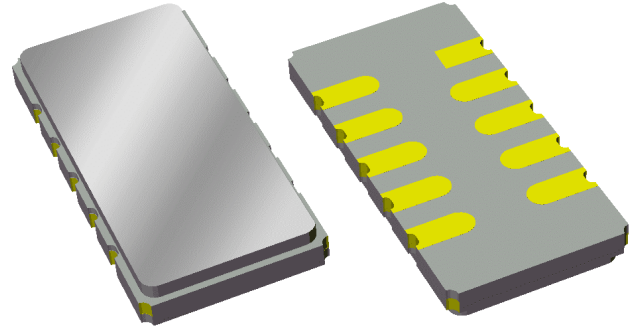


Preliminary Data Sheet

Features

- For broadband applications
- Typical 3 dB bandwidth of 6.2 MHz
- High attenuation
- Single-ended operation
- Ceramic Surface Mount Package (SMP)
- Small size
- Replaces Sawtek P/N 851913 (BW 3dB=6.0 MHz)

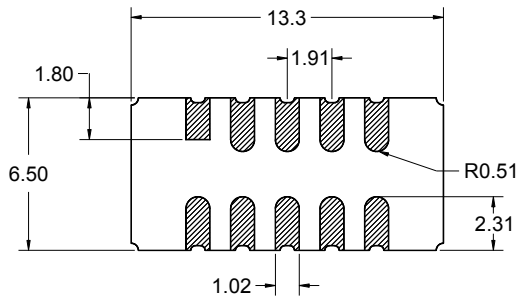
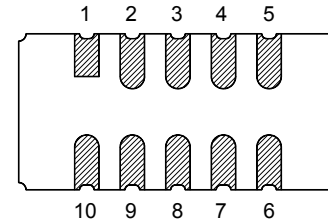
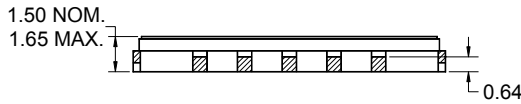


Package

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

Preliminary Data Sheet

Electrical Specifications ⁽¹⁾

Operating Temperature Range: ⁽²⁾ 0 to +70 °C

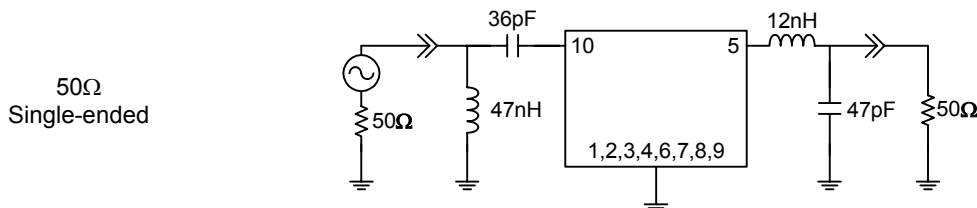
| Parameter ⁽³⁾ | Minimum | Typical | Maximum | Unit |
|--|---------|--------------------|---------|--------|
| Center Frequency | - | 140 | - | MHz |
| Minimum Insertion Loss | - | 23 | 24.5 | dB |
| Lower 1 dB Bandedge ⁽⁴⁾ | - | 137.1 | 137.28 | MHz |
| Upper 1 dB Bandedge | 142.72 | 142.9 | - | MHz |
| Lower 3 dB Bandedge ⁽⁴⁾ | - | 136.9 | 137 | MHz |
| Upper 3 dB Bandedge | 143 | 143.1 | - | MHz |
| Lower 40 dB Bandedge ⁽⁴⁾ | 135.83 | 136 | - | MHz |
| Upper 40 dB Bandedge | - | 144 | 144.17 | MHz |
| Amplitude Variation 137.28 - 142.72 MHz | - | 0.5 | 0.9 | dB |
| Phase Linearity 137.28 - 142.72 MHz | - | 2.0 | 3.0 | deg |
| Group Delay Variation 137.28 - 142.72 MHz | - | 45 | 70 | nsec |
| Absolute Delay | - | 1.6 | - | μsec |
| Relative Attenuation ⁽⁴⁾ 15 - 135 MHz | 50 | 60 | - | dB |
| 145 - 350 MHz | 50 | 60 | - | dB |
| Source Impedance ⁽⁵⁾ | - | 50 | - | Ω |
| Load Impedance ⁽⁵⁾ | - | 50 | - | Ω |
| Substrate Material | - | LiTaO ₃ | - | - |
| Temperature Coefficient of Frequency | - | -23 | - | ppm/°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. All attenuation measurements are measured relative to minimum insertion loss
5. This is the optimum impedance in order to achieve the performance shown

