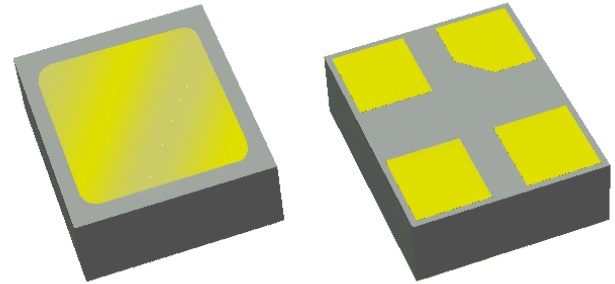


# Preliminary Data Sheet

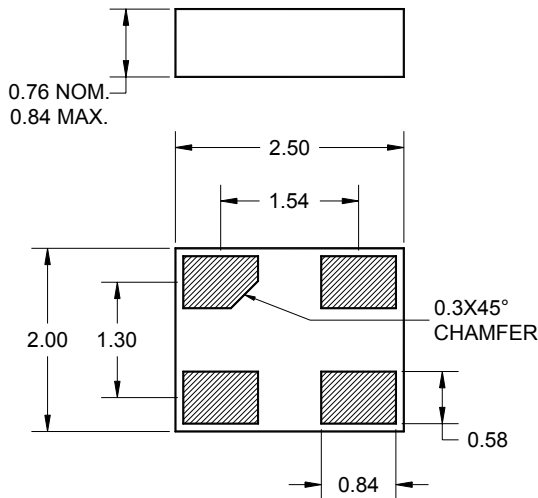
## Features

- For GPS applications
- Usable bandwidth 2.0 MHz
- High attenuation
- Single-ended operation
- Ceramic Surface Mount Package (SMP)
- Small size



## Package

Surface Mount 2.50 x 2.00 x 0.76 mm

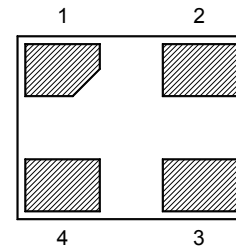


Dimensions shown are nominal in millimeters  
All tolerances are  $\pm 0.10\text{mm}$

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
1,3	Input/output
2,4	Case ground

**Preliminary Data Sheet**

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

Operating Temperature Range: <sup>(2)</sup> -30 to +70 °C

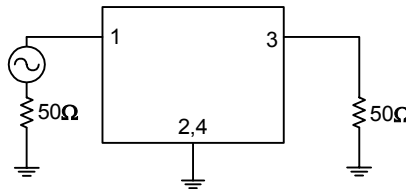
Parameter <sup>(3)</sup>	Minimum	Typical	Maximum	Unit
<b>Center Frequency</b>	-	1575.42	-	MHz
<b>Insertion Loss</b> 1574.42 - 1576.42 MHz	-	2.5	3.5	dB
<b>Absolute Rejection</b>				
50 - 1535 MHz	35	41	-	dB
1625 - 1630 MHz	30	52	-	dB
1630 - 2500 MHz	35	43	-	dB
2500 - 3000 MHz	35	38	-	dB
3000 - 3500 MHz	30	37	-	dB
<b>Input/Output Return Loss</b>	10	13	-	dB
<b>Propagation Delay Time</b>	-	32	50	ns
<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

**Preliminary Data Sheet**

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

Operating Temperature Range: <sup>(2)</sup> -30 to +80 °C

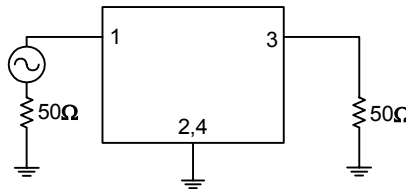
Parameter <sup>(3)</sup>	Minimum	Typical	Maximum	Unit
<b>Center Frequency</b>	-	1575.42	-	MHz
<b>Insertion Loss</b> 1574.42 - 1576.42 MHz	-	2.5	3.6	dB
<b>Absolute Rejection</b>				
50 - 1535 MHz	35	41	-	dB
1625 - 1630 MHz	30	52	-	dB
1630 - 2500 MHz	35	43	-	dB
2500 - 3000 MHz	35	38	-	dB
3000 - 3500 MHz	30	37	-	dB
<b>Input/Output Return Loss</b>	10	13	-	dB
<b>Propagation Delay Time</b>	-	32	50	ns
<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

