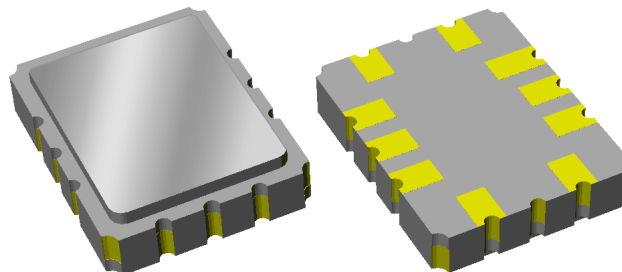


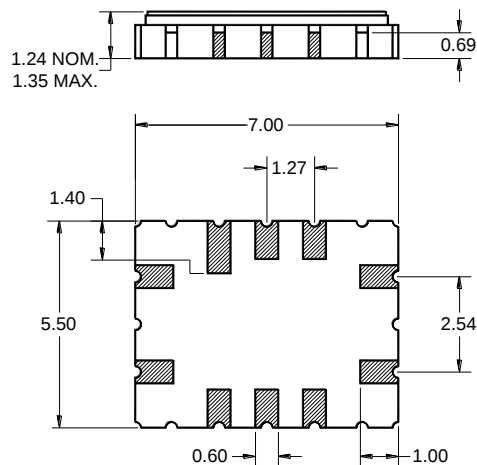
Features

- For Base Stations applications
- Usable 1.0 dB bandwidth of 18.4 MHz
- Low loss
- High Attenuation
- Single-ended operation, 50 Ω
- Small Package
- Ceramic Surface Mount Package (SMP)
- Hermetic
- RoHS compliant (2002/95/EC), Pb-free 



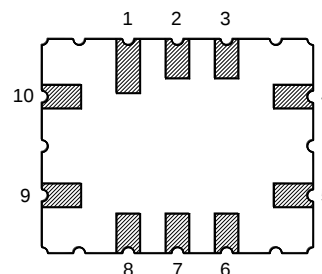
Package

Surface Mount 7.00 x 5.50 x 1.24 mm
SMP-28C



Pin Configuration

Bottom View



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

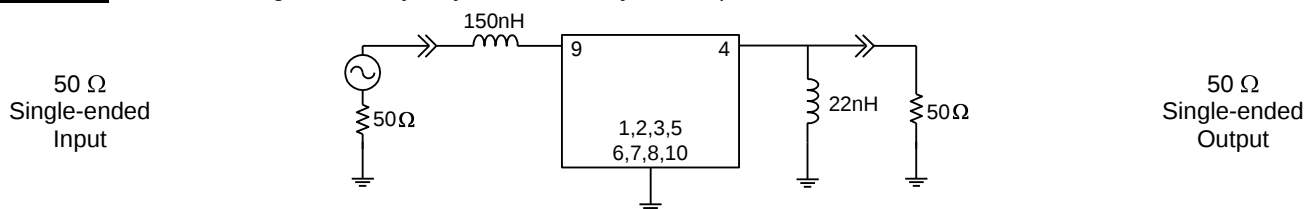
Operating Temperature Range: ⁽²⁾ -30 to +80 °C

Parameter ⁽³⁾	Minimum	Typical	Maximum	Unit
Center Frequency	-	140	-	MHz
Insertion Loss @ 140 MHz (Fo)	-	9.1	10.25	dB
1.0 dB Bandwidth	-	19.9	-	MHz
Lower 1.0 dB Bandedge ⁽⁴⁾	-	129.9	130.8	MHz
Upper 1.0 dB Bandedge ⁽⁴⁾	149.2	150.2	-	MHz
3.0 dB Bandwidth	-	21	-	MHz
Lower 3.0 dB Bandedge ⁽⁴⁾	-	129.4	130.5	MHz
Upper 3.0 dB Bandedge ⁽⁴⁾	149.5	150.4	-	MHz
30 dB Bandwidth ⁽⁴⁾	-	24.3	-	MHz
Lower 30 dB Bandedge	126.8	128.2	-	MHz
Upper 30 dB Bandedge	-	152.5	153.2	MHz
Amplitude Ripple ⁽⁵⁾ Over the 1 dB bandwidth	-	0.35	0.8	dB p-p
Group Delay Ripple 130.8 -149.2 MHz	-	47	85	ns p-p
Absolute Delay	-	0.66	-	μsec
Relative Attenuation ⁽⁴⁾				
10 - 90 MHz	45	64	-	dB
90 - 120 MHz	40	47	-	dB
120 - 122.5 MHz	35	44	-	dB
122.5 - 126.8 MHz	30	38	-	dB
153.2 - 157.5 MHz	30	36	-	dB
157.5 - 160 MHz	35	46	-	dB
160 - 190.00 MHz	40	48	-	dB
190 - 800 MHz	45	52	-	dB
Input VSWR ⁽⁵⁾ 130.8 -149.2 MHz	-	1.5	2.0	-
Output VSWR ⁽⁵⁾ 130.8 -149.2 MHz	-	1.4	2.0	-
Source/Load Impedance ⁽⁶⁾	-	50	-	Ω

