
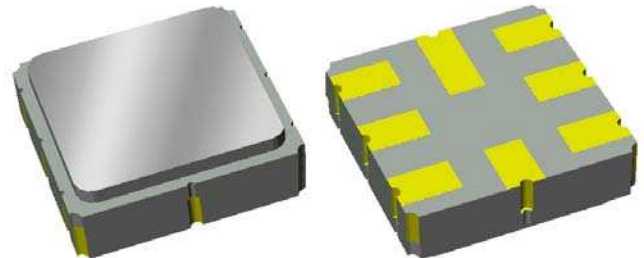


# Preliminary Data Sheet

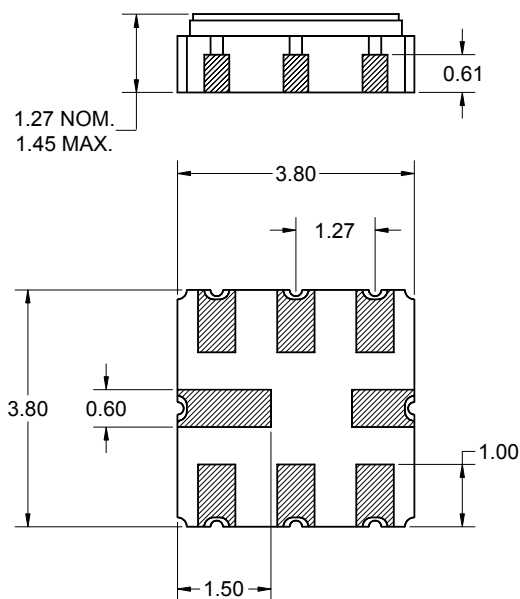
## Features

- For broadband access applications
- Usable bandwidth of 50 MHz
- High attenuation
- Balanced operation
- Ceramic Surface Mount Package (SMP)
- Hermetic
- RoHS compliant (2002/95/EC), Pb-free 



## Package

Surface Mount 3.80 x 3.80 x 1.27 mm

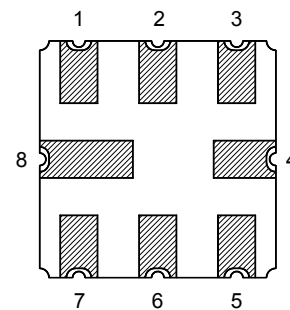


Dimensions shown are nominal in millimeters  
All tolerances are  $\pm 0.15$ mm except overall  
length and width  $\pm 0.10$ mm

Body:  $Al_2O_3$  ceramic  
Lid: Kovar, Ni plated  
Terminations: Au plating 0.5 - 1.0 $\mu$ m,  
over a 2 - 6 $\mu$ m Ni plating

## Pin Configuration

Bottom View



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

**Preliminary Data Sheet**

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

Operating Temperature Range: <sup>(2)</sup> 0 to +70 °C

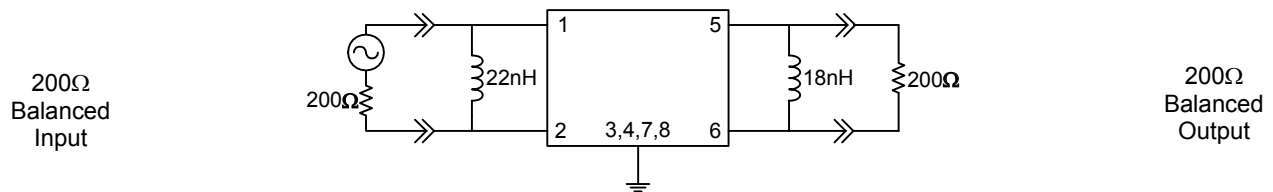
Parameter <sup>(3)</sup>	Minimum	Typical	Maximum	Unit
<b>Center Frequency</b>	-	1220	-	MHz
<b>Maximum Insertion Loss</b> 1195 - 1245 MHz	-	3.9	6.0	dB
<b>Amplitude Variation</b> 1195 - 1245 MHz	-	1.1	2.2	dB
1195 - 1245 MHz (in any 8 MHz channel)	-	1.0	2.0	dB
<b>Absolute Attenuation</b> 500 - 1170 MHz	40	56	-	dB
1170 - 1172 MHz	33	42	-	dB
1268 - 1270 MHz	33	42	-	dB
1270 - 1500 MHz	40	47	-	dB
<b>Group Delay Ripple</b> 1195 - 1245 MHz	-	26	60	nsec
1195 - 1245 MHz (in any 8 MHz channel)	-	15	24	nsec
<b>Input/Output Return Loss</b>	6	9	-	dB
<b>Source Impedance <sup>(4)</sup></b>	-	200	-	Ω
<b>Load Impedance <sup>(4)</sup></b>	-	200	-	Ω

**Notes:**

1. All specifications are based on the 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. This is the optimum impedance in order to achieve the performance shown

