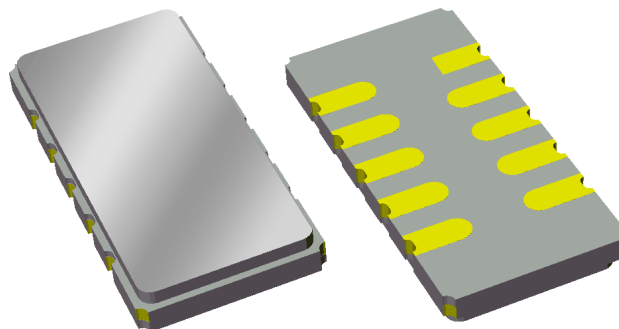


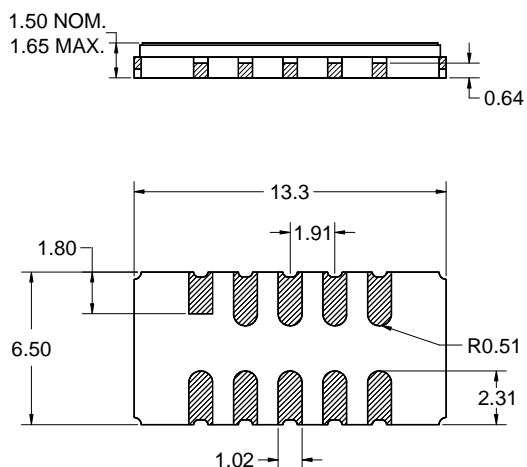
Features

- For GSM/EDGE applications
- Usable bandwidth 180 KHz
- Low loss
- High attenuation
- Single ended operation
- Ceramic Surface Mount Package (SMP)
- Hermetic
- **RoHS** compliant (2002/95/EC), **Pb-free**



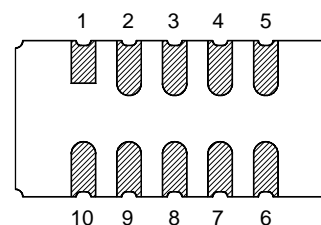
Package

Surface Mount 13.3 x 6.50 x 1.54 mm
SMP-53C



Pin Configuration

Bottom View



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

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

Electrical Specifications ⁽¹⁾

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

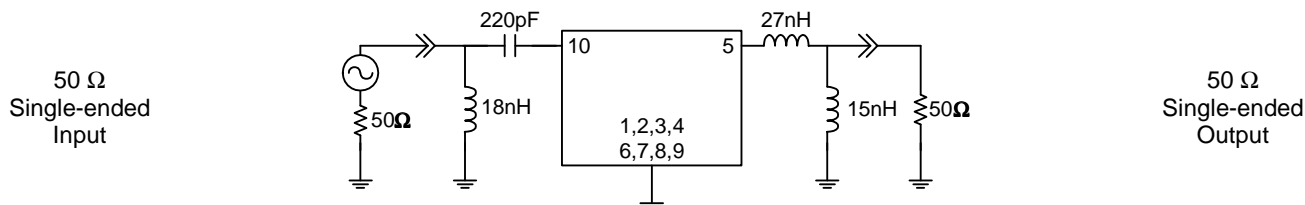
Parameter ⁽³⁾	Minimum	Typical ⁽⁴⁾	Maximum	Unit
Center Frequency	-	170.6	-	MHz
Insertion Loss at Fo	-	5.59	8	dB
1 dB Lower Frequency	-	170.44	170.51	MHz
1 dB Upper Frequency	170.69	170.75	-	MHz
13 dB Lower Frequency	170.2	170.27	-	MHz
13 dB Upper Frequency	-	170.95	171.0	MHz
27 dB Lower Frequency	170.0	170.11	-	MHz
27 dB Upper Frequency	-	171.11	171.2	MHz
40 dB Lower Frequency	169.8	170.00	-	MHz
40 dB Upper Frequency	-	171.23	171.4	MHz
43 dB Lower Frequency	169.0	169.94	-	MHz
43 dB Upper Frequency	-	171.28	172.2	MHz
47 dB Lower Frequency	167.4	169.85	-	MHz
47 dB Upper Frequency	-	171.60	173.8	MHz
Amplitude Variation 170.51 - 170.69 MHz	-	0.29	1	dB p-p
Group Delay Ripple 170.51 - 170.69 MHz	-	421	1000	nsec
Minimum Rejection 171.4 - 171.6 MHz	40	-	-	dB
Input Power Level	-	-	20	dBm
Passband Input IP3	30	-	-	dBm
Input/Output VSWR	-	-	2:1	-
Optimal Source Impedance: ⁽⁵⁾	-	50	-	Ω
Optimal Load Impedance: ⁽⁵⁾	-	50	-	Ω

Notes:

