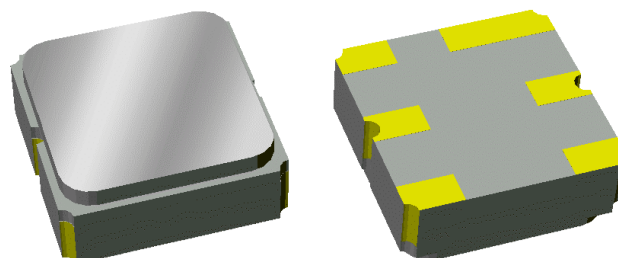


## Data Sheet

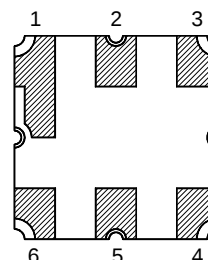
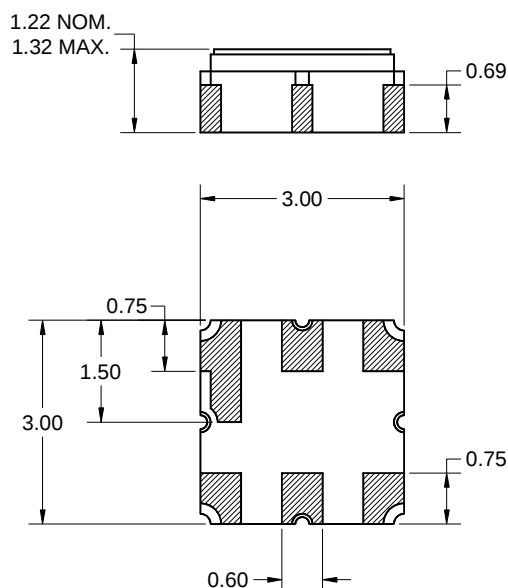
### Features

- For DCS applications
- Usable bandwidth 75 MHz
- Low loss
- No impedance matching required for operation at 50  $\Omega$
- Single-ended operation
- Ceramic Surface Mount Package (SMP)
- Small size



### Package

Surface Mount 3.0 x 3.0 x 1.22 mm



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

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

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

# Data Sheet

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

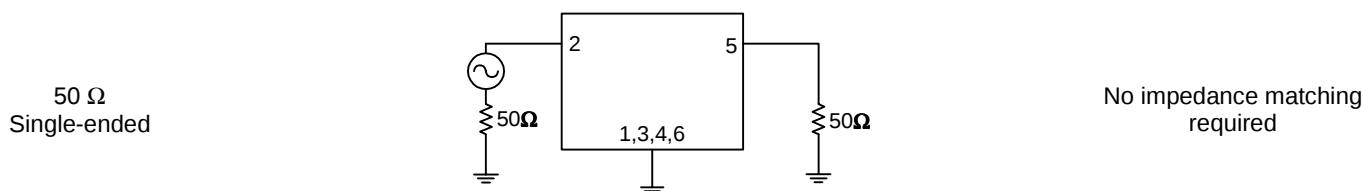
Operating Temperature Range: <sup>(2)</sup> -20 to +70 °C

| Parameter <sup>(3)</sup>                            | Minimum | Typical | Maximum | Unit |
|-----------------------------------------------------|---------|---------|---------|------|
| <b>Center Frequency</b>                             | -       | 1842.5  | -       | MHz  |
| <b>Maximum Insertion Loss</b>                       |         |         |         |      |
| 1805 - 1815 MHz (+15 to +70 °C)                     | -       | 2.8     | 3.3     | dB   |
| 1805 - 1815 MHz (-20 to +15 °C)                     | -       | -       | 3.7     | dB   |
| 1815 - 1870 MHz                                     | -       | 1.9     | 3       | dB   |
| 1870 - 1880 MHz                                     | -       | 2.1     | 3.6     | dB   |
| <b>Absolute Attenuation</b>                         |         |         |         |      |
| 10 - 1720 MHz                                       | 20      | 23      | -       | dB   |
| 1720 - 1765 MHz                                     | 25      | 29      | -       | dB   |
| 1765 - 1785 MHz                                     | 8       | 23      | -       | dB   |
| 1920 - 1980 MHz                                     | 15      | 27      | -       | dB   |
| 1980 - 2410 MHz                                     | 17      | 24      | -       | dB   |
| 2410 - 3120 MHz                                     | 20      | 24      | -       | dB   |
| 3120 - 4000 MHz                                     | 17      | 25      | -       | dB   |
| <b>Input/Output Return Loss</b>                     |         |         |         |      |
| 1805 - 1880 MHz                                     | 6       | 9.2     | -       | dB   |
| <b>Terminating Source Impedance: <sup>(4)</sup></b> | -       | 50      | -       | Ω    |
| <b>Terminating Load Impedance: <sup>(4)</sup></b>   | -       | 50      | -       | Ω    |
| <b>Operating Temperature Range</b>                  | -20     | +25     | +70     | °C   |