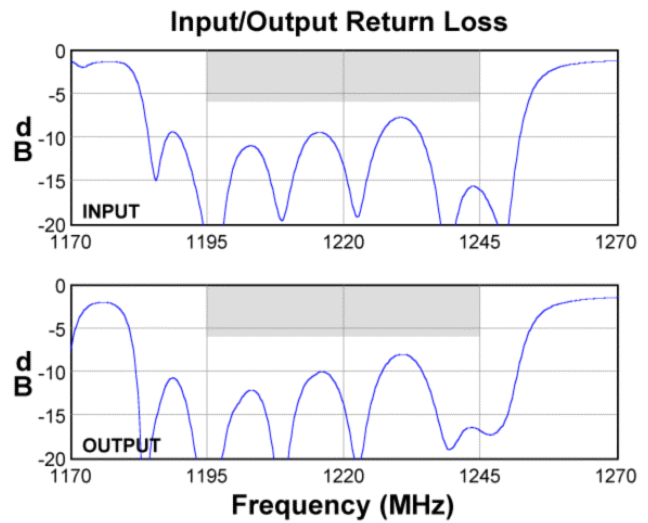
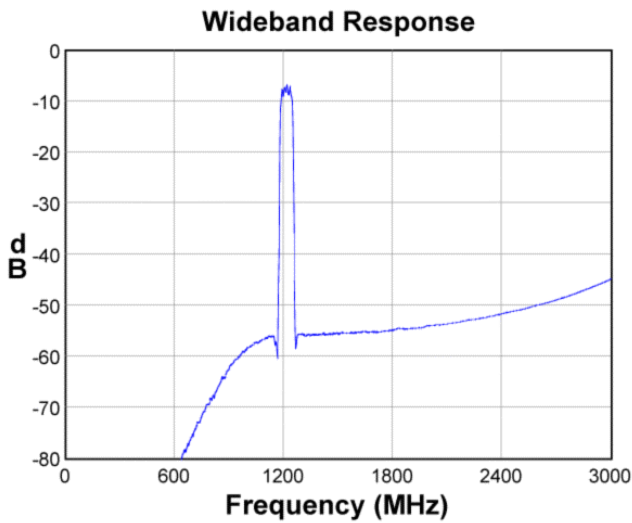
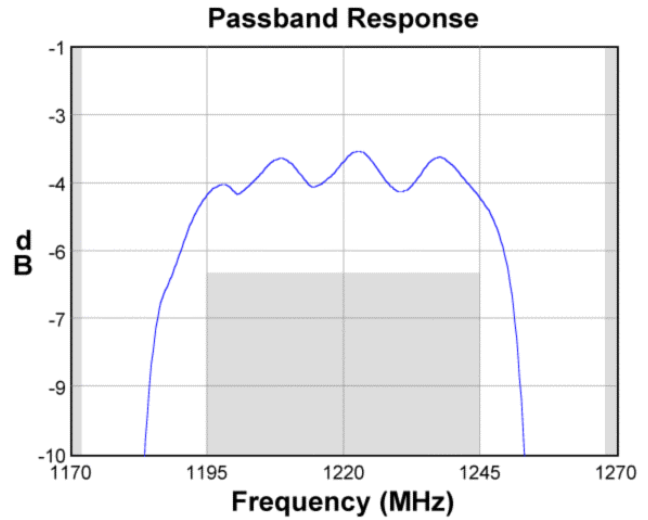
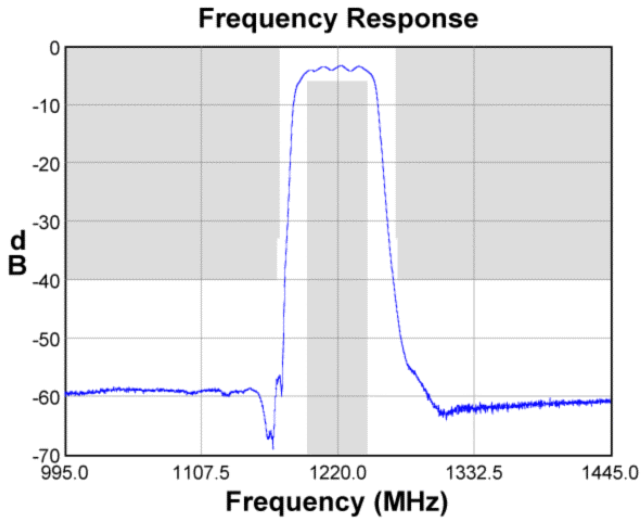
**Test Circuit:**

