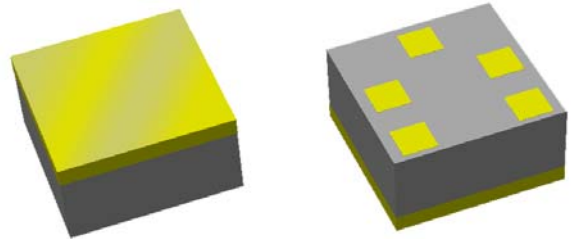


# Preliminary Data Sheet

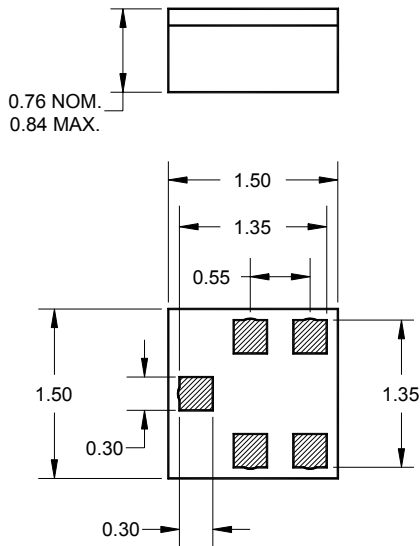
## Features

- For Bluetooth applications
- Usable bandwidth of 83.5 MHz
- Typical 3 dB bandwidth of 130 MHz
- Low loss
- High attenuation
- Single-ended input, 50 Ω
- Balanced output, 200 Ω
- Excellent selectivity and stop band rejection
- Chip Scale Package (CSP)
- Hermetic



## Package

Surface Mount 1.50 x 1.50 x 0.76 mm

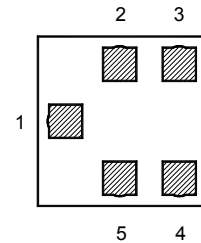


Dimensions shown are nominal in millimeters  
 All tolerances are  $\pm 0.10\text{mm}$

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
3,4	Output
2,5	Case ground

# Preliminary Data Sheet

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

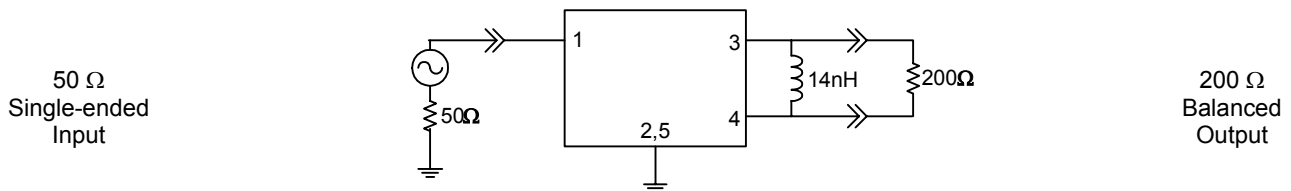
Operating Temperature Range: <sup>(2)</sup> -40 to +85 °C

Parameter <sup>(3)</sup>	Minimum	Typical	Maximum	Unit
<b>Center Frequency</b>	-	2441	-	MHz
<b>Maximum Insertion Loss</b> <sup>(4)</sup> 2400 - 2483.5 MHz	-	2.7	3.5	dB
<b>Amplitude Ripple</b> <sup>(4)</sup> 2400 - 2483.5 MHz	-	1	2	dB
<b>Absolute Attenuation</b>				
500 - 960 MHz	60	65	-	dB
960 - 1200 MHz	55	62	-	dB
1200 - 1500 MHz	55	62	-	dB
1500 - 1980 MHz	45	49	-	dB
1980 - 2100 MHz	37	42	-	dB
2100 - 2170 MHz	40	50	-	dB
2170 - 2250 MHz	35	39	-	dB
2700 - 3000 MHz	30	35	-	dB
3000 - 3250 MHz	40	45	-	dB
3250 - 3500 MHz	32.5	37	-	dB
3500 - 6000 MHz	45	52	-	dB
<b>Source Impedance</b> <sup>(5)</sup>	-	50	-	Ω
<b>Load Impedance (Balanced)</b> <sup>(5)</sup>	-	200	-	Ω

