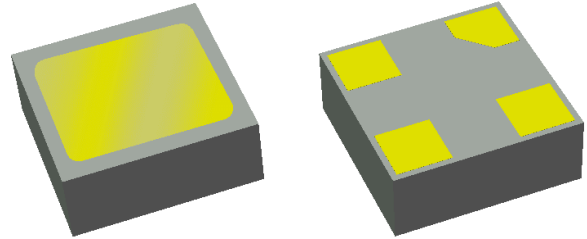


# Preliminary Data Sheet

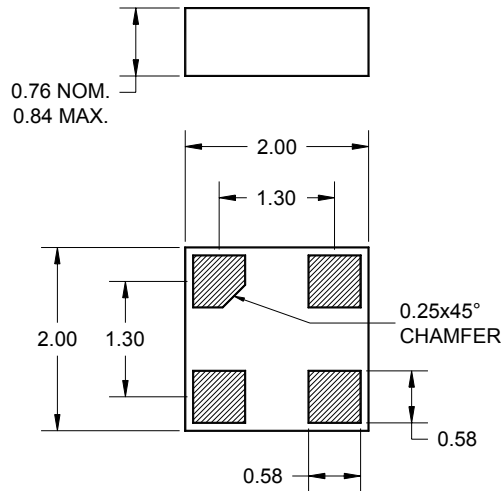
## Features

- For ISM applications (such as Bluetooth and WLAN)
- Usable bandwidth 83.5 MHz
- Typical 5dB bandwidth 130 MHz
- Low loss
- Single-ended operation
- No impedance matching required for operation at 50  $\Omega$
- Ceramic Surface Mount Package (SMP)
- Small size



## Package

Surface Mount 2.00 x 2.00 x 0.76 mm

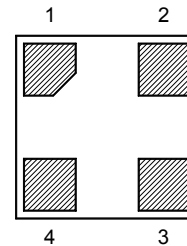


Dimensions shown are nominal in millimeters  
 All tolerances are  $\pm 0.10\text{mm}$

Body:  $\text{Al}_2\text{O}_3$  ceramic  
 Lid: Kovar or Alloy 42, Au over Ni plated  
 Terminations: Au plating 0.5 - 1.0  $\mu\text{m}$ ,  
 over a 2 - 6  $\mu\text{m}$  Ni plating

## Pin Configuration

Bottom View



Pin No.	Description
1	Input
3	Output
2,4	Case ground

**Preliminary Data Sheet**

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

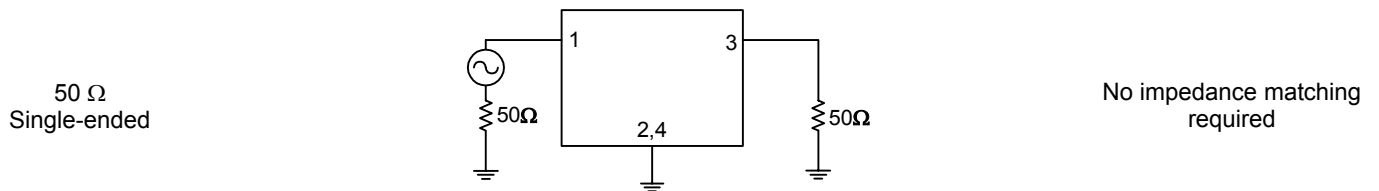
Operating Temperature Range: <sup>(2)</sup> 0 to +60 °C

Parameter <sup>(3)</sup>	Minimum	Typical	Maximum	Unit
<b>Center Frequency</b>	-	2441.75	-	MHz
<b>Maximum Insertion Loss</b> 2400 - 2483.5 MHz	-	3.00	4.5	dB
<b>Absolute Attenuation</b>				
0.3 - 500 MHz	20	29	-	dB
500 - 1000 MHz	20	26	-	dB
1000 - 1700 MHz	18	24	-	dB
1700 - 2200 MHz	15	22	-	dB
2700 - 3100 MHz	15	23	-	dB
3100 - 4000 MHz	15	26	-	dB
4000 - 5000 MHz	15	26	-	dB
<b>Passband Ripple</b> 2400 - 2483.5 MHz	-	1.4	2.5	dB
<b>Source Impedance <sup>(4)</sup></b>	-	50	-	Ω
<b>Load Impedance <sup>(4)</sup></b>	-	50	-	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