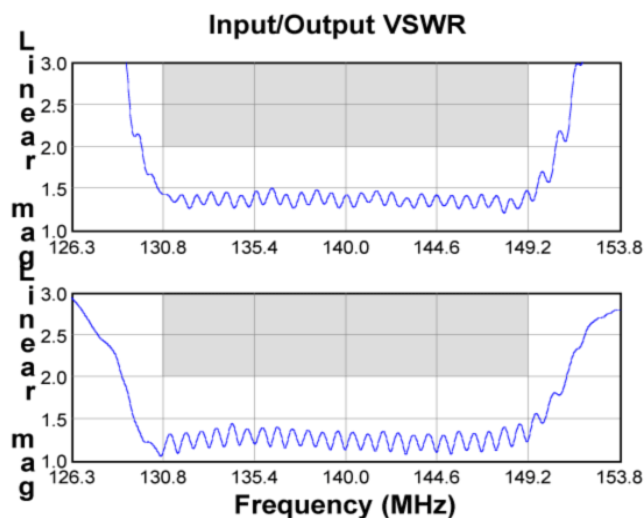
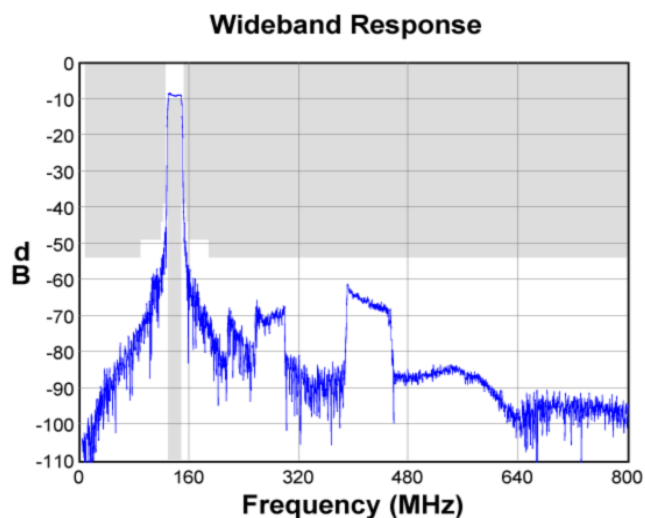
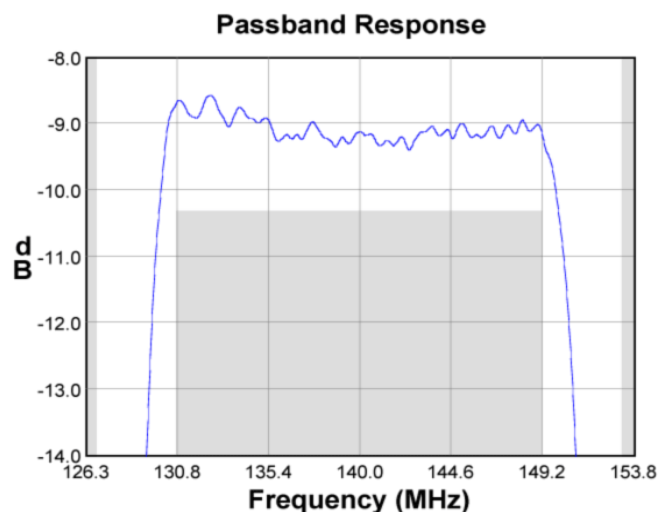
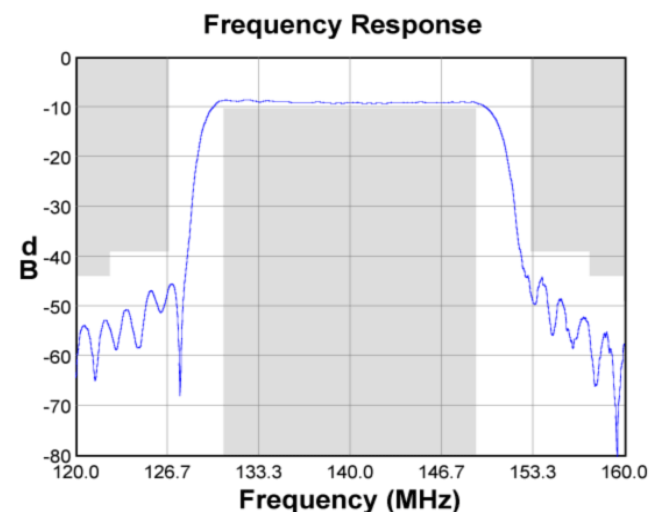
Notes:

1. All target 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. Relative to Insertion Loss at center frequency
5. Describes the maximum peak to adjacent valley variation over the passband (not including roll-off)
6. This is the optimum impedance in order to achieve the performance shown

