
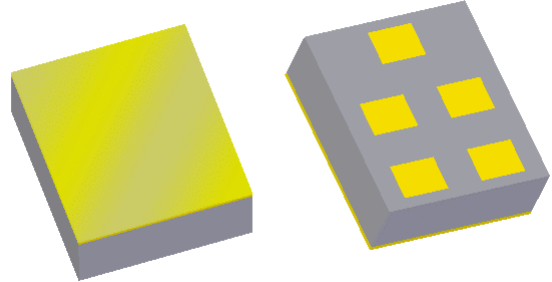


Data Sheet

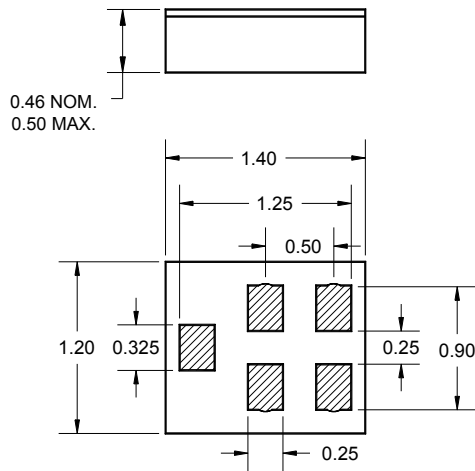
Features

- For Bluetooth applications
- Usable bandwidth of 83.5 MHz
- Low loss
- Low profile
- High attenuation
- Single-ended operation
- Excellent selectivity and stop band rejection
- Ceramic Chip Scale Package (CSP)
- Hermetic
- RoHS compliant (2002/95/EC), Pb-free 



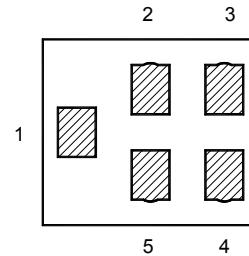
Package

Surface Mount 1.40 x 1.20 x 0.46 mm



Pin Configuration

Bottom View



Pin No.	Description
1	Input
4	Output
3	N/C
2,5	Case ground

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

Body: Al_2O_3 ceramic
 Lid: Kovar or Alloy 42, Au over Ni plated
 Terminations: Au plating 0.5 - 1.0 μm ,
 over a 2 - 6 μm Ni plating

Data Sheet

Electrical Specifications ⁽¹⁾

Operating Temperature Range: ⁽²⁾ -30 to +85 °C

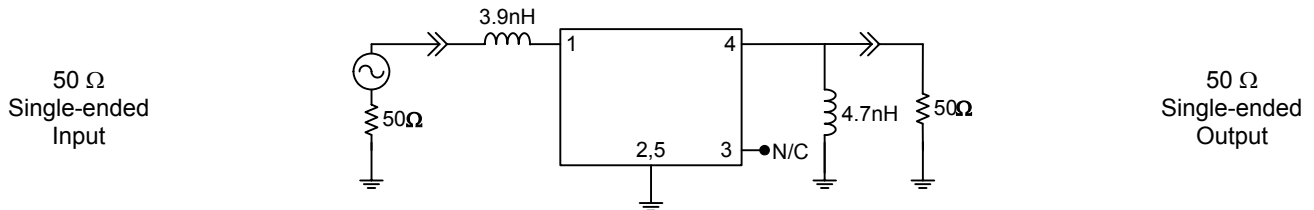
Parameter ⁽³⁾	Minimum	Typical	Maximum	Unit
Center Frequency	-	2441	-	MHz
Maximum Insertion Loss ⁽⁴⁾ 2400 - 2483.5 MHz	-	2.0	3.5	dB
Amplitude Ripple ⁽⁵⁾ 2400 - 2483.5 MHz	-	0.8	2.0	dB
Absolute Attenuation				
10 - 1000 MHz	35	40	-	dB
1000 - 1500 MHz	30	35	-	dB
1500 - 2250 MHz	25	30	-	dB
2250 - 2300 MHz	20	28	-	dB
2700 - 3200 MHz	22	28	-	dB
3200 - 3500 MHz	20	25	-	dB
3500 - 4000 MHz	27	32	-	dB
4000 - 4500 MHz	25	33	-	dB
4500 - 5000 MHz	20	28	-	dB
Source Impedance ⁽⁶⁾	-	50	-	Ω
Load Impedance ⁽⁶⁾	-	50	-	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
- Range determined by requirements in the Bluetooth Specification version 1.1
- Maximum peak to adjacent valley measured over the indicated range
- This is the optimum impedance in order to achieve the performance shown