### Notes:

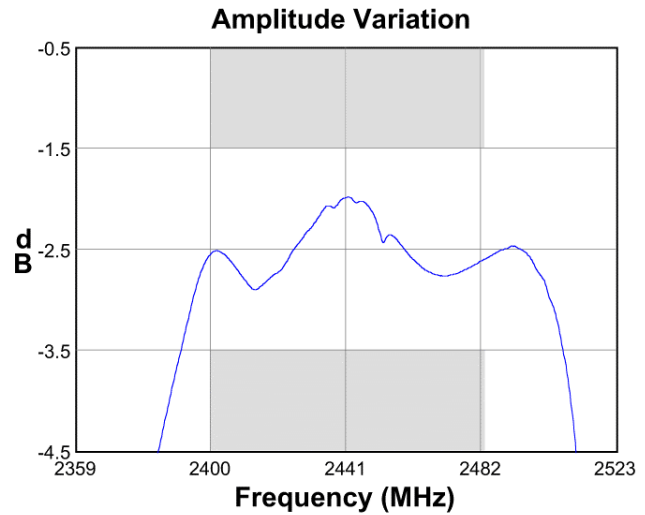
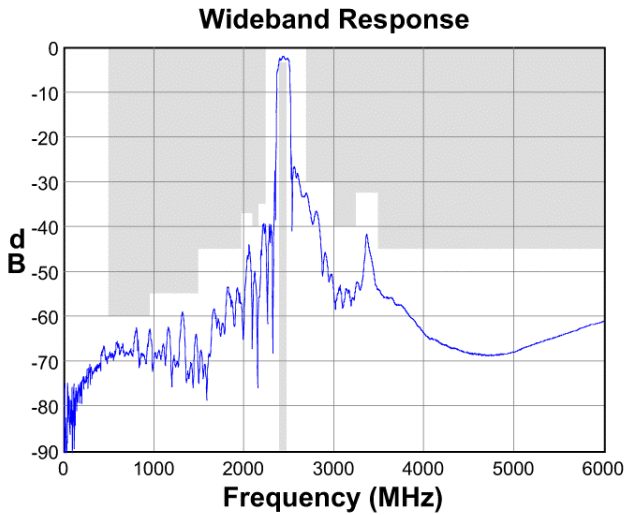
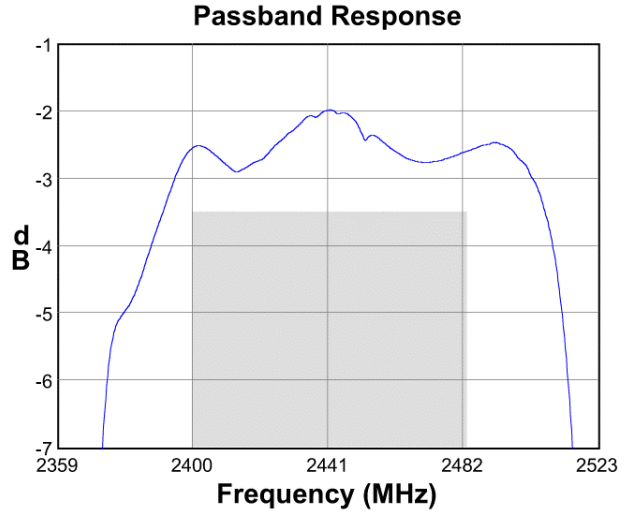
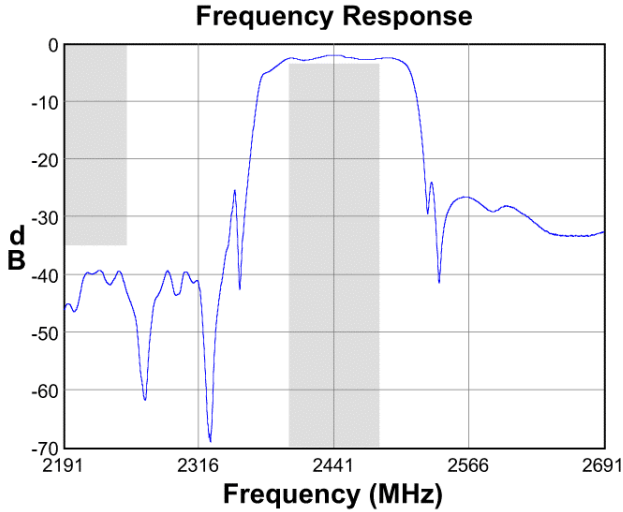
1. All specifications are based on the test circuit shown below
2. In production, devices will be tested at room temperature to a guardbanded specification to ensure electrical compliance over temperature
3. Electrical margin has been built into the design to account for the variations due to temperature drift and manufacturing tolerances
4. Range determined by requirements in the Bluetooth Specification version 1.1
5. This is the optimum impedance in order to achieve the performance shown