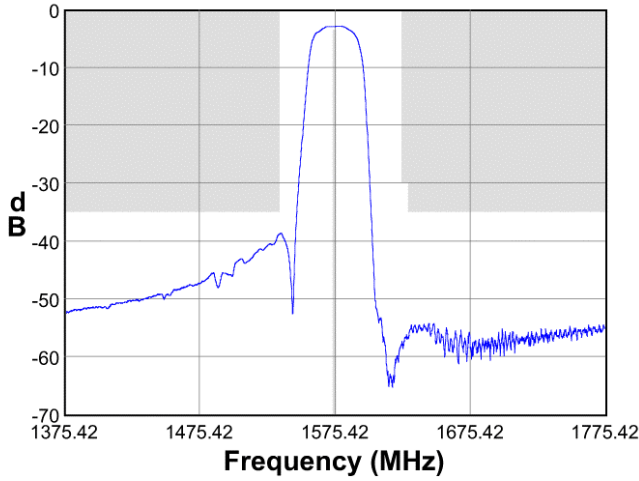


No impedance matching  
required

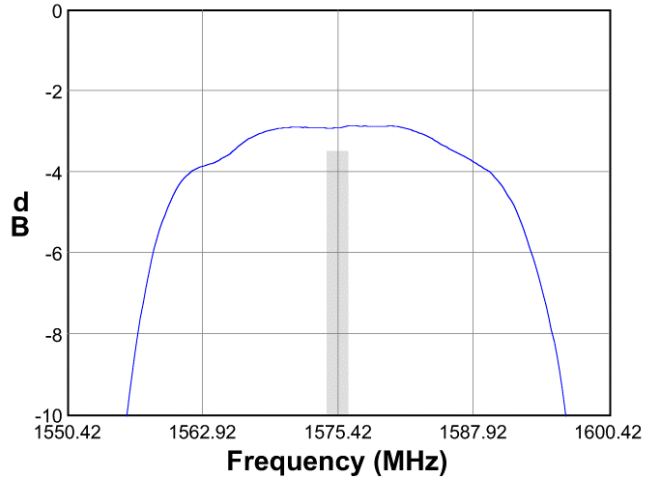
**Preliminary Data Sheet**

**Typical Performance (at +25°C)**

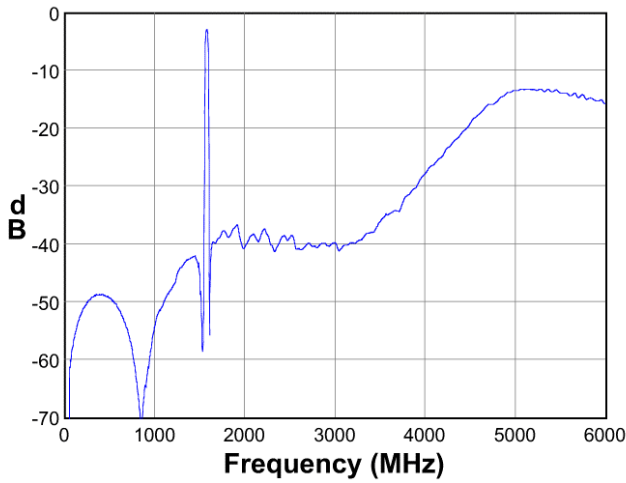
**Frequency Response**



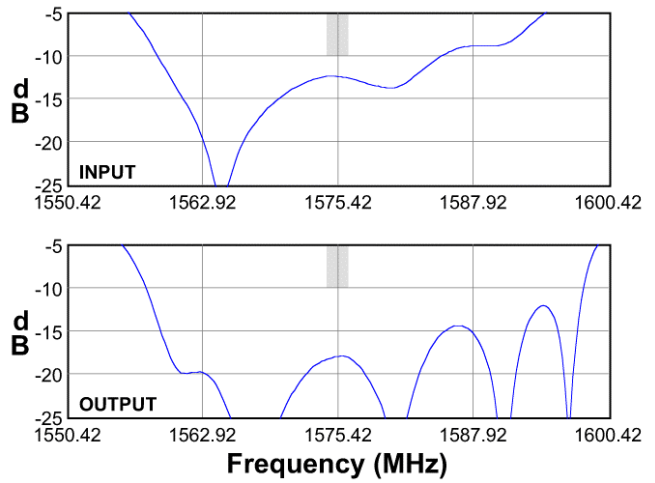
**Passband Response**



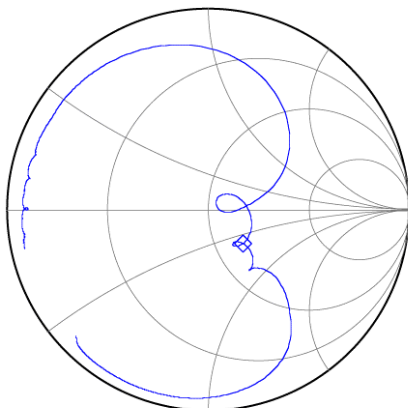
**Wideband Response**



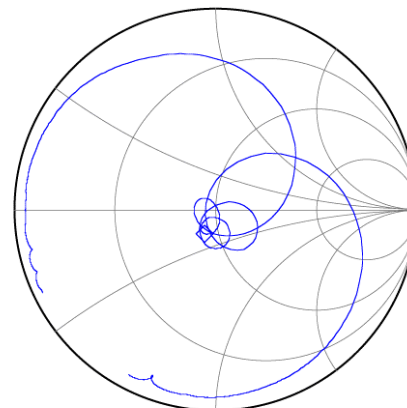
**Input/Output Return Loss**



**Input Smith Chart**



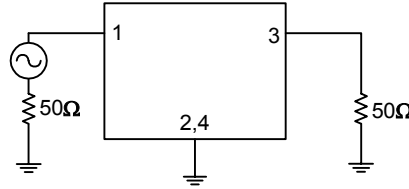
