temperature Range: ⁽²⁾ 0 to +70 °C

Parameter ⁽³⁾	Minimum	Typical ⁽⁴⁾	Maximum	Unit
Center Frequency	69.8	70	70.2	MHz
Insertion Loss at 70 MHz	-	21.5	22	dB
2dB Bandwidth	39.4	39.7	-	MHz
3dB Bandwidth	40	40.35	-	MHz
40dB Bandwidth	-	47.25	48.25	MHz
Passband Ripple	-	-	-	-
52 – 88 MHz	-	1.1	2	dB
Phase Linearity (90% of the 3dB bandwidth)	-	10	13	deg
Group Delay Variation (90% of the 3dB bandwidth)	-	50	90	ns
Absolute Delay	-	1.08	-	μs
Temperature Coefficient	-	-94	-	ppm/°C
Source/Load Impedance ⁽⁵⁾	-	50	-	Ω

Notes:

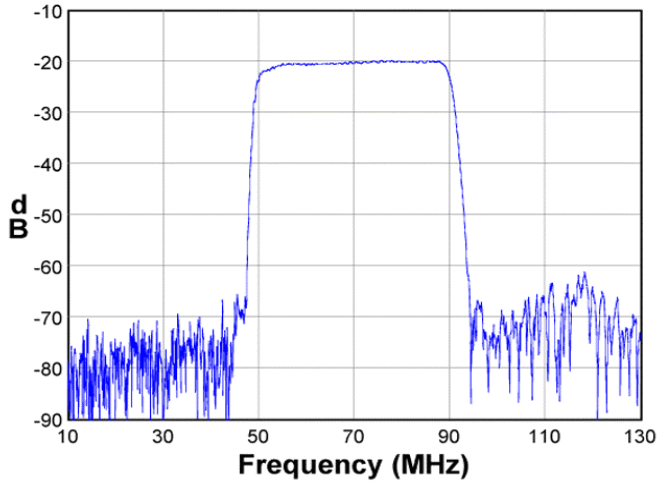
1. All specifications are based on Triquint test circuit shown below
2. In production, devices will be tested at room temperature to a guardbanded specification to ensure electrical compliance over temperature
3. Electrical margin has been built into the design to account for the variations due to temperature drift and manufacturing tolerances
4. Typical values are based on average measurements at room temperature
5. This is the optimum impedance in order to achieve the performance shown

Test Circuit:

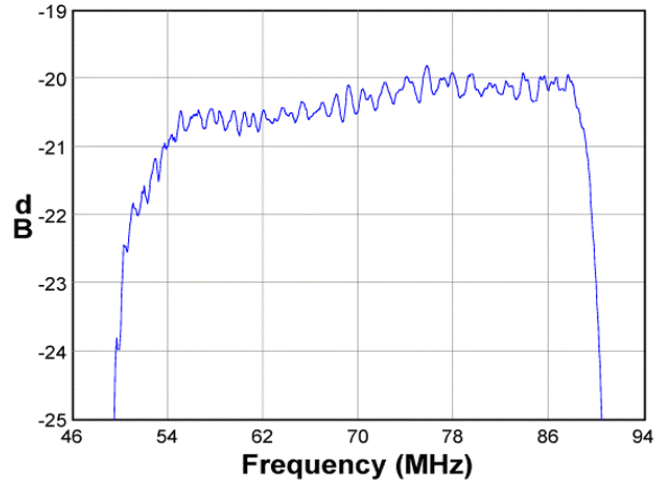


Typical Performance (at room temperature)