### Notes:

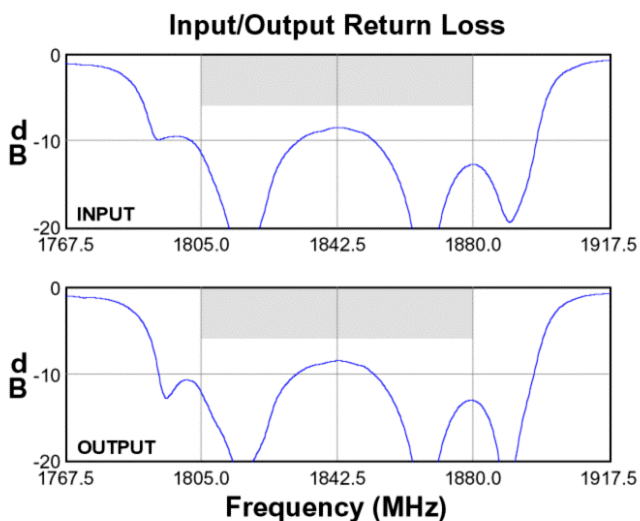
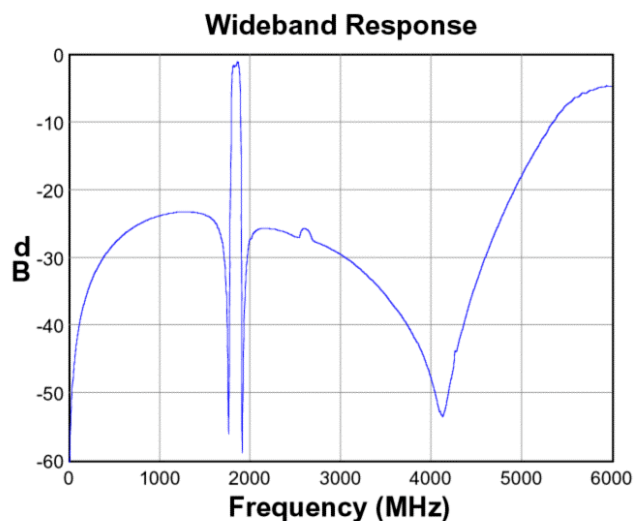
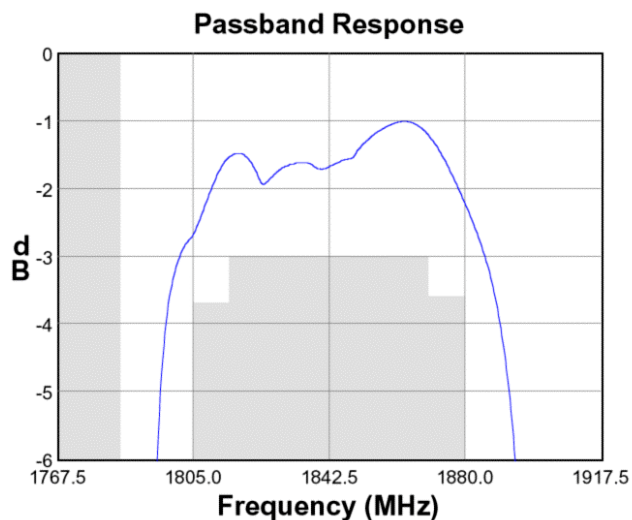
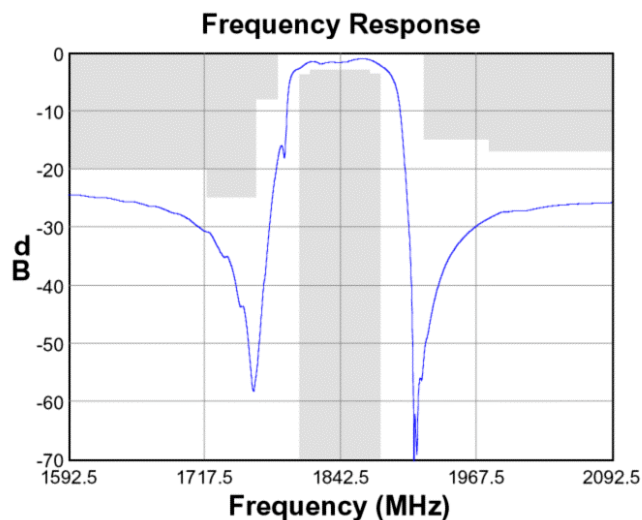
1. All specifications are based on the test circuit shown below
2. In production, devices will be tested at room temperature to a guardbanded specification to ensure electrical compliance over temperature
3. Electrical margin has been built into the design to account for the variations due to temperature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