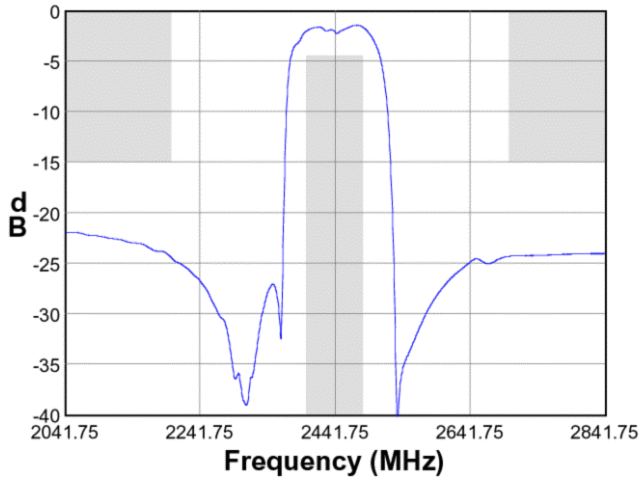
**Test Circuit:**



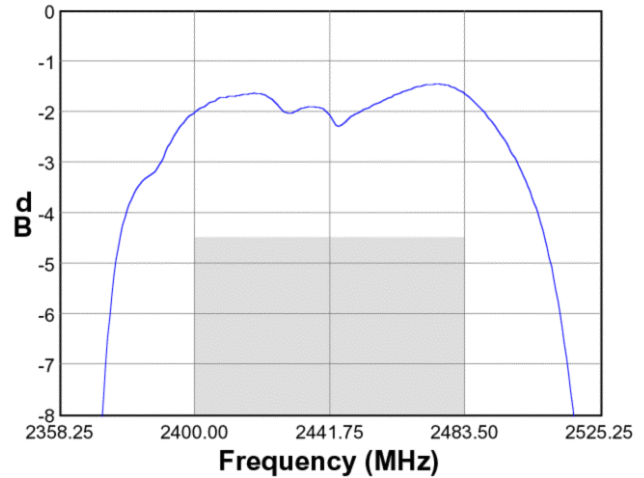
**Preliminary Data Sheet**

**Typical Performance (at +25°C)**

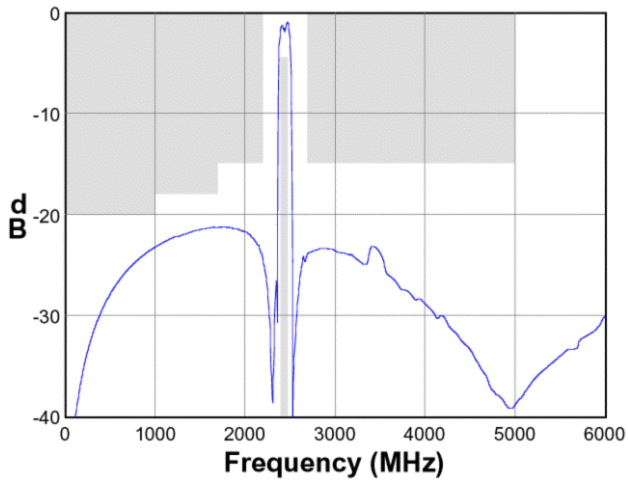
**Frequency Response**



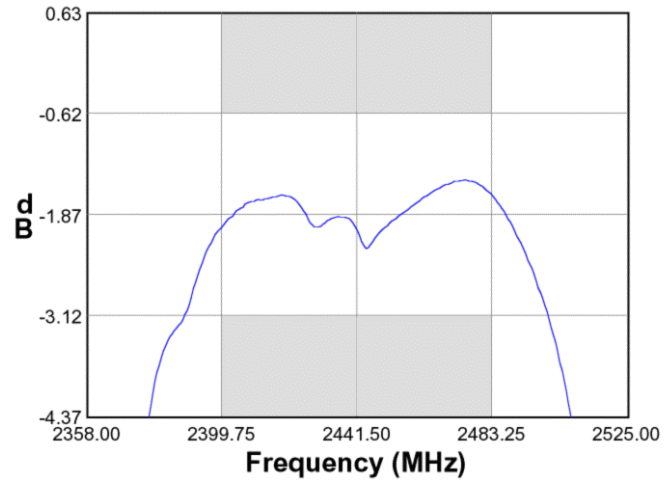
**Passband Response**



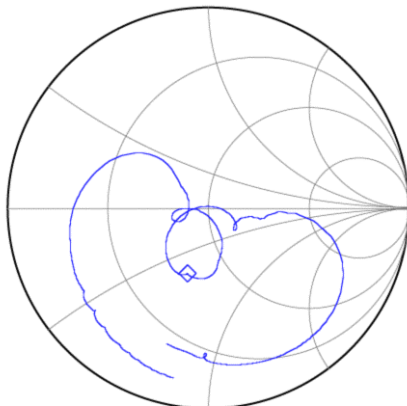
**Wideband Response**



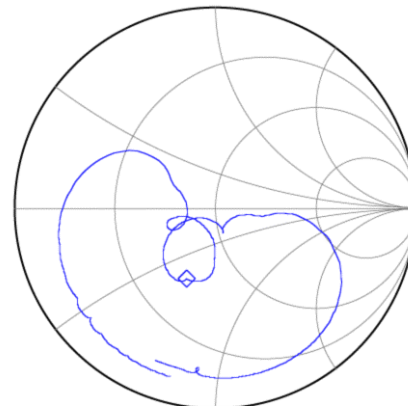
**Passband Ripple**



**Input Smith Chart**



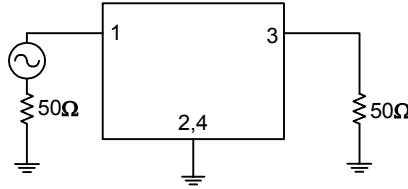
**Output Smith Chart**



**Preliminary Data Sheet**

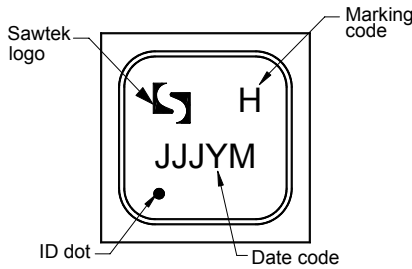
**Matching Schematics**

50 Ω  
Single-ended