Actual matching values may vary due to PCB layout and parasitics

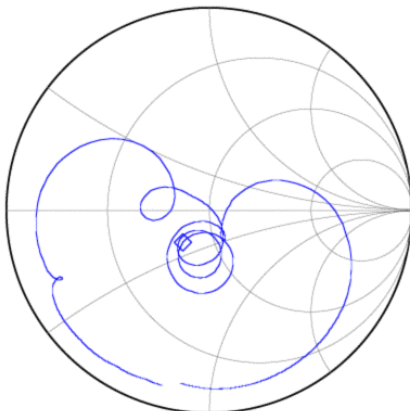


**Preliminary Data Sheet**

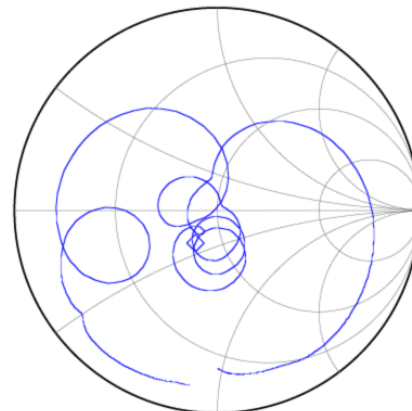
**Typical Performance (at +25°C)**



**Input Smith Chart**



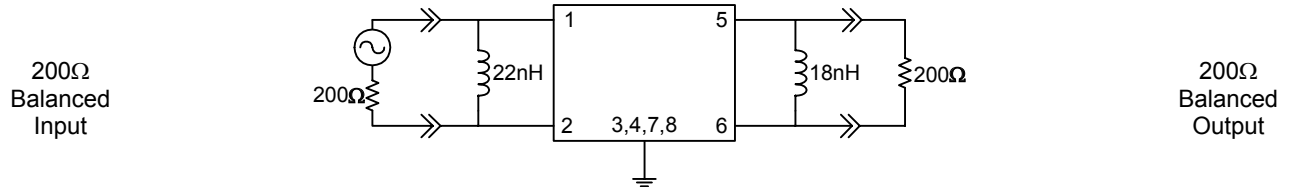
**Output Smith Chart**



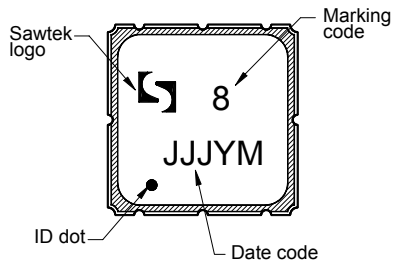
**Preliminary Data Sheet**

**Matching Schematics**

Actual matching values may vary due to PCB layout and parasitics

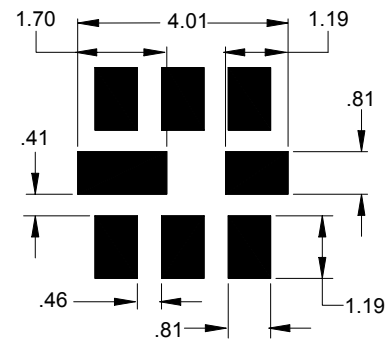


**Marking**



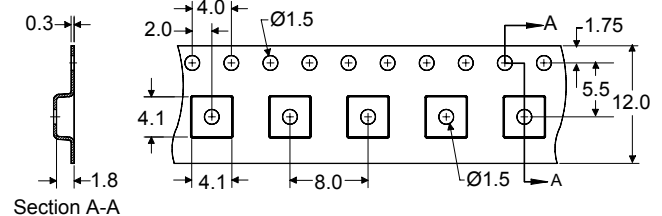
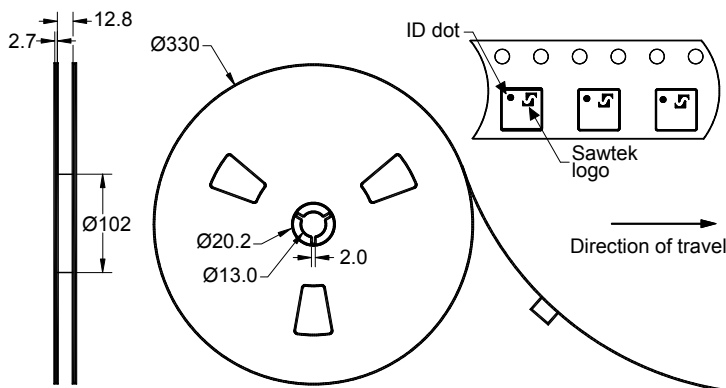
The date code consists of: JJJ = Julian day, Y = last digit of year, M = manufacturing site code

**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: 4000 units/reel


# Preliminary Data Sheet

## Maximum Ratings


Parameter	Symbol	Minimum	Maximum	Unit
Operating Temperature Range	T	0	+70	°C
Storage Temperature Range	T <sub>stg</sub>	-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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## Contact Information

**TriQuint**   
SEMICONDUCTOR

PO Box 609501  
Orlando, FL 32860-9501  
USA

Phone: +1 (407) 886-8860  
Fax: +1 (407) 886-7061  
Email: [info-product@tqs.com](mailto:info-product@tqs.com)  
Web: [www.triquint.com](http://www.triquint.com)

Or contact one of our worldwide  
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