
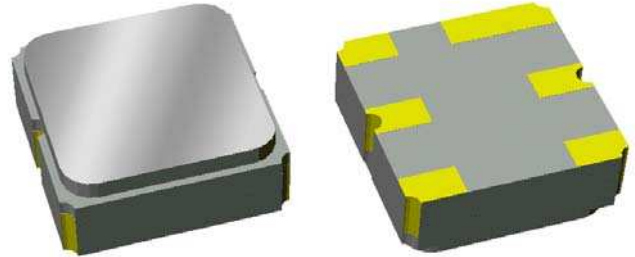


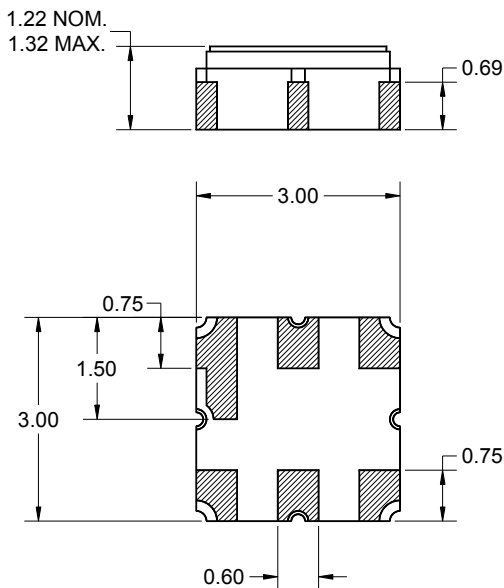
**Features**

- For wireless applications
- Usable bandwidth 60 MHz
- Low loss
- High attenuation
- No impedance matching required for operation at 50 Ω
- Single-ended operation
- Ceramic Surface Mount Package (SMP)
- Hermetic
- RoHS compliant (2002/95/EC), Pb-free 



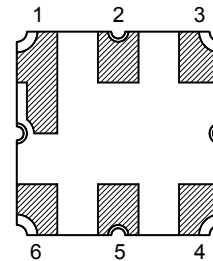
**Package**

Surface Mount 3.00 x 3.00 x 1.22 mm



**Pin Configuration**

Bottom View



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

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

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

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

Operating Temperature Range: <sup>(2)</sup> -20 to +75 °C

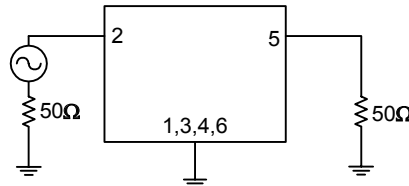
Parameter <sup>(3)</sup>	Minimum	Typical	Maximum	Unit
<b>Center Frequency</b>	-	1880	-	MHz
<b>Maximum Insertion Loss</b> 1850 - 1910 MHz	-	2.8	4.75	dB
<b>Amplitude Variation</b> 1850 - 1910 MHz	-	1.0	2.65	dB p-p
<b>Absolute Attenuation</b> 500 - 1750 MHz	30	34	-	dB
1750 - 1820 MHz	20	23	-	dB
1930 - 1935 MHz	30	51	-	dB
1935 - 1990 MHz	35	42	-	dB
2032 - 2125 MHz	35	41	-	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:**

50 Ω  
Single-ended



No impedance matching  
required

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

Operating Temperature Range: <sup>(2)</sup> +25 °C ± 2 °C

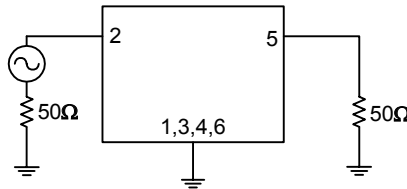
Parameter <sup>(3)</sup>	Minimum	Typical	Maximum	Unit
<b>Center Frequency</b>	-	1880	-	MHz
<b>Maximum Insertion Loss</b> 1850 - 1910 MHz	-	2.8	3.6	dB
<b>Amplitude Variation</b> 1850 - 1910 MHz	-	1.0	2.1	dB p-p
<b>Absolute Attenuation</b> 500 - 1750 MHz	30	32	-	dB
1750 - 1820 MHz	20	23	-	dB
1930 - 1935 MHz	45	50	-	dB
1935 - 1990 MHz	35	40	-	dB
2032 - 2125 MHz	35	41	-	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