### Test Circuit:

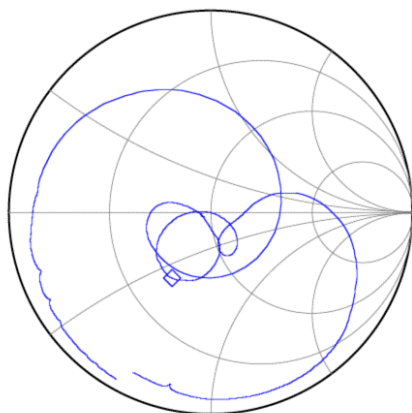


# Data Sheet

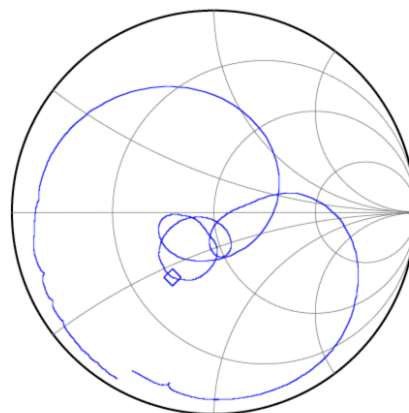
## Typical Performance (at +25°C)



**Input Smith Chart**



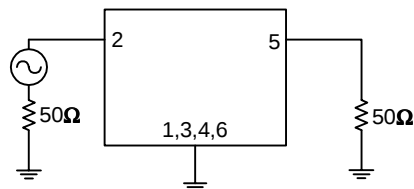
**Output Smith Chart**



# Data Sheet

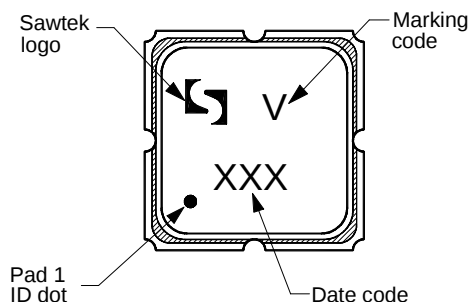
## Matching Schematics

50  $\Omega$   
Single-ended



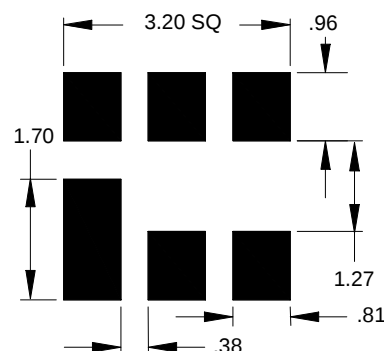
No impedance matching  
required

## Marking



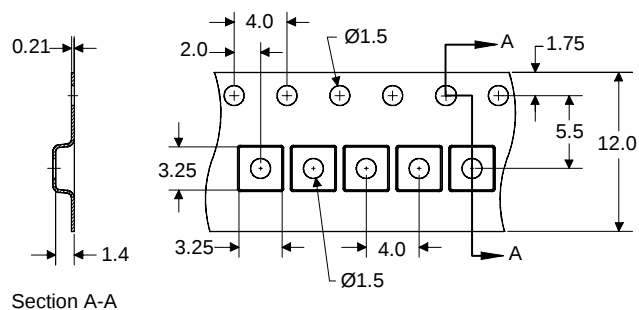
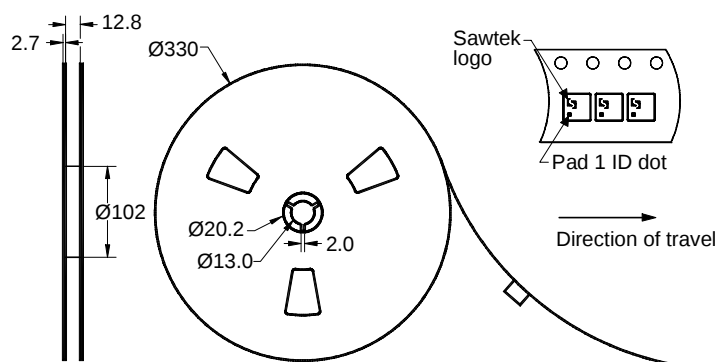
Date code is the day of the current year in 3-digit Julian format

## 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

## Data Sheet

### Maximum Ratings

| Parameter                   | Symbol           | Minimum | Maximum | Unit |
|-----------------------------|------------------|---------|---------|------|
| Operating Temperature Range | T                | -20     | +70     | °C   |
| Storage Temperature Range   | T <sub>stg</sub> | -40     | +85     | °C   |
| RF Power                    | P <sub>in</sub>  | -       | +13     | dBm  |

### Warnings

- Electrostatic Sensitive Device (ESD)
- Avoid ultrasonic exposure



### Links to Additional Technical Information

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

### 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](#)