
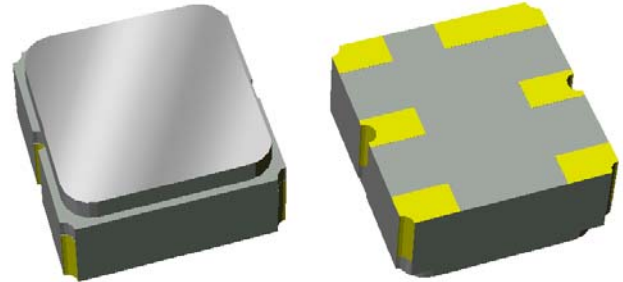


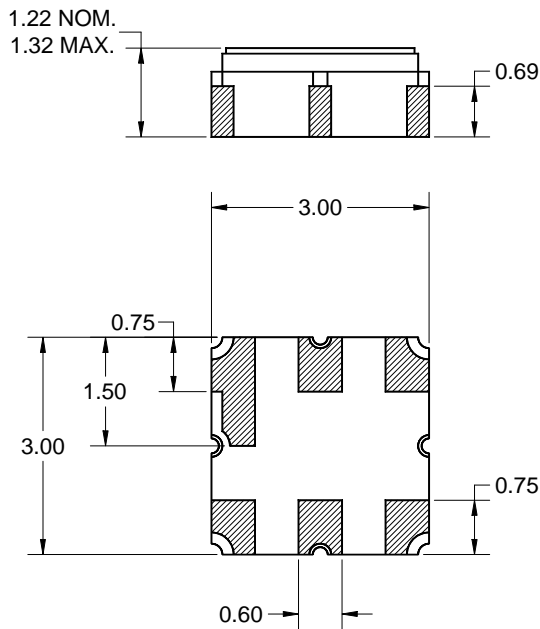
**Features**

- For SATCOM applications
- Usable bandwidth 48.5 MHz
- Low loss
- High Attenuation
- Single-ended operation
- Ceramic Surface Mount Package (SMP)
- Hermetic
- RoHS compliant (2002/95/EC), Pb-free 



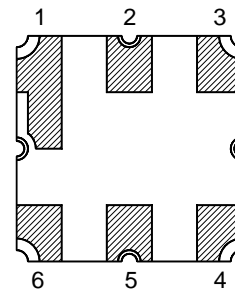
**Package**

Surface Mount 3.00 x 3.00 x 1.22 mm  
SMP-12



**Pin Configuration**

Bottom View



Pin No.	Description
2	Input
5	Output
1,3,4,6	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:  $\text{Al}_2\text{O}_3$  ceramic  
Lid: Kovar, Ni plated  
Terminations: Au plating 0.5 - 1.0 $\mu\text{m}$ ,  
over a 2 - 6 $\mu\text{m}$  Ni plating

**Electrical Specifications <sup>(1)</sup>**

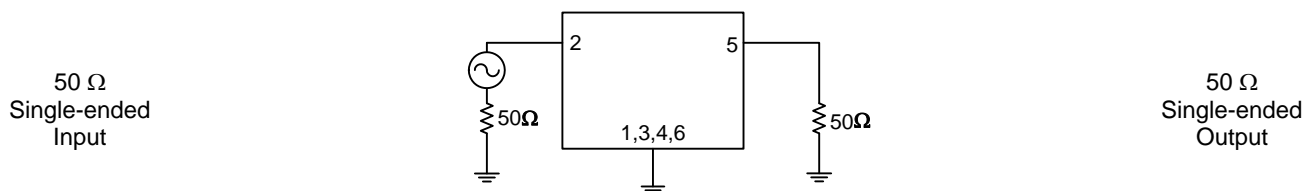
**Specified Temperature Range:** <sup>(2)</sup> -20 to +85 °C

Parameter <sup>(3)</sup>	Minimum	Typical <sup>(4)</sup>	Maximum	Unit
<b>Center Frequency</b>	-	1650.75	-	MHz
<b>Maximum Insertion Loss</b> 1626.5 – 1675 MHz	-	2.5	3.0	dB
<b>Absolute Attenuation</b>				
0.1 – 1559.0 MHz	35.0	50	-	dB
1576.5 MHz	30.5	50	-	dB
1751.0 MHz	24.5	48	-	dB
2400 – 2500.0 MHz	45.0	48	-	dB
<b>Passband Ripple <sup>(5)</sup></b> 1626.5 – 1675 MHz	-	0.3	1.0	dB
<b>Input/Output Return Loss</b> 1626.5 – 1675 MHz	9.0	11	-	dB
<b>Source Impedance (single-ended) <sup>(6)</sup></b>	-	50	-	Ω
<b>Load Impedance (single-ended) <sup>(6)</sup></b>	-	50	-	Ω