### Test Circuit:

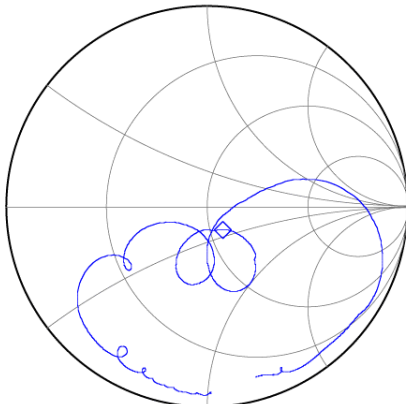


**Preliminary Data Sheet**

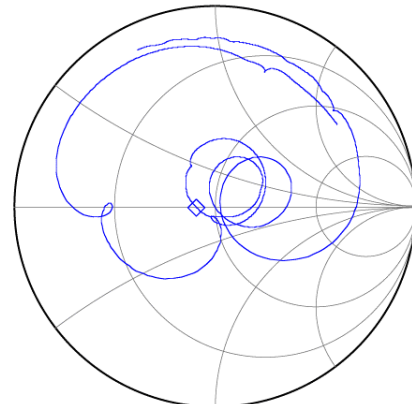
**Typical Performance (at +25°C)**



**Input Smith Chart**

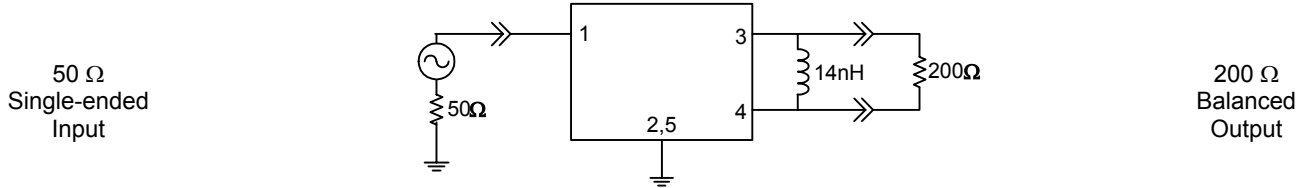


**Output Smith Chart**



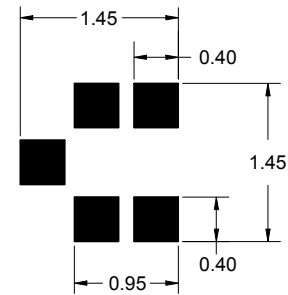
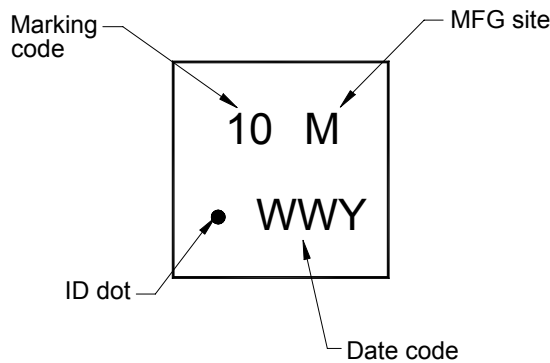
**Preliminary Data Sheet**

**Matching Schematics**



**Marking**

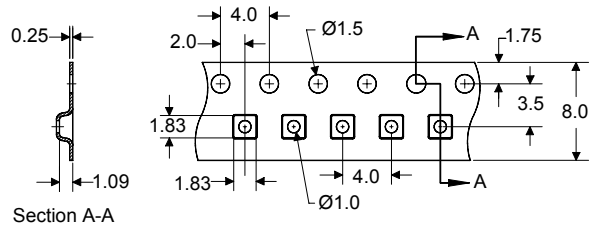
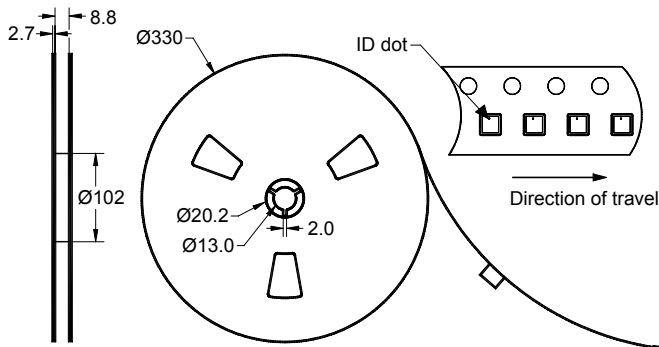
**PCB Footprint**



The date code consists of: WW = 2 digit week, 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	-40	+85	°C
Storage Temperature Range	T <sub>stg</sub>	-40	+85	°C

### Warnings

- Electrostatic Sensitive Device (ESD) 
- Avoid ultrasonic exposure

### Material Content

- Does not contain lead (Pb) or other RoHS restricted materials

## Links to Additional Technical Information

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

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