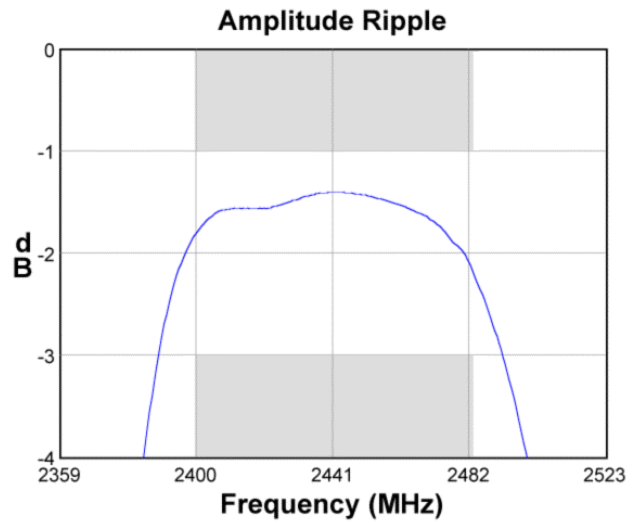
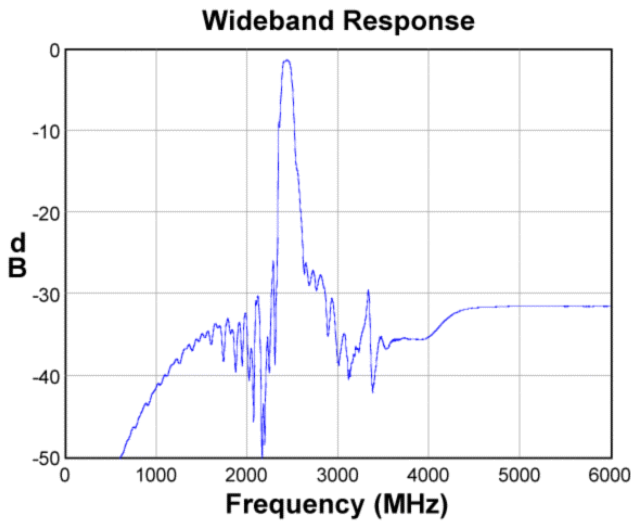
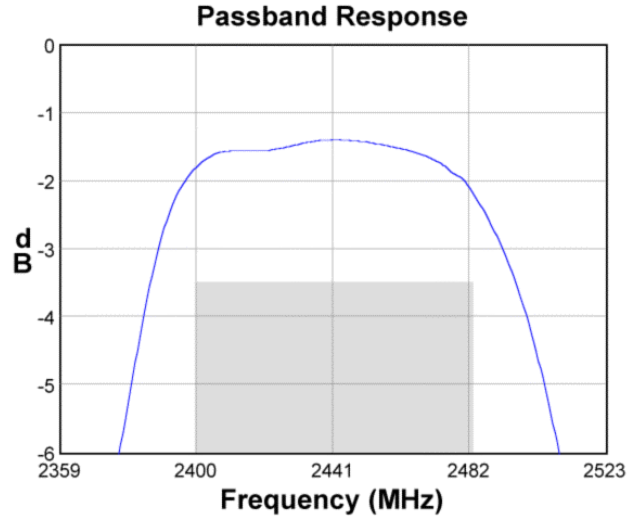
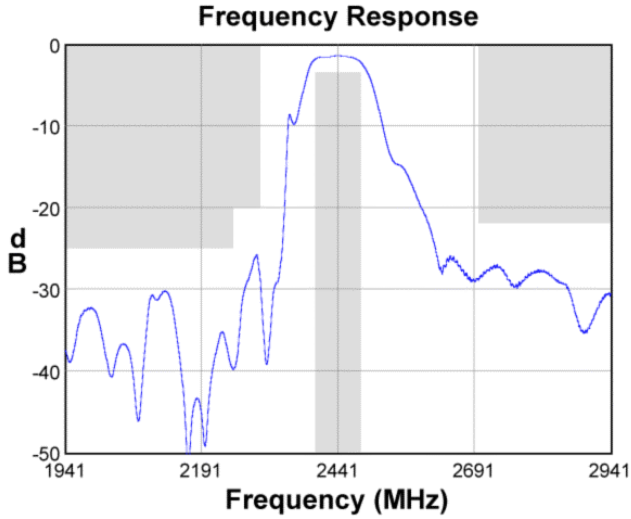
Test Circuit:

Actual matching values may vary due to PCB layout and parasitics

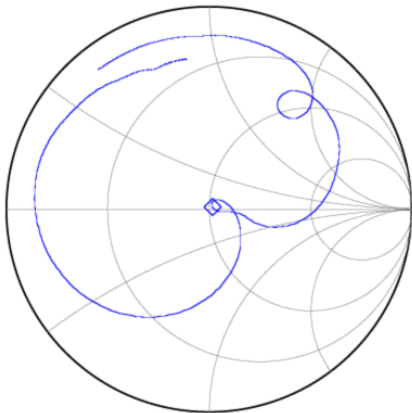


Data Sheet

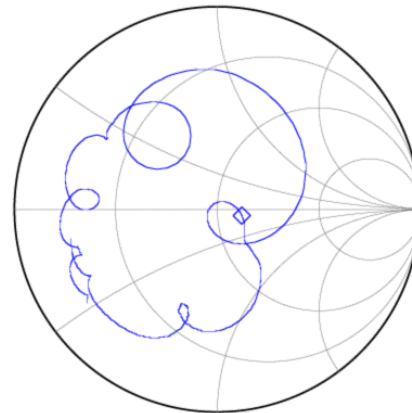
Typical Performance (at +25°C)



Input Smith Chart



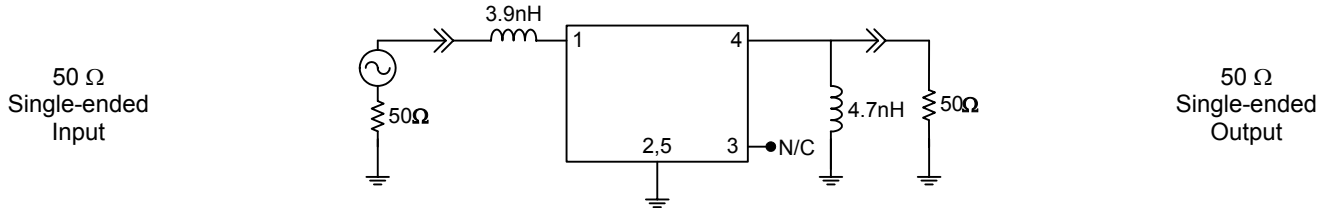
Output Smith Chart



Data Sheet

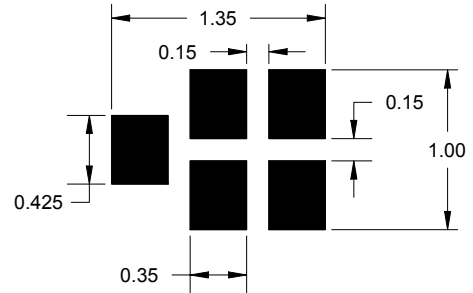
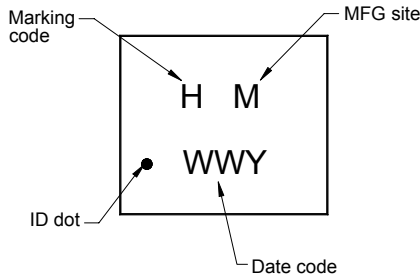
Matching Schematics

Actual matching values may vary due to PCB layout and parasitics



Marking

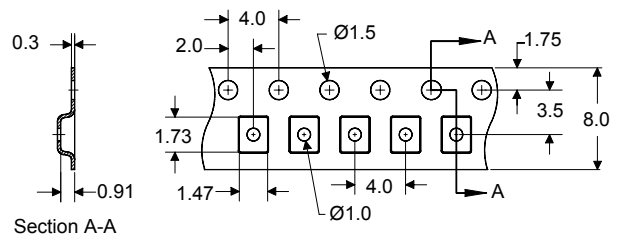
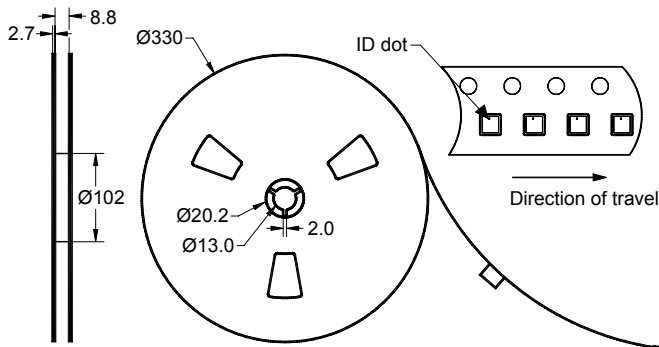
PCB Footprint



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


Data Sheet

Maximum Ratings


Parameter	Symbol	Minimum	Maximum	Unit
Operating Temperature Range	T	-30	+85	°C
Storage Temperature Range	T _{stg}	-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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