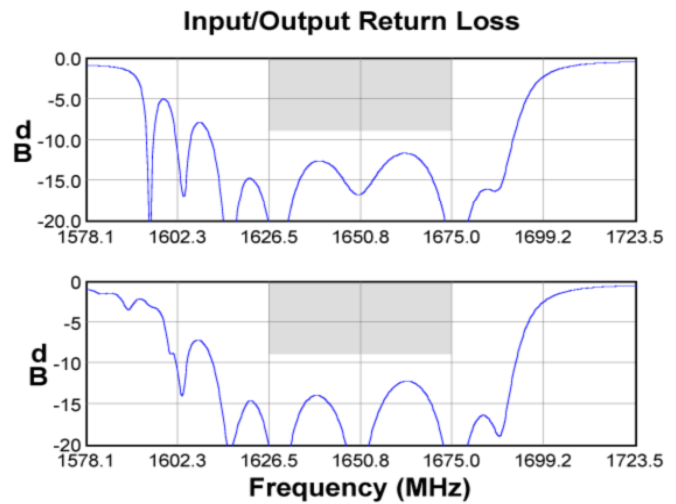
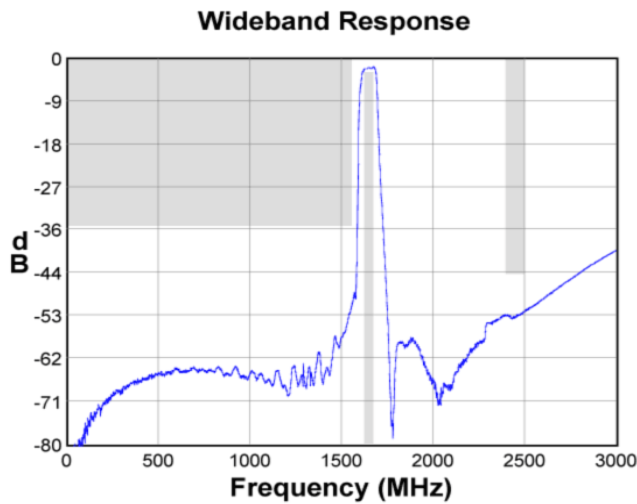
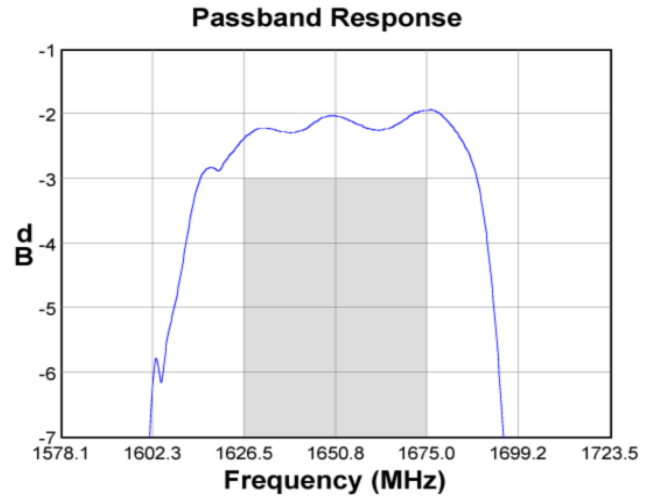
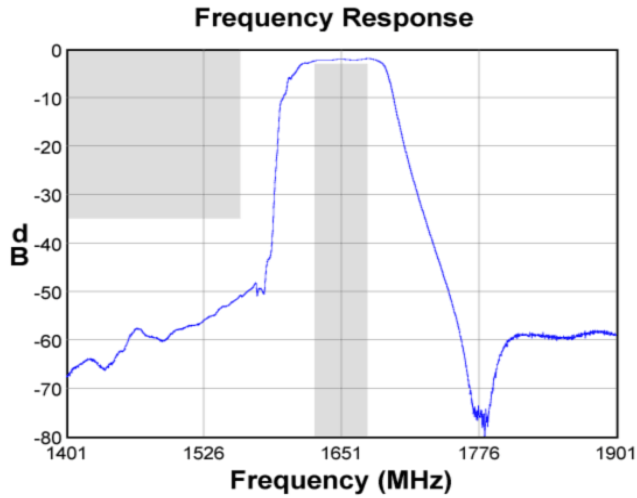
**Notes:**

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. Evaluated as peak-to-adjacent valley ripple and does not include amplitude variation due to pass-band roll-off at band edges
6. This is the optimum impedance in order to achieve the performance shown

