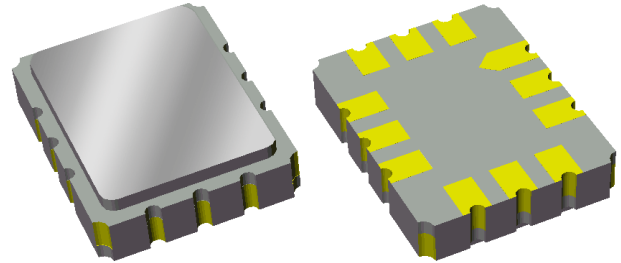


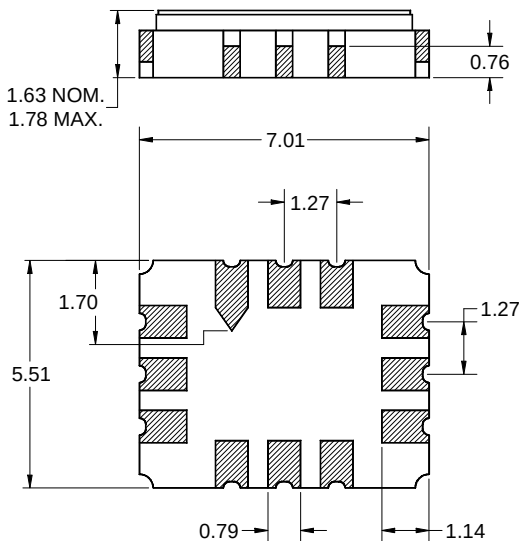
Features

- For 3G applications
- 15 MHz bandwidth for high data rates
- High attenuation
- Single-ended operation at 50Ω
- Ceramic Surface Mount Package (SMP)
- Hermetic
- RoHS compliant (2002/95/EC), Pb-free 



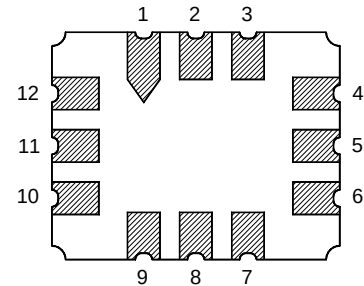
Package

Surface Mount 7.01 x 5.51 x 1.63 mm
SMP-28B



Pin Configuration

Bottom View



Single-ended Configuration

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

Dimensions shown are nominal in millimeters
All tolerances are ± 0.15 mm except overall
length and width ± 0.13 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⁾ -10 to +85 °C

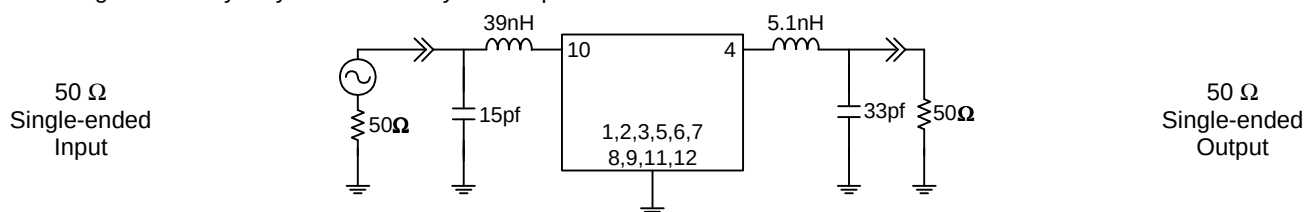
Parameter ⁽³⁾	Minimum	Typical ⁽⁴⁾	Maximum	Unit
Center Frequency	-	326.4	-	MHz
Minimum Insertion Loss	-	12.61	17	dB
2 dB Lower Frequency	-	317.77	318.9	MHz
2 dB Upper Frequency	333.9	335.18	-	MHz
2 dB Bandwidth	15	17.4	-	MHz
40 dB Lower Frequency	313.9	314.62	-	MHz
40 dB Upper Frequency	-	338.31	338.9	MHz
40 dB Bandwidth	-	23.69	25	MHz
Relative Attenuation ⁽⁵⁾				
10 - 276.4 MHz	50	60	-	dB
276.4 - 306.4 MHz	45	51	-	dB
346.4 - 376.4 MHz	45	56	-	dB
376.4 - 450 MHz	50	64	-	dB
Amplitude Ripple				
323.9 - 328.9 MHz	-	0.2	0.5	dB p-p
Group Delay Variation				
318.9 - 333.9 MHz	-	24	50	nsec
Input VSWR				
318.9 - 333.9 MHz	-	1.33:1	2.0:1	-
Output VSWR				
318.9 - 333.9 MHz	-	1.34:1	2.0:1	-
Source Impedance ⁽⁶⁾	-	50	-	Ω
Load Impedance ⁽⁶⁾	-	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. Relative to minimum insertion loss
6. This is the optimum impedance in order to achieve the performance shown