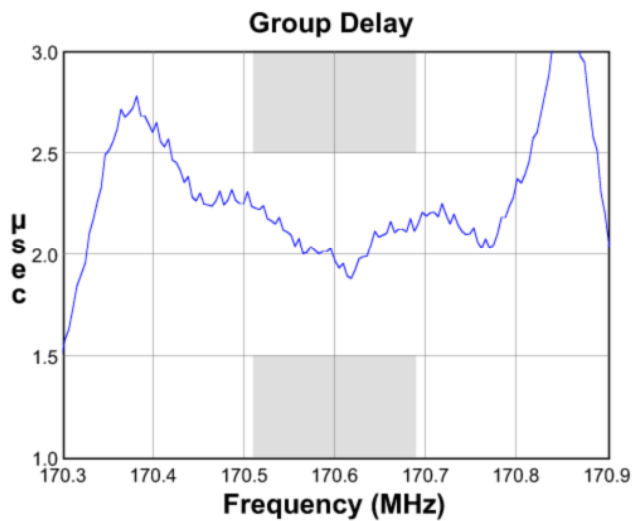
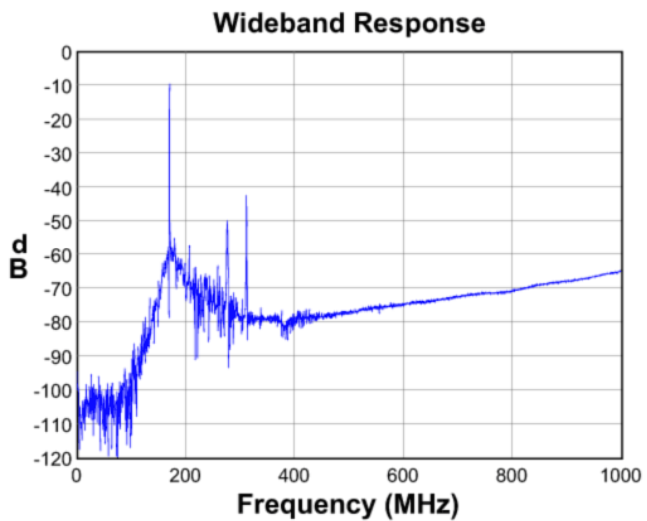
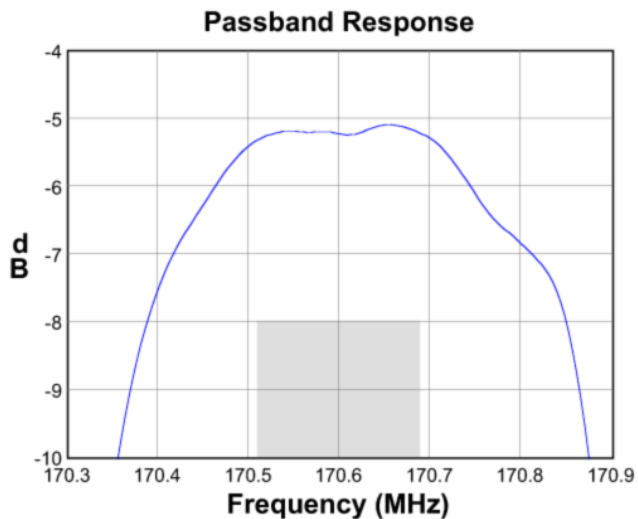
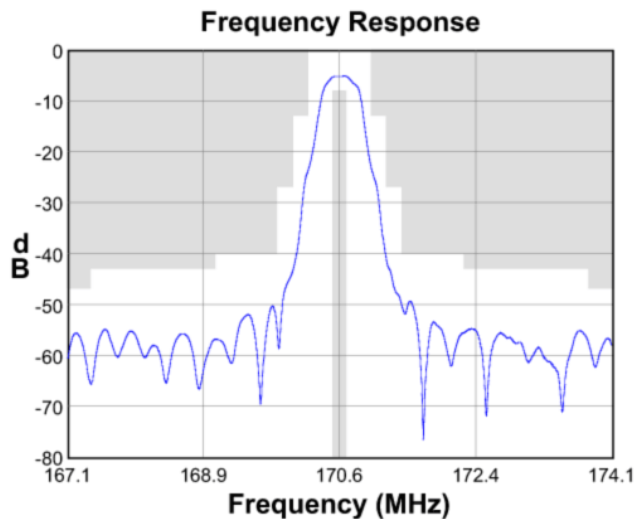
1. All specifications are based on the TriQuint test circuit shown below
2. In production, devices will be tested at room temperature to a guardbanded specification to ensure electrical compliance over temperature
3. Electrical margin has been built into the design to account for the variations due to 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:

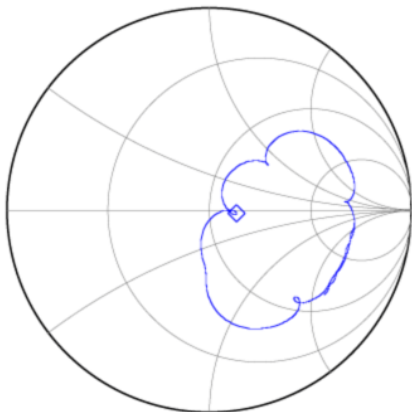
Actual matching values may vary due to PCB layout and parasitics



