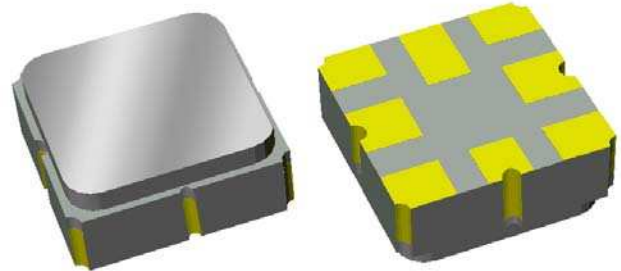


# Preliminary Data Sheet

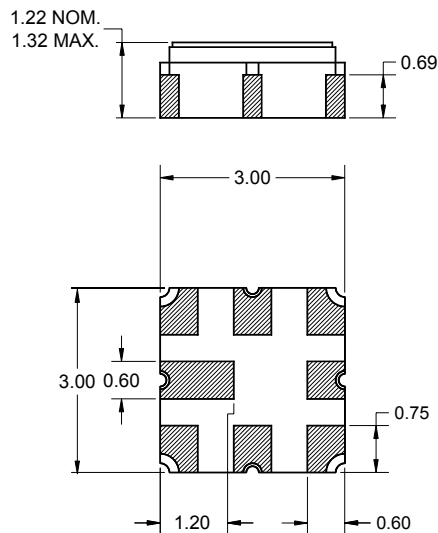
## Features

- For broadband access applications
- Usable bandwidth 10 MHz
- Low loss
- High attenuation
- No impedance matching required for operation at 200  $\Omega$
- Balanced operation
- Ceramic Surface Mount Package (SMP)
- Small size



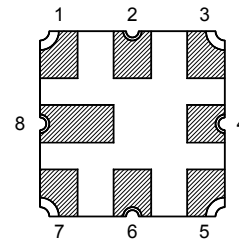
## Package

Surface Mount 3.00 x 3.00 x 1.22 mm



## Pin Configuration

Bottom View



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

# Preliminary Data Sheet

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

Operating Temperature Range: <sup>(2)</sup> -10 to +70 °C

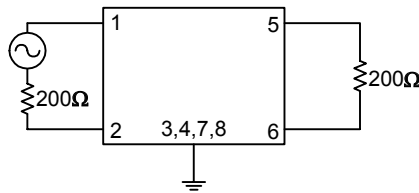
Parameter <sup>(3)</sup>	Minimum	Typical	Maximum	Unit
<b>Center Frequency</b>	-	1220	-	MHz
<b>Maximum Insertion Loss</b> 1215 - 1225 MHz	-	4.5	5.5	dB
<b>Lower 1.5 dB Bandedge</b> <sup>(4)</sup> <b>Upper 1.5 dB Bandedge</b>	- 1225	1209.5 1230.5	1215 -	MHz MHz
<b>Stopband Rejection</b> <sup>(4)</sup> 500 - 1152 MHz	55	60	-	dB
1152 - 1190 MHz	30	55	-	dB
1250 - 1288 MHz	30	55	-	dB
1288 - 2000 MHz	55	50	-	dB
<b>Amplitude Ripple</b> <sup>(5)</sup> 1215 - 1225 MHz	-	0.5	1.5	dB
<b>Group Delay Ripple</b> <sup>(5)</sup> 1215 - 1225 MHz	-	30	-	ns
<b>Source Impedance</b> <sup>(6)</sup>	-	200	-	Ω
<b>Load Impedance</b> <sup>(6)</sup>	-	200	-	Ω

### Notes:

- All specifications are based on the test circuit shown below
- In production, devices will be tested at room temperature to a guardbanded specification to ensure electrical compliance over temperature
- Electrical margin has been built into the design to account for the variations due to temperature drift and manufacturing tolerances
- All attenuation measurements will be referenced the insertion loss at center frequency
- Maximum peak to adjacent valley measured over the defined range
- This is the optimum impedance in order to achieve the performance shown