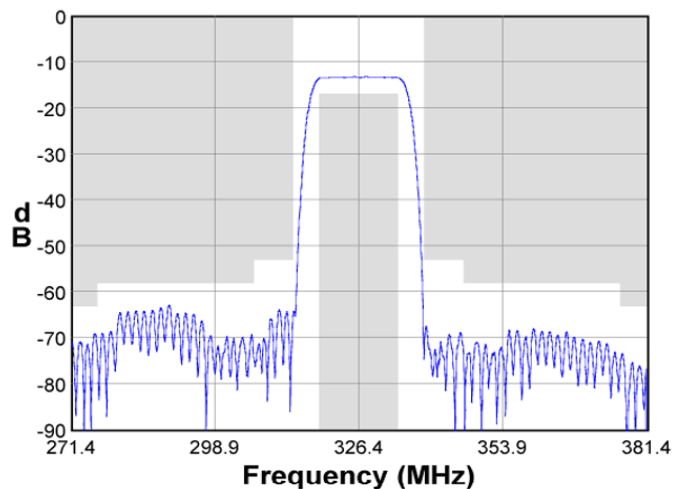
Test Circuit:

Actual matching values may vary due to PCB layout and parasitics

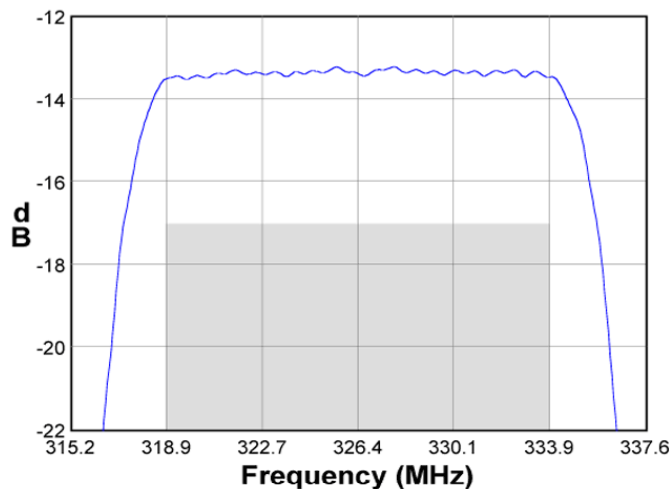


Typical Performance (at room temperature)