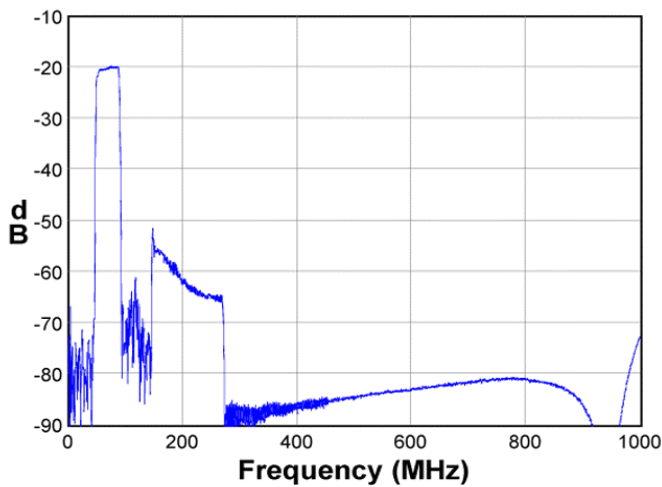
Frequency Response



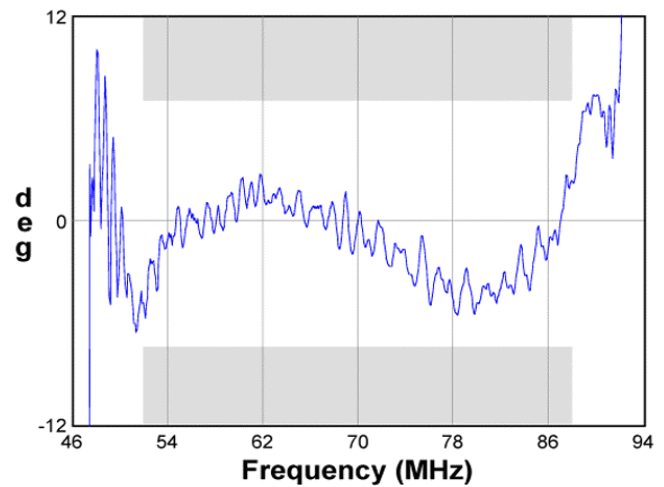
Passband Response



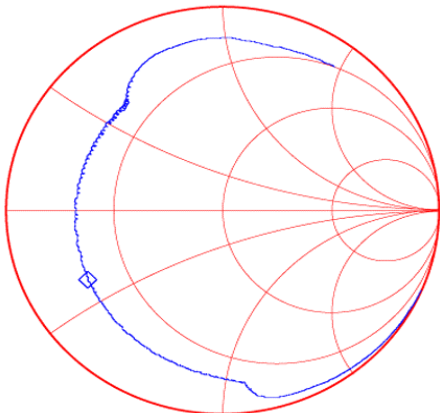
Wideband Response



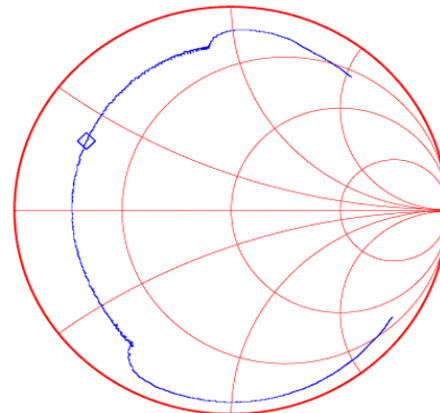
Phase Response



Input Smith Chart



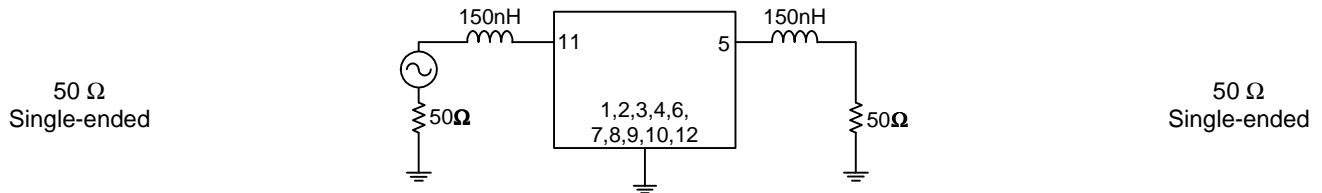
Output Smith Chart



Data Sheet

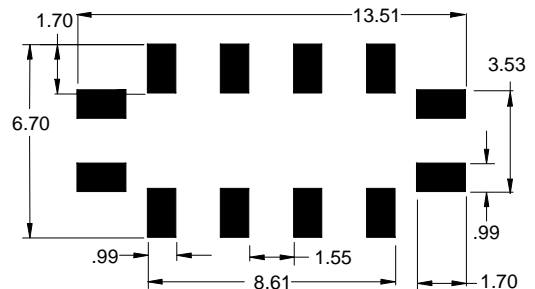
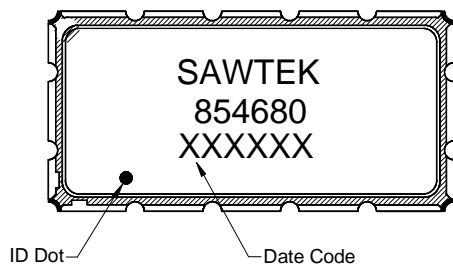
Matching Schematics

Actual matching values may vary due to PCB layout and parasitics



Marking

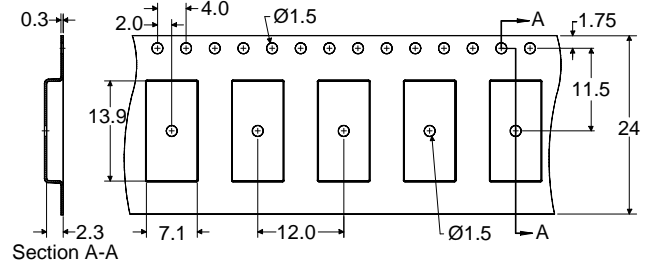
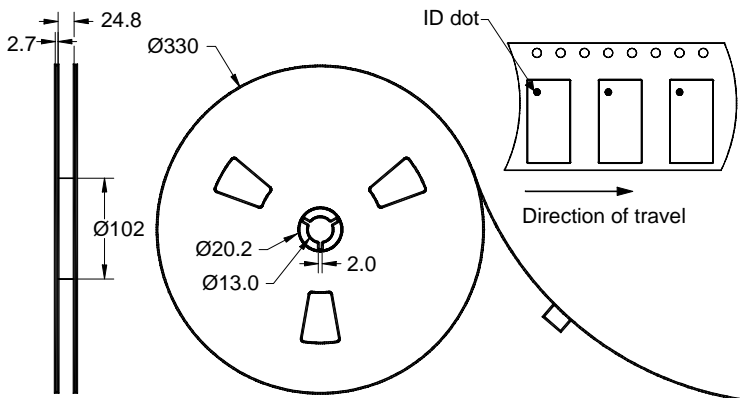
PCB Footprint



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: 2000 units/reel


Data Sheet

Maximum Ratings


Parameter	Symbol	Minimum	Maximum	Unit
Operating Temperature Range	T	0	70	°C
Storage Temperature Range	T _{stg}	-40	+85	°C

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°C** 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](#)

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