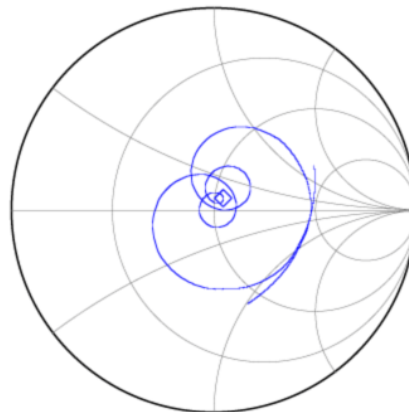
Typical Performance (at +25°C)



Input Smith Chart

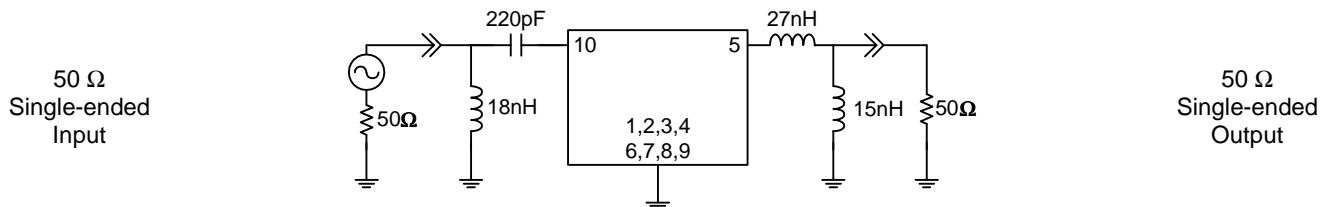


Output Smith Chart



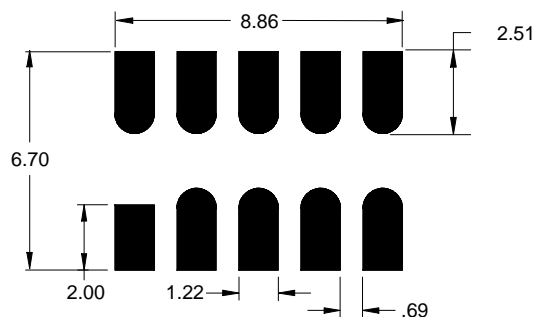
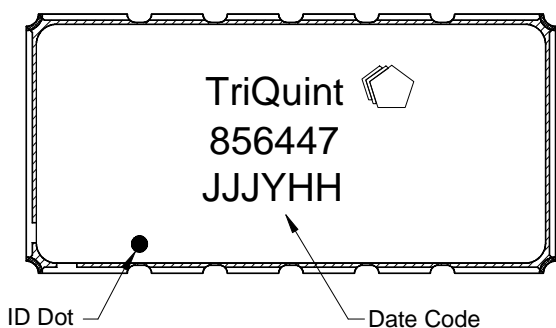
Matching Schematics

Actual matching values may vary due to PCB layout and parasitics



Marking

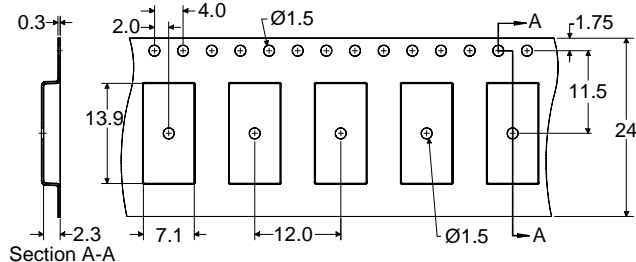
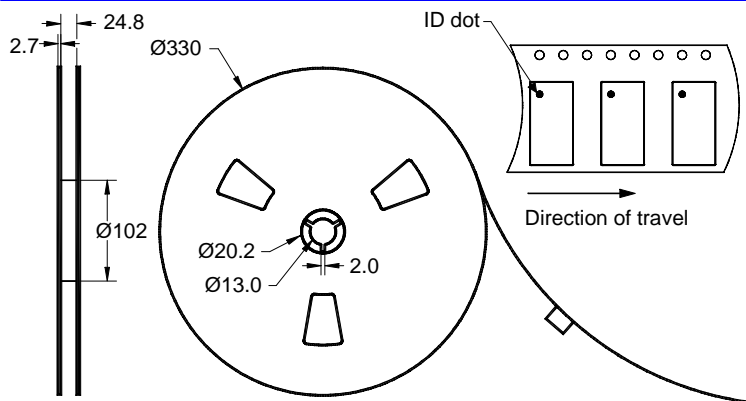
PCB Footprint



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

Maximum Ratings

Parameter	Symbol	Minimum	Maximum	Unit
Operating Temperature Range	T	-20	+85	°C
Storage Temperature Range	T _{stg}	-40	+85	°C

Warnings

- Electrostatic Sensitive Device (ESD) 
- Avoid ultrasonic exposure

Material Content

- Does not contain lead (Pb) or other RoHS restricted materials

Links to Additional Technical Information

[PCB Layout Tips](#)

[Qualification Flowchart](#)

[Soldering Profile](#)

[S-Parameters](#)

[Other Technical Information](#)

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