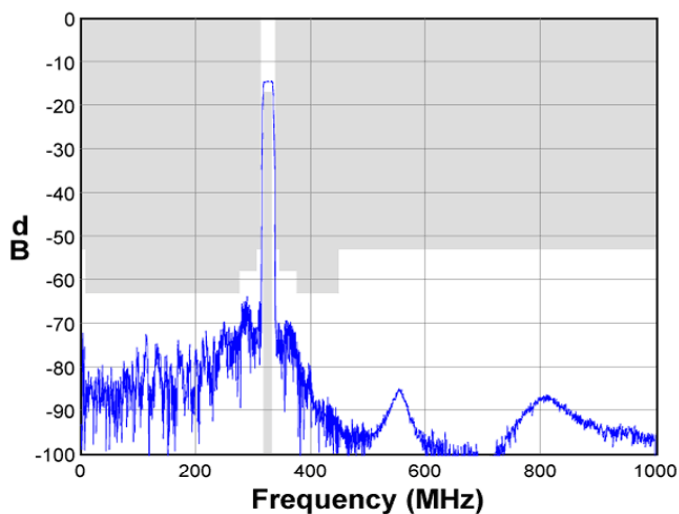
Frequency Response



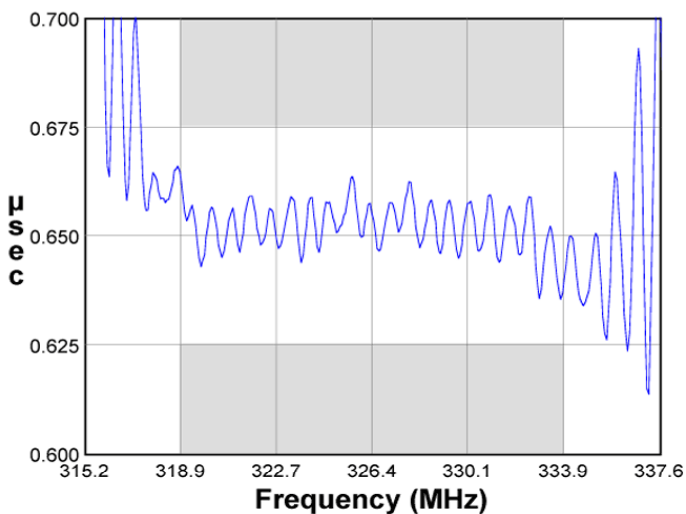
Passband Response



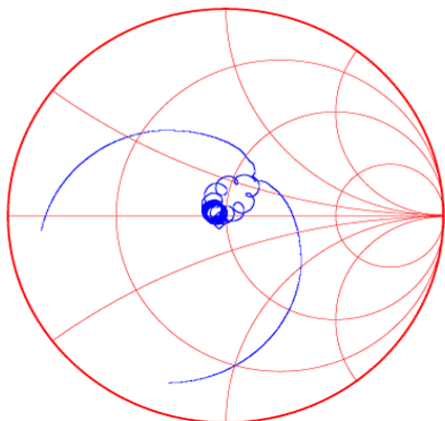
Wideband Response



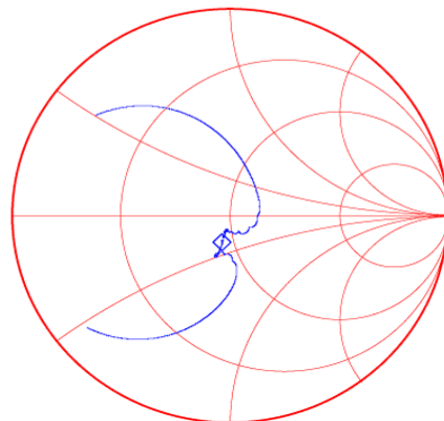
Group Delay Response



Input Smith Chart

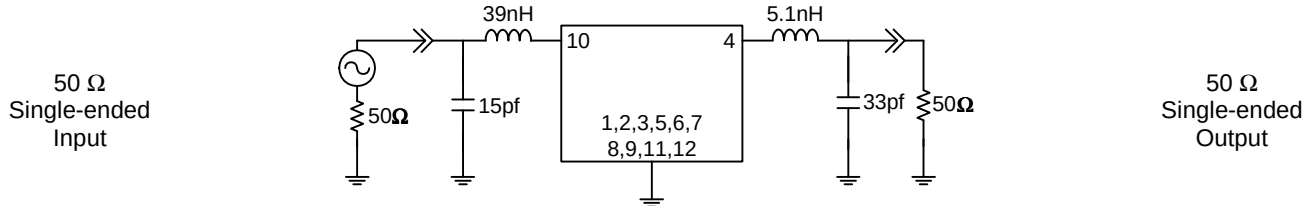


Output Smith Chart



Matching Schematics

Actual matching values may vary due to PCB layout and parasitics

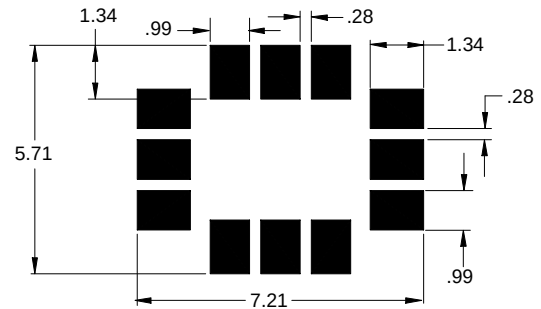


Marking



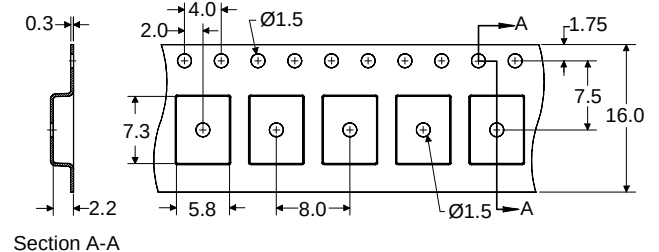
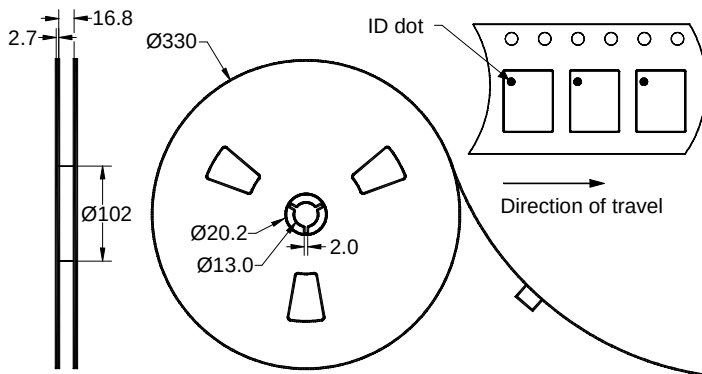
The date code consists of: day of the current year (Julian, 3 digits), last digit of the year (1 digit) and hour (2 digits)

PCB Footprint



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

Tape and Reel



Dimensions shown are nominal in millimeters
Packaging quantity: 3000 units/reel

Maximum Ratings

Parameter	Symbol	Minimum	Maximum	Unit
Operating Temperature Range	T	-10	+85	°C
Storage Temperature Range	T _{stg}	-40	+85	°C
Input Power	P _{in}	-	+15	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 JESD22-B102, Pb-free process, 260C 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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