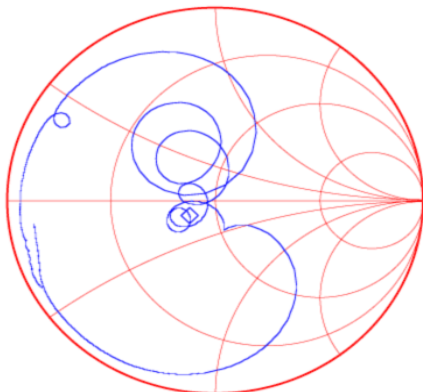
**Test Circuit:**



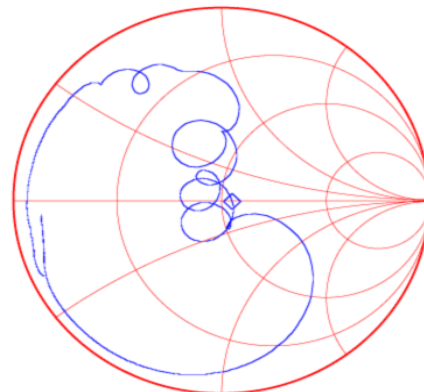
**Typical Performance (at room temperature)**



**Input Smith Chart**



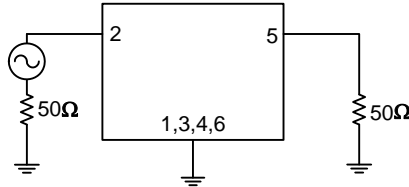
**Output Smith Chart**



**Matching Schematics**

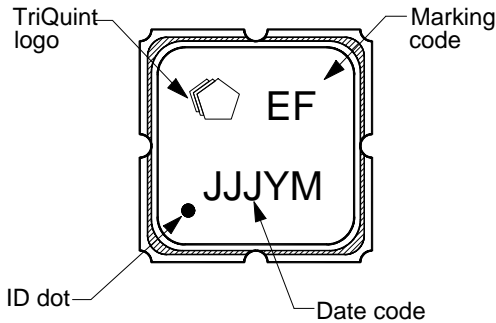
Actual matching values may vary due to PCB layout and parasitics

50  $\Omega$   
Single-ended  
Input



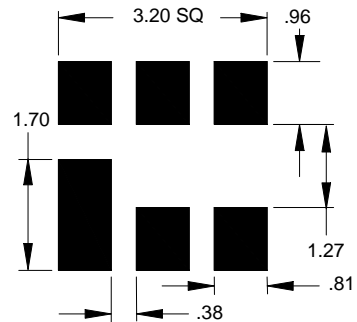
50  $\Omega$   
Single-ended  
Output

**Marking**



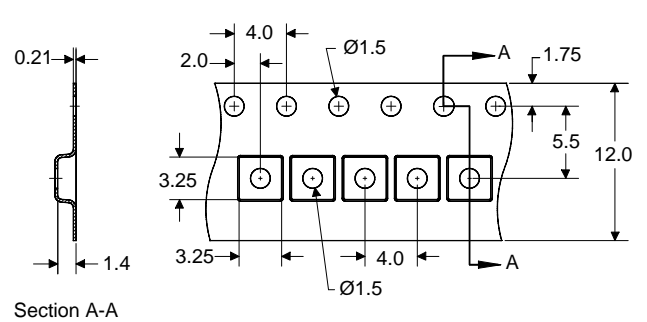
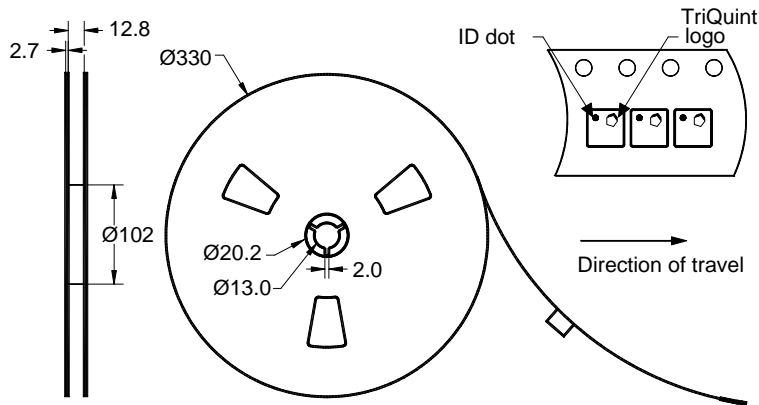
The date code consists of: day of the current year (Julian, 3 digits), last digit of the year (1 digit) M = manufacturing site code

**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: 5000 units/reel

**Maximum Ratings**


Parameter	Symbol	Minimum	Maximum	Unit
Operating Temperature Range	T	-20	+85	°C
Storage Temperature Range	T <sub>stg</sub>	-40	+85	°C
Input Power	P <sub>in</sub>	-	+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 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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