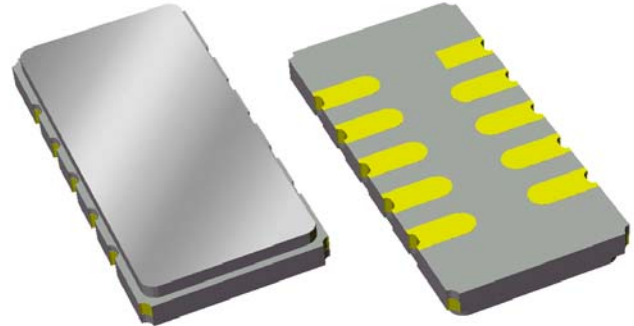


Data Sheet

Features

- For WCDMA basestation IF applications
- Usable bandwidth of 3.6 MHz
- Low loss
- High attenuation
- Single-ended operation
- Ceramic Surface Mount Package (SMP)
- Small size

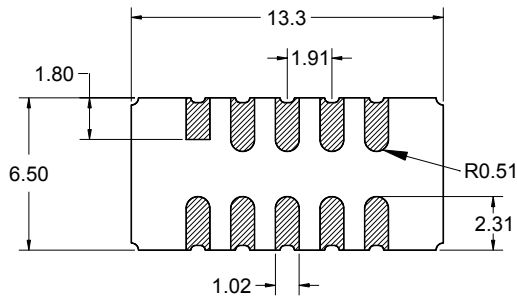
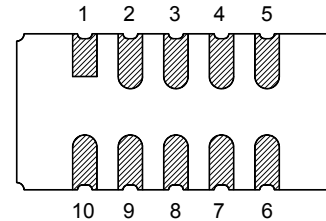
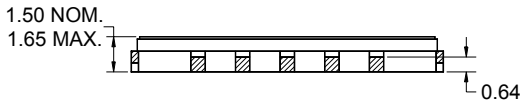


Package

Surface Mount 13.30 x 6.50 x 1.50 mm

Pin Configuration

Bottom View



| Pin No. | Description |
|---------|-------------|
| 5 | RF output |
| 10 | RF input |
| 1,6 | Ground |
| 2,3,4 | Case ground |
| 7,8,9 | Case ground |

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

Body: Al_2O_3 ceramic
Lid: Kovar, 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⁾ -10 to +85 °C