**Output Smith Chart**



**Preliminary Data Sheet**

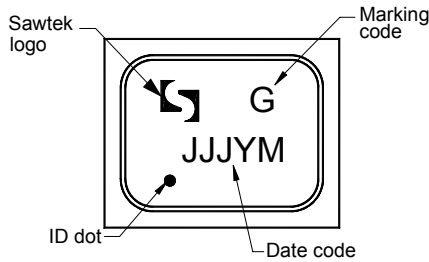
**Matching Schematics**

50 Ω  
Single-ended

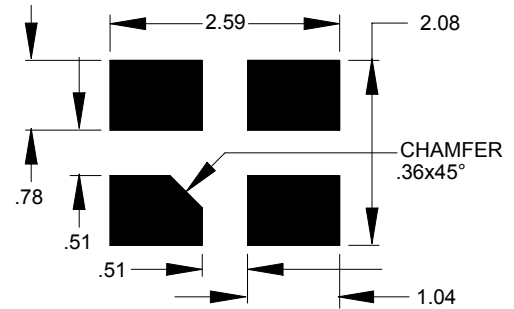


No impedance matching required

**Marking PCB Footprint**

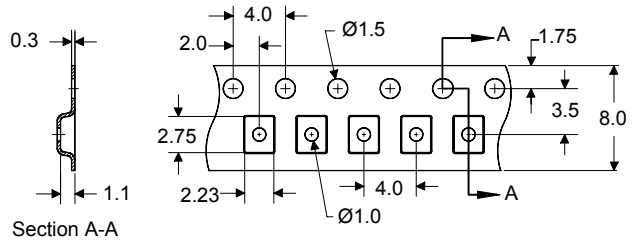
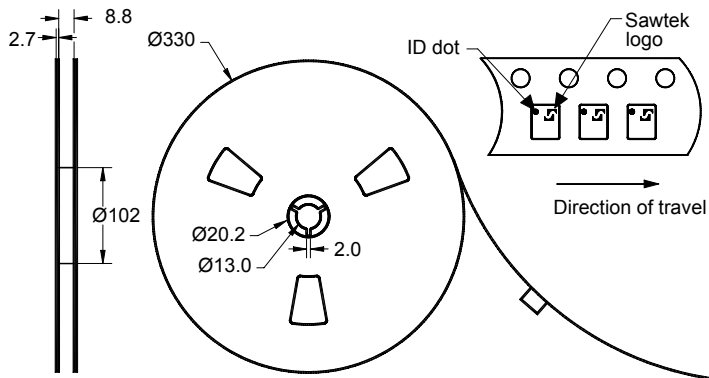


The date code consists of: JJJ = Julian day,  
Y = last digit of year, M = manufacturing site code



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	-30	+80	°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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