
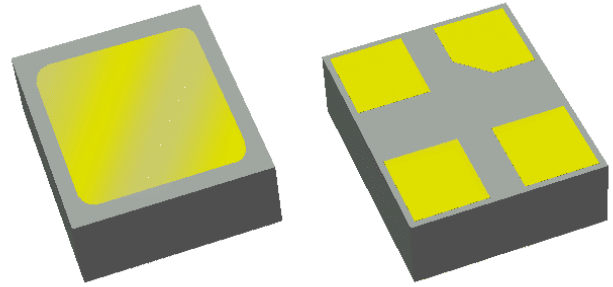


# Data Sheet

## Features

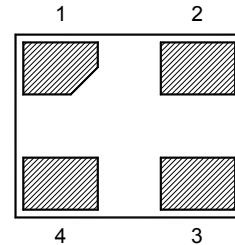
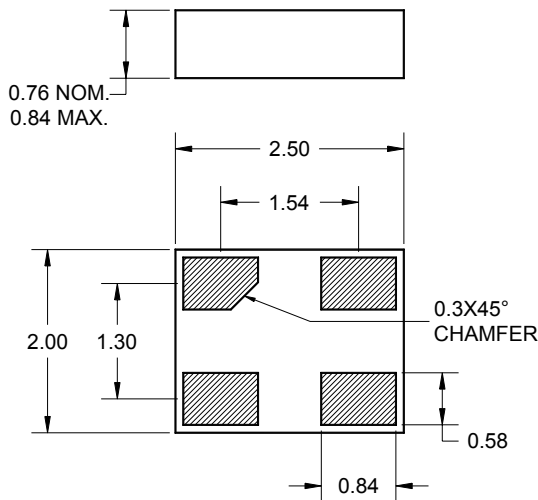
- For GPS applications
- Usable bandwidth 2.0 MHz
- Low loss
- High attenuation
- No impedance matching required for operation at 50 Ω
- Single-ended operation
- Ceramic Flip Chip Package (FCP)
- Hermetic
- RoHS compliant (2002/95/EC), Pb-free 



## Package Pin Configuration

Surface Mount 2.50 x 2.00 x 0.76 mm

Bottom View



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

Dimensions shown are nominal in millimeters  
 All tolerances are ±0.10mm

Body: Al<sub>2</sub>O<sub>3</sub> ceramic  
 Lid: Kovar or Alloy 42, Au over Ni plated  
 Terminations: Au plating 0.5 - 1.0µm,  
 over a 2 - 6µm Ni plating

# Data Sheet

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

Operating Temperature Range: <sup>(2)</sup> -30 to +85 °C

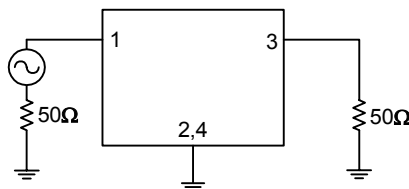
Parameter <sup>(3)</sup>	Minimum	Typical	Maximum	Unit
<b>Center Frequency</b>	-	1575.42	-	MHz
<b>Insertion Loss</b> 1574.42 - 1576.42 MHz	-	1.1	1.8	dB
<b>Absolute Rejection</b>				
DC - 960 MHz	35	37	-	dB
1200.00 - 1360 MHz	35	42	-	dB
1360.00 - 1522.42 MHz	20	33	-	dB
1628.42 - 1750.00 MHz	20	42	-	dB
1750.00 - 1800.00 MHz	25	49	-	dB
1800.00 - 1990.00 MHz	35	40	-	dB
1990.00 - 2500.00 MHz	30	33	-	dB
<b>Absolute Attenuation</b> 1208.22 MHz	50	60	-	dB
<b>Amplitude Ripple</b> 1574.42 - 1576.42 MHz	-	0.1	0.7	dB p-p
<b>Input/Output Return Loss</b> 1574.42 - 1576.42 MHz	10	20	-	dB
<b>Propagation Delay Time</b>	-	25	50	nsec
<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