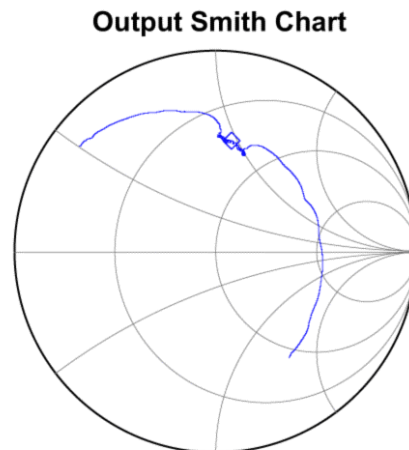
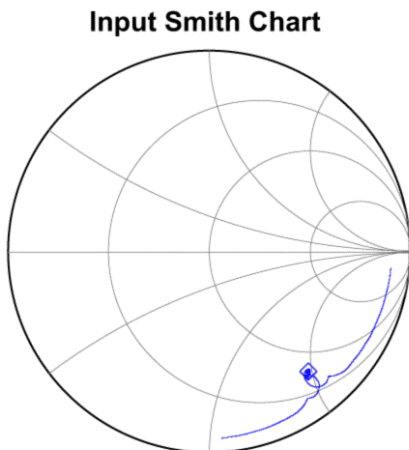
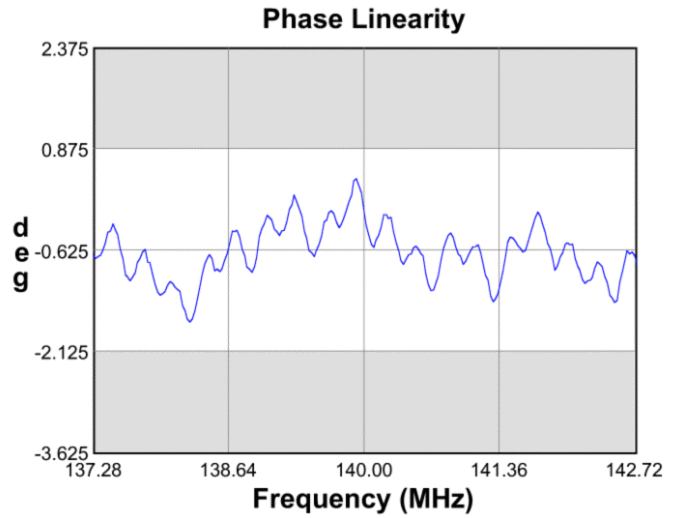
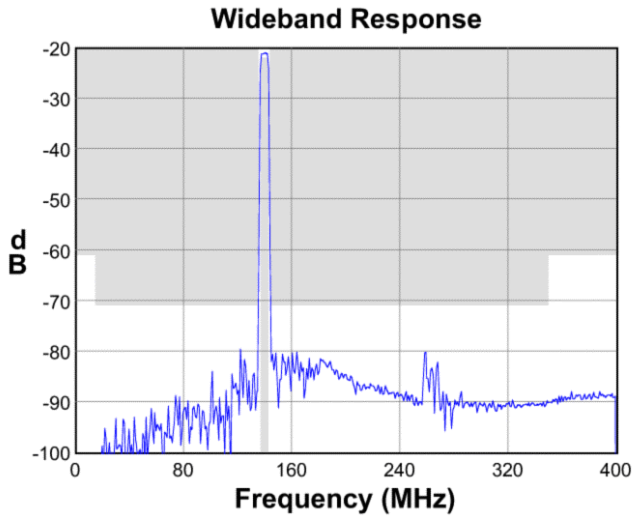
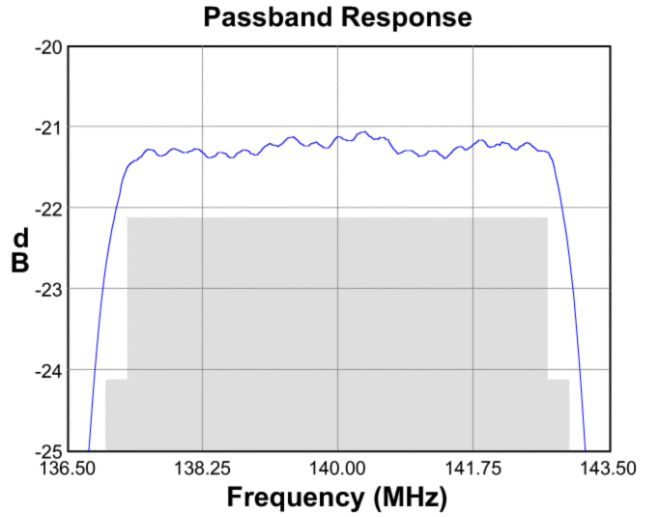
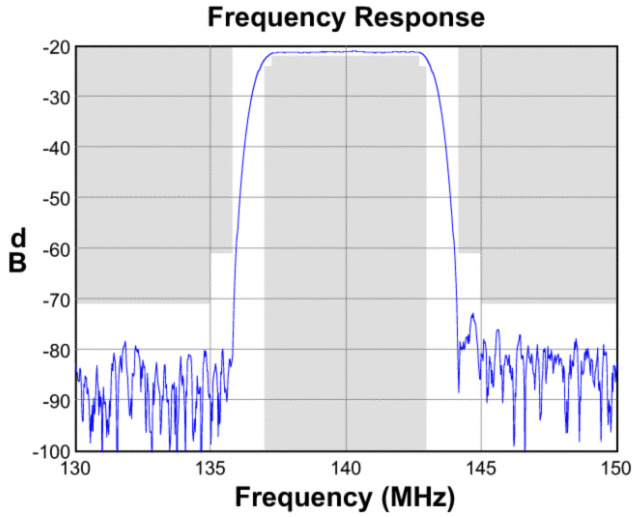
Test Circuit:

Actual matching values may vary due to PCB layout and parasitics



Preliminary Data Sheet

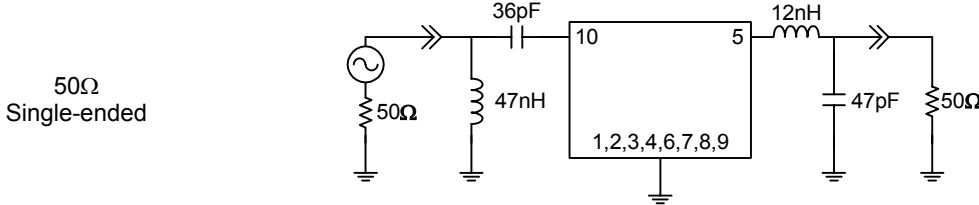
Typical Performance (at +25°C)



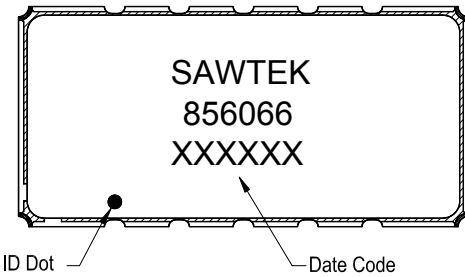
Preliminary Data Sheet

Matching Schematics

Actual matching values may vary due to PCB layout and parasitics

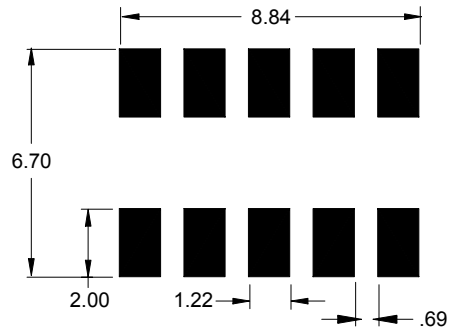


Marking



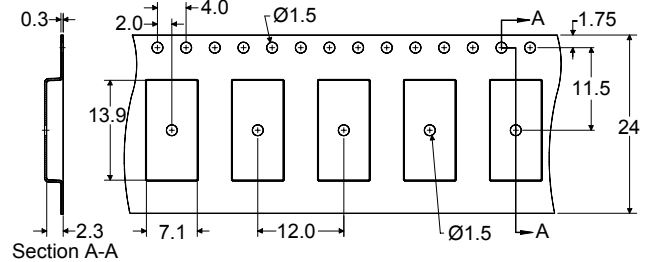