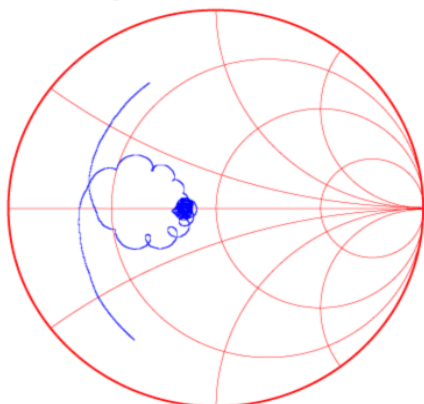
Test Circuit: Actual Matching values may vary due to PCB layout and parasitics



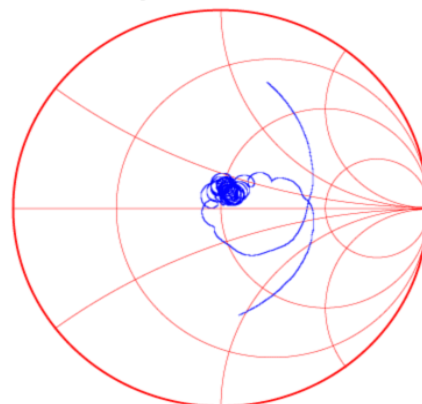
Typical Performance (at +25°C)



Input Smith Chart

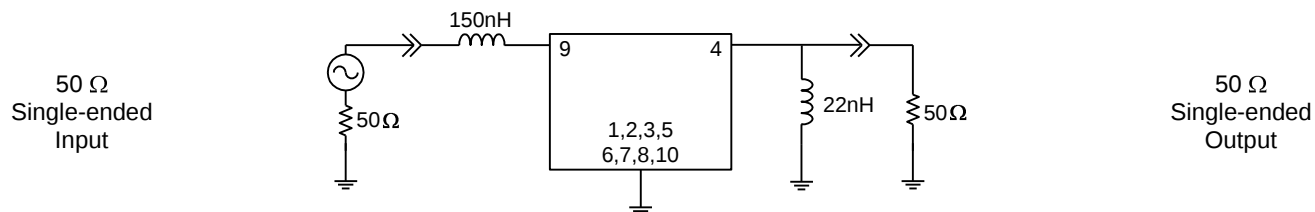


Output Smith Chart

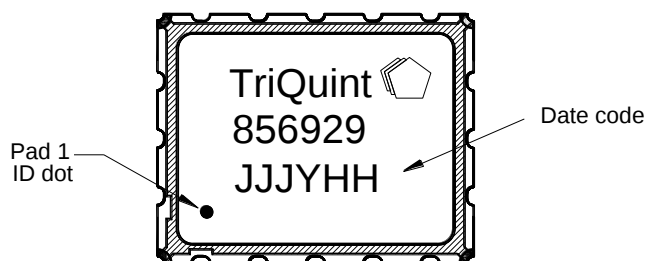


Matching Schematics

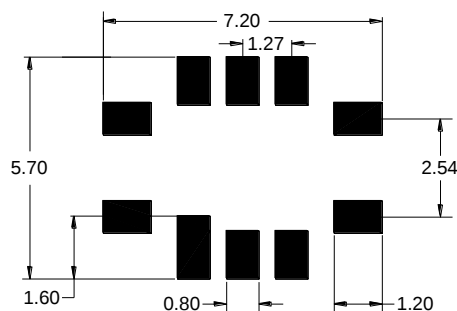
Actual matching values may vary due to PCB layout and parasitics



Marking



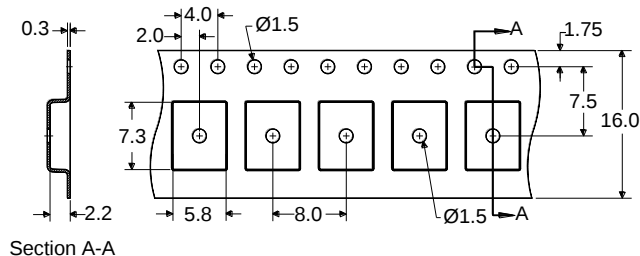
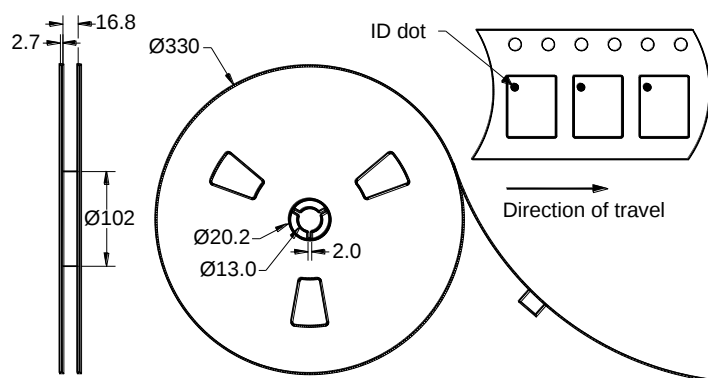
PCB Footprint



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: 3000 units/reel

Maximum Ratings

Parameter	Symbol	Minimum	Maximum	Unit
Operating Temperature Range	T	-30	+80	°C
Storage Temperature Range	T _{stg}	-40	+85	°C
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°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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