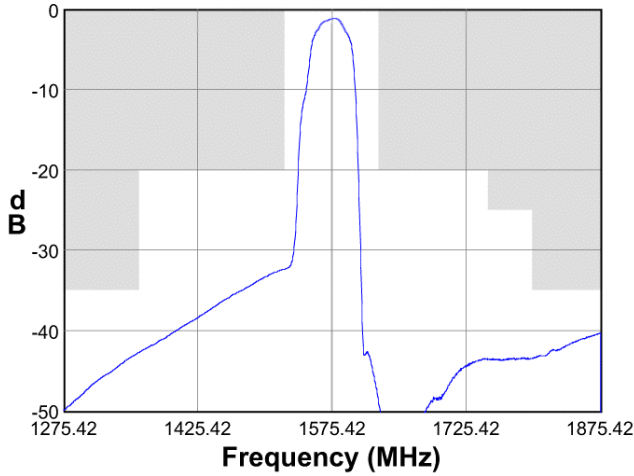


No impedance matching  
required

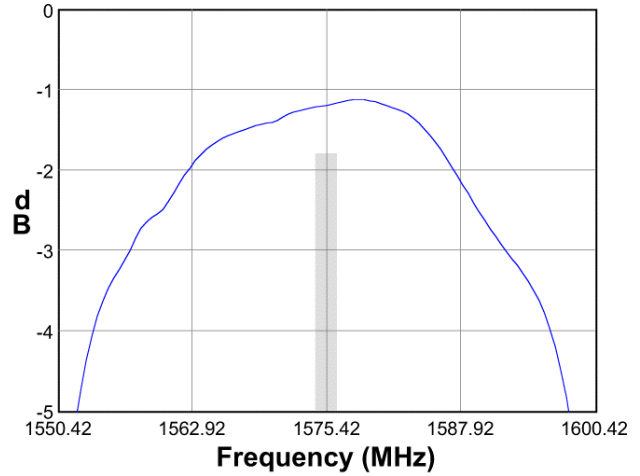
**Data Sheet**

**Typical Performance (at +25°C)**

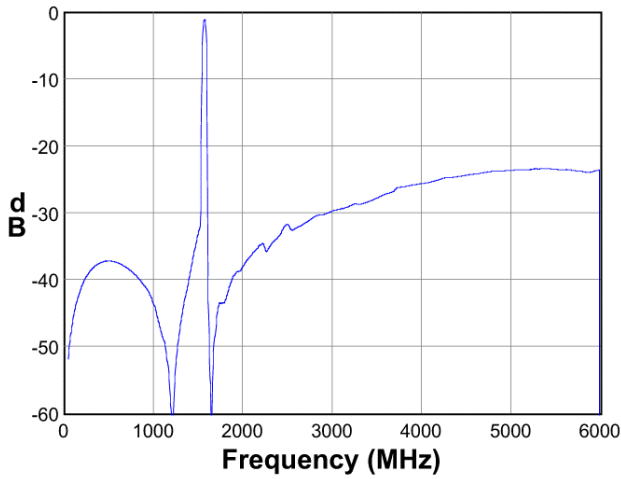
**Passband Response**



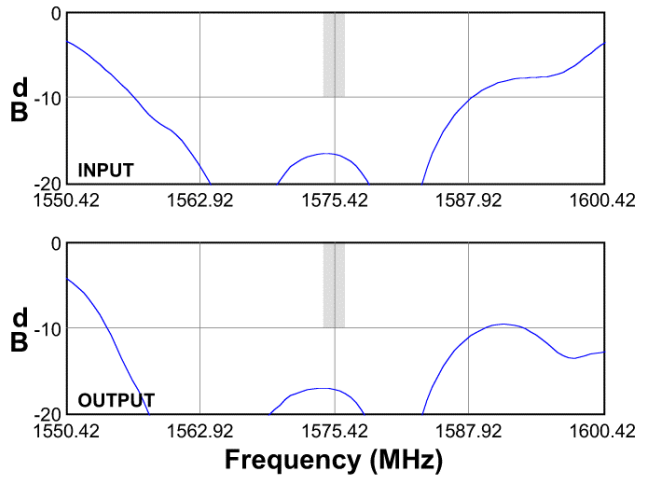
**Passband Response**



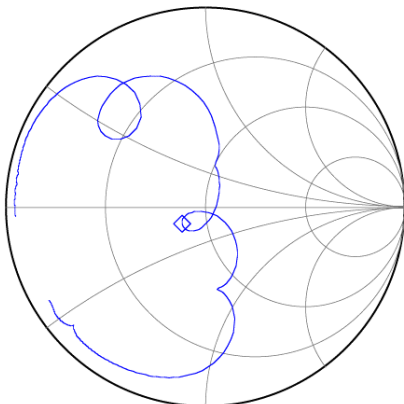
**Wideband Response**



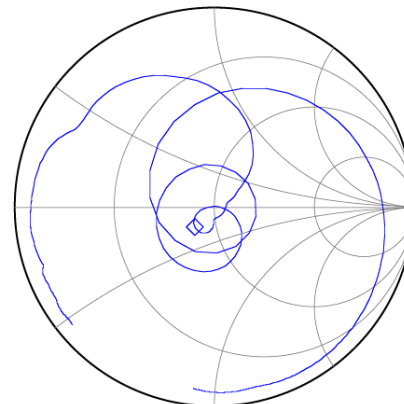
**Input/Output Return Loss**



**Input Smith Chart**



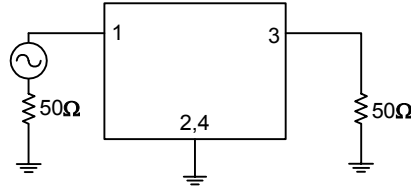
**Output Smith Chart**



**Data Sheet**

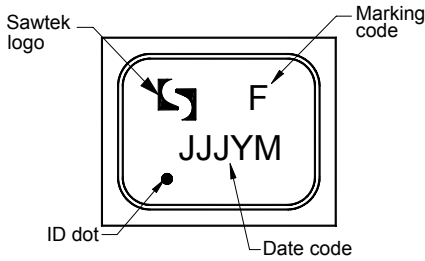
**Matching Schematics**

50  $\Omega$   
Single-ended

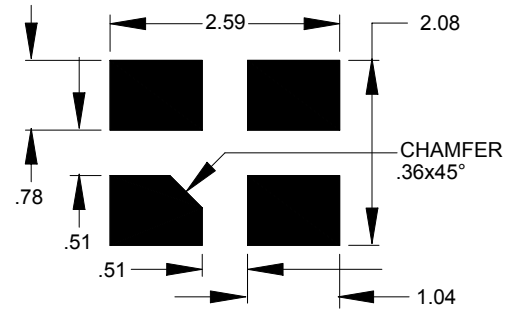


No impedance matching  
required

**Marking PCB Footprint**

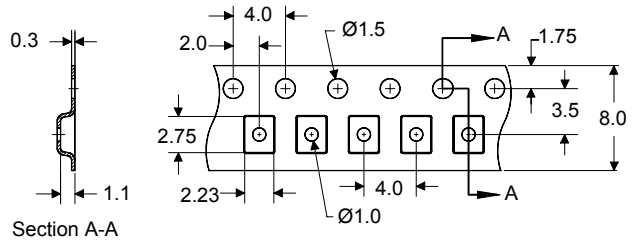
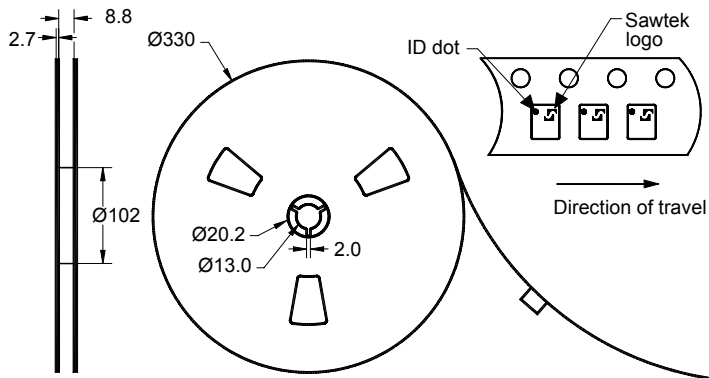


The date code consists of: JJJ = Julian day,  
Y = last digit of year, M = manufacturing site code



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


# Data Sheet

## Maximum Ratings


Parameter	Symbol	Minimum	Maximum	Unit
Operating Temperature Range	T	-30	+85	°C
Storage Temperature Range	T <sub>stg</sub>	-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](#)

Sawtek's liability is limited only to the Surface Acoustic Wave (SAW) component(s) described in this data sheet. Sawtek does not accept any liability for applications, processes, circuits or assemblies, which are implemented using any Sawtek component described in this data sheet.

## Contact Information



PO Box 609501  
 Orlando, FL 32860-9501  
 USA

Phone: +1 (407) 886-8860  
 Fax: +1 (407) 886-7061  
 Email: [custservice@sawtek.com](mailto:custservice@sawtek.com)  
 Web: [www.sawtek.com](http://www.sawtek.com)

Or contact one of our worldwide  
 Network of [sales offices](#),  
[representatives or distributors](#)