### Test Circuit:

200 Ω  
Balanced

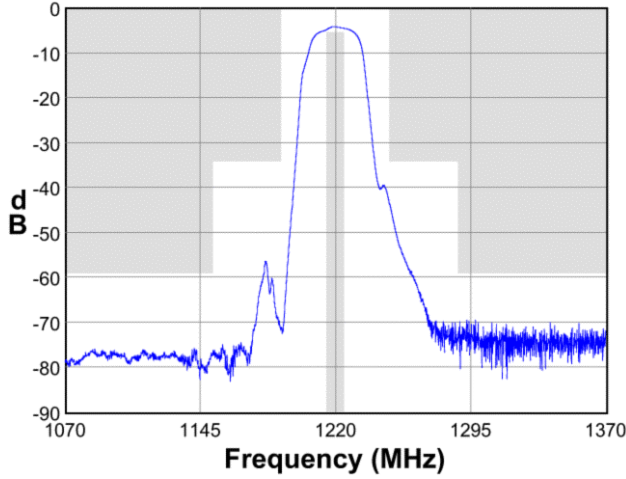


No impedance matching  
required

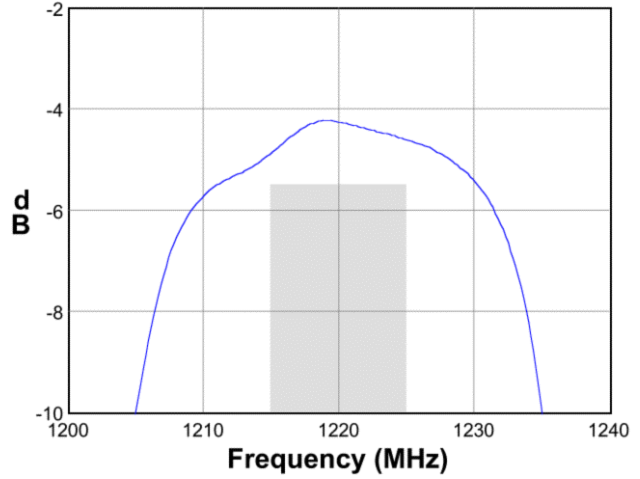
**Preliminary Data Sheet**

**Typical Performance (at +25°C)**

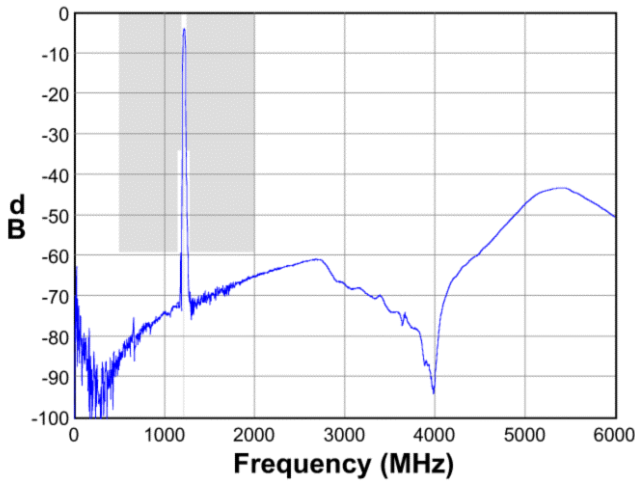
**Frequency Response**



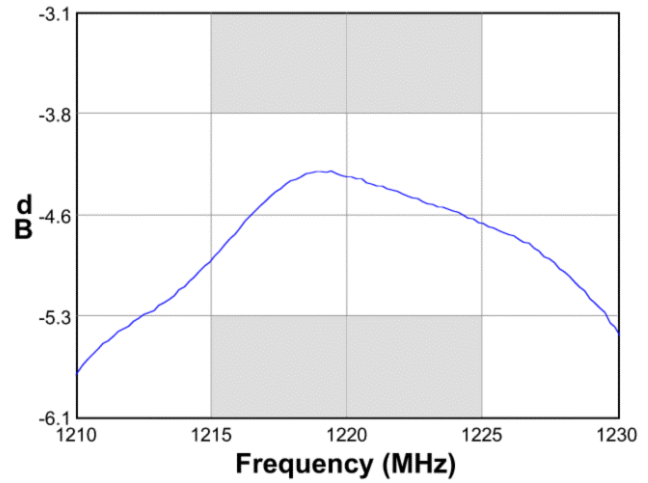
**Passband Response**



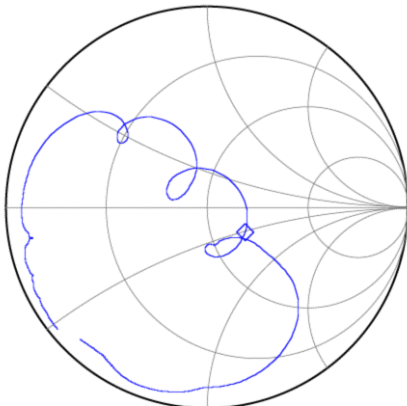
**Wideband Response**



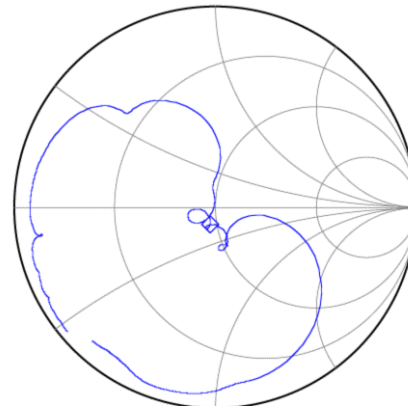
**Amplitude Ripple**



**Input Smith Chart**



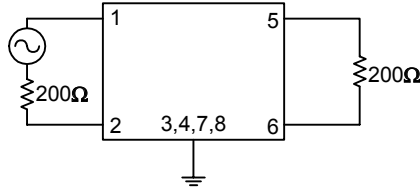
**Output Smith Chart**



**Preliminary Data Sheet**

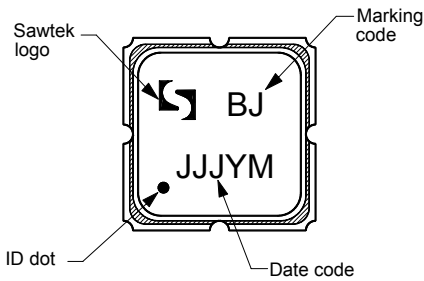
**Matching Schematics**

200  $\Omega$   
Balanced



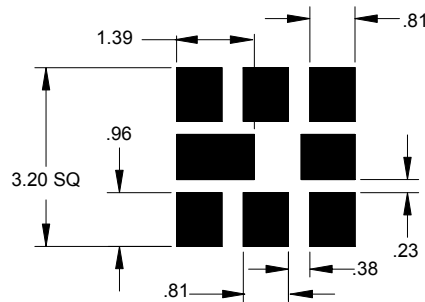
No impedance matching  