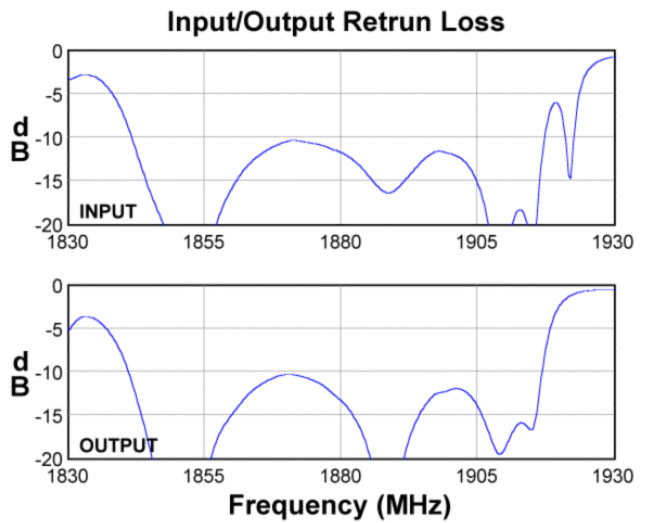
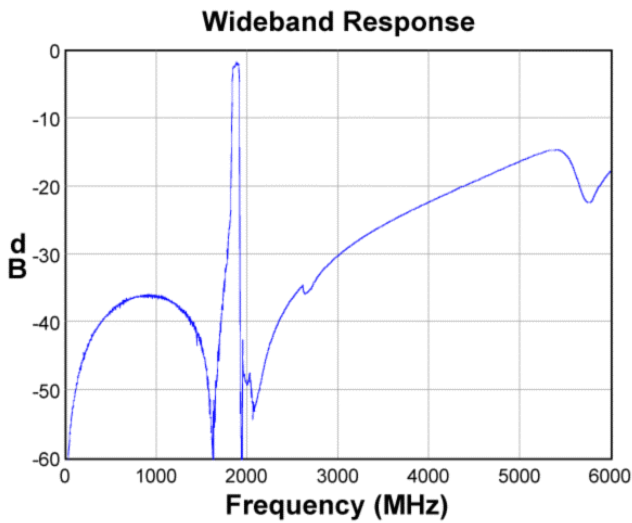
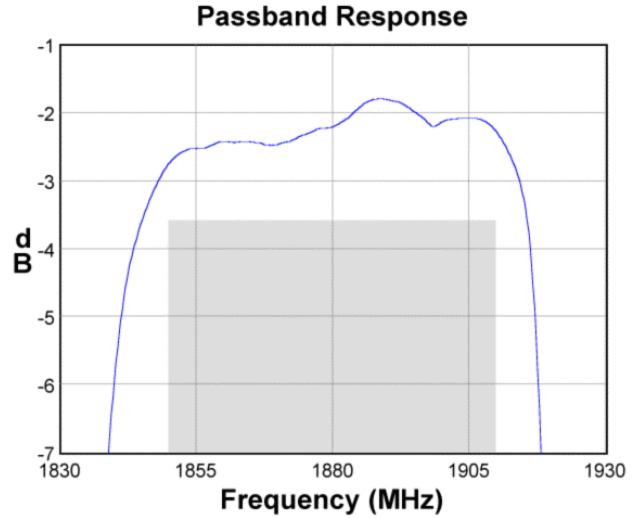
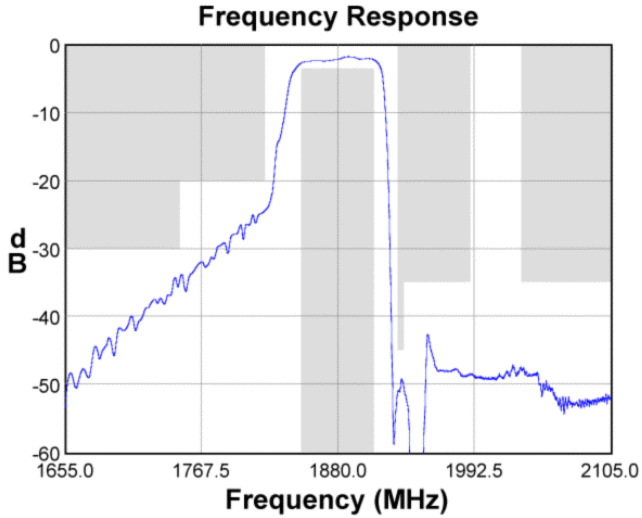
**Test Circuit:**