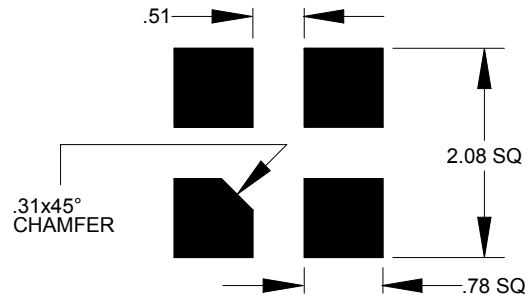


No impedance matching required

**Marking PCB Footprint**

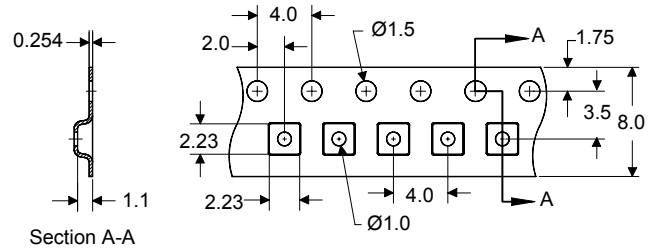
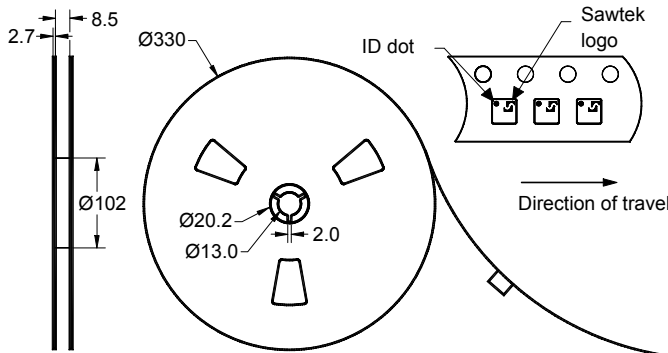


The date code consists of: JJJ = Julian day,  
Y = last digit of year, M = manufacturing site code



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

**Tape and Reel**




Dimensions shown are nominal in millimeters  
Packaging quantity: 10000 units/reel

# Preliminary Data Sheet

## Maximum Ratings

Parameter	Symbol	Minimum	Maximum	Unit
Operating Temperature Range	T	0	+60	°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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