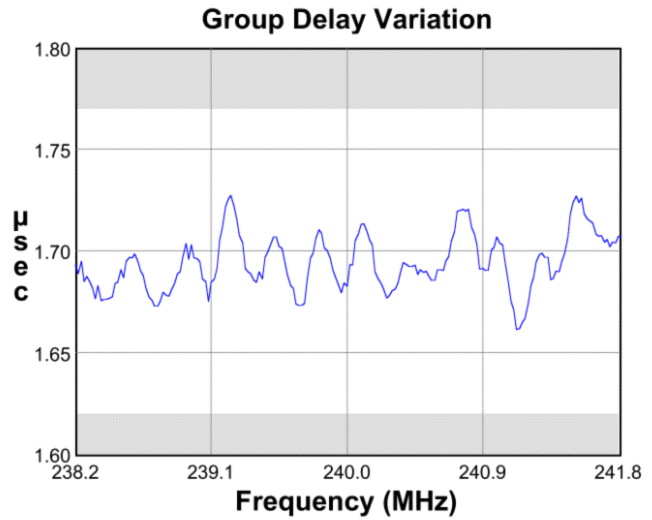
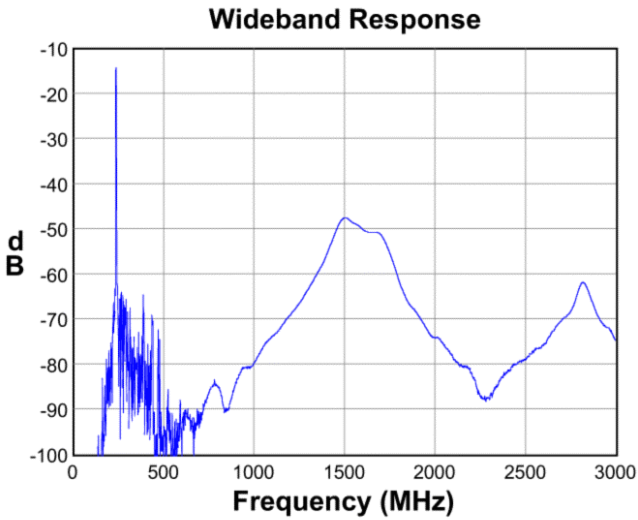
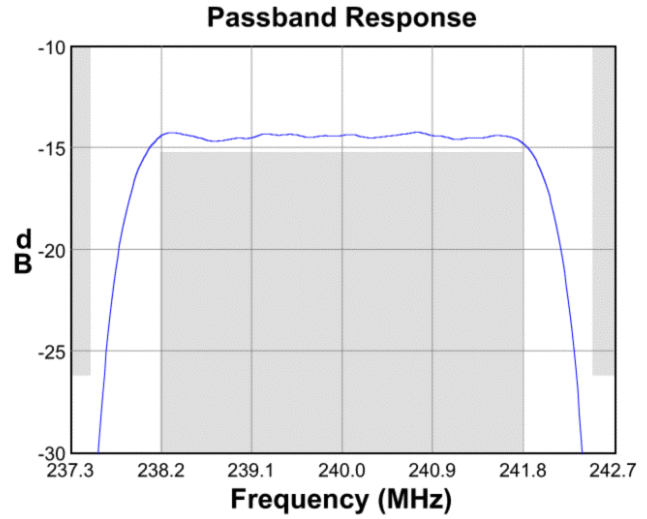
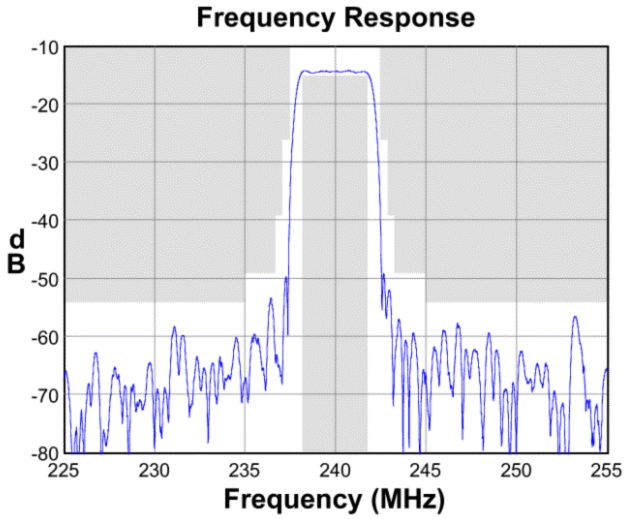
| Parameter ⁽³⁾ | Minimum | Typical | Maximum | Unit |
|--|---------|---------|---------|---------|
| Center Frequency, f_0 | - | 240 | - | MHz |
| Insertion Loss at Minimum | 12.5 | 14.3 | 16.5 | dB |
| Maximum Insertion Loss 238.2 - 241.8 MHz | 12.5 | 14.8 | 16.5 | dB |
| Lower 1 dB Point ⁽⁴⁾ | - | 238.10 | 238.2 | MHz |
| Upper 1 dB Point ⁽⁴⁾ | 241.8 | 241.94 | - | MHz |
| Amplitude Variation 238.2 - 241.8 MHz | - | 0.5 | 1 | dB p-p |
| Group Delay 238.2 - 241.8 MHz | 1.59 | 1.69 | 1.79 | μsec |
| Group Delay Ripple 238.2 - 241.8 MHz | - | 0.060 | 0.15 | μsec |
| Phase Ripple 238.2 - 241.8 MHz | - | 2 | 6 | deg p-p |
| Minimum Rejection 170 - 235 MHz | 40 | 45 | - | dB |
| 245 - 310 MHz | 40 | 42 | - | dB |
| Attenuation 236.70 MHz | 35 | 49 | - | dB |
| 237.07 MHz | 25 | 58 | - | dB |
| 237.50 MHz | 12 | 28 | - | dB |
| 242.50 MHz | 12 | 22 | - | dB |
| 242.93 MHz | 25 | 42 | - | dB |
| 243.30 MHz | 35 | 49 | - | dB |
| Input/Output VSWR 238.2 - 241.8 MHz | - | 1.5:1 | 2.0:1 | Ratio |
| Source Impedance: ⁽⁵⁾ | - | 50 | - | Ω |
| Load Impedance: ⁽⁵⁾ | - | 50 | - | Ω |

Notes:

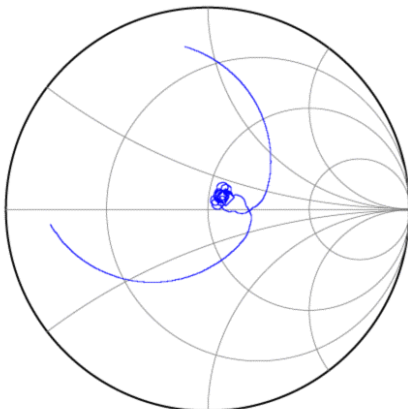
1. All specifications are based on the test circuit shown on page 4
2. In production, devices will be tested at room temperature to a guardbanded specification to ensure electrical compliance over temperature
3. Electrical margin has been built into the design to account for the variations due to temperature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