50 Ω  
Single-ended

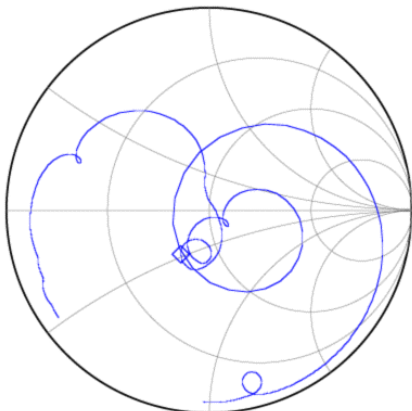


No impedance matching required

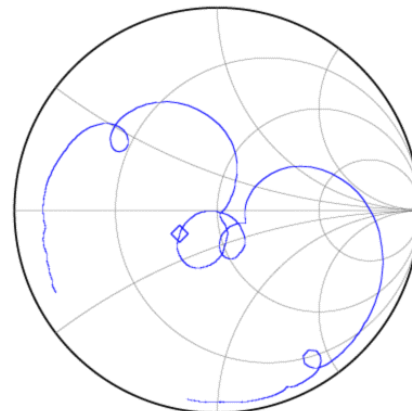
**Typical Performance (at +25°C)**



**Input Smith Chart**

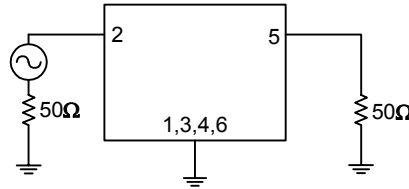


**Output Smith Chart**



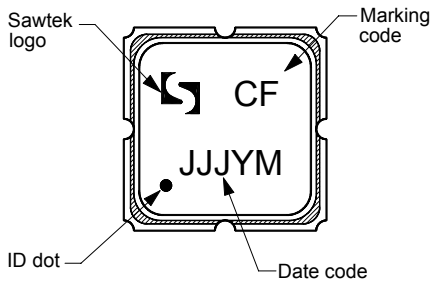
**Matching Schematics**

50 Ω  
Single-ended



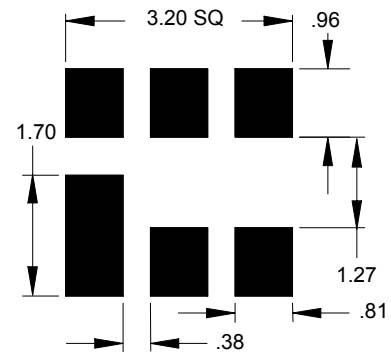
No impedance matching required

**Marking**



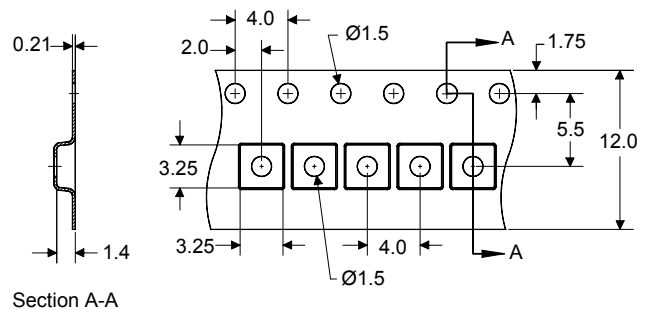
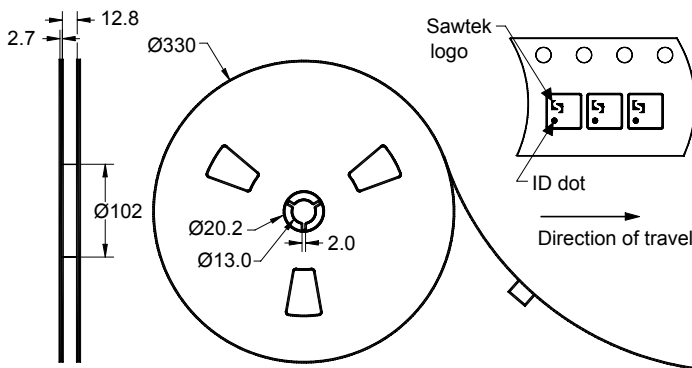
The date code consists of: JJJ = Julian day,  
Y = last digit of year, M = manufacturing site code

**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

**Maximum Ratings**


Parameter	Symbol	Minimum	Maximum	Unit
Operating Temperature Range	T	-20	+75	°C
Storage Temperature Range	T <sub>stg</sub>	-40	+85	°C
RF Power <sup>(1)</sup>	P <sub>in</sub>	-	+12	dBm

**Note:**


1. It is recommended that these devices be considered suitable to meet a +12 dBm power in the 1850 - 1910 MHz frequency band for a minimum of 10,000 hours at 55°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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