required

**Marking**



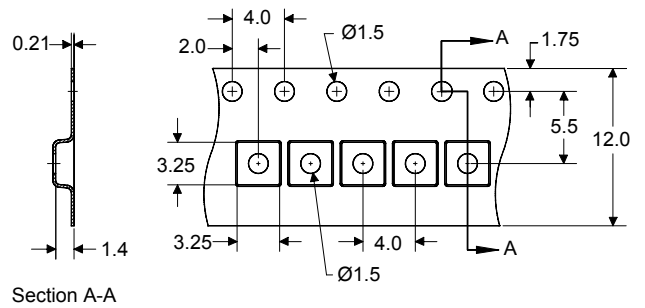
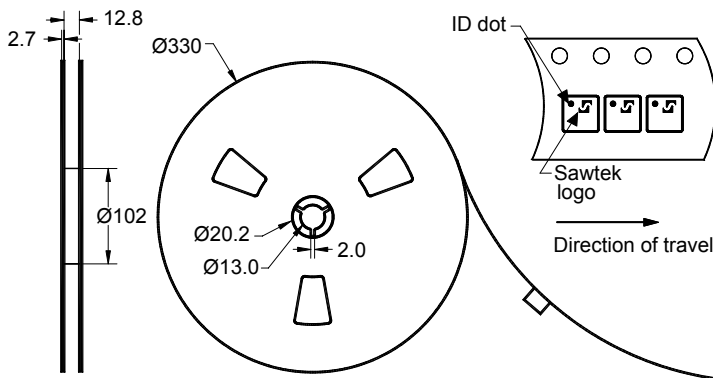
The date code consists of: JJJ = Julian day,  
Y = last digit of year, M = manufacturing site code

**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: 5000 units/reel

# Preliminary Data Sheet

## Maximum Ratings

Parameter	Symbol	Minimum	Maximum	Unit
Operating Temperature Range	T	-10	+70	°C
Storage Temperature Range	T <sub>stg</sub>	-40	+85	°C

### Warnings

- Electrostatic Sensitive Device (ESD)
- Avoid ultrasonic exposure



## Links to Additional Technical Information

[PCB Layout Tips](#)
[Qualification Flowchart](#)
[Soldering Profile](#)
[S-Parameters](#)
[Other Technical Information](#)

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