Data Sheet

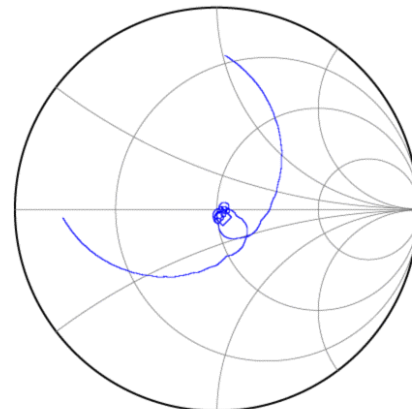
Typical Performance (at +25°C)



Input Smith Chart



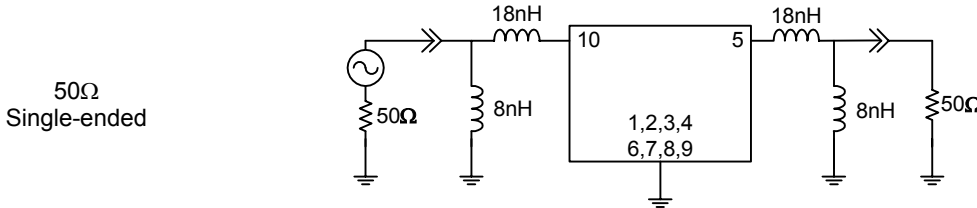
Output Smith Chart



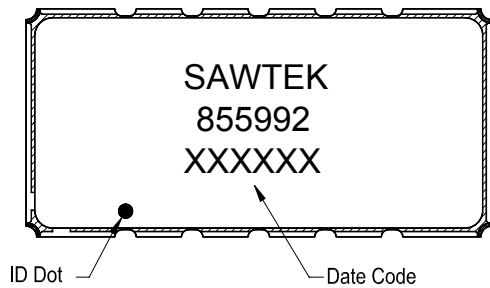
Data Sheet

Matching Schematics

Actual matching values may vary due to PCB layout and parasitics

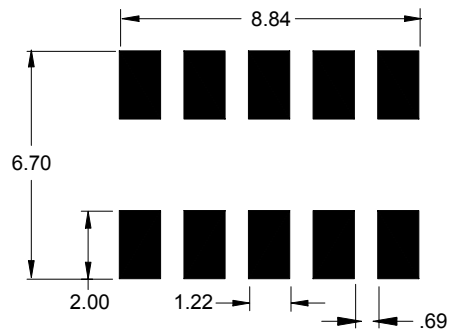


Marking



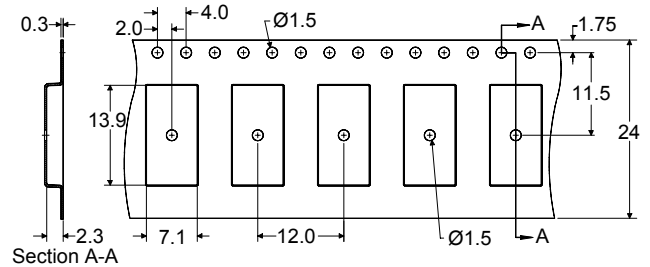
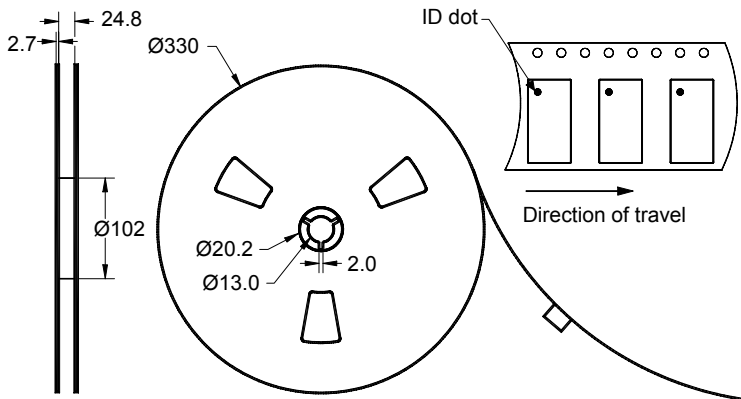
The date code consists of: day of the current year (Julian, 3 digits), last digit of the year (1 digit) and hour (2 digits)

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: 2000 units/reel

Data Sheet

Maximum Ratings

| Parameter | Symbol | Minimum | Maximum | Unit |
|-----------------------------|--------|---------|---------|------|
| Operating Temperature Range | T | -10 | +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](#)

Contact Information



PO Box 609501
Orlando, FL 32860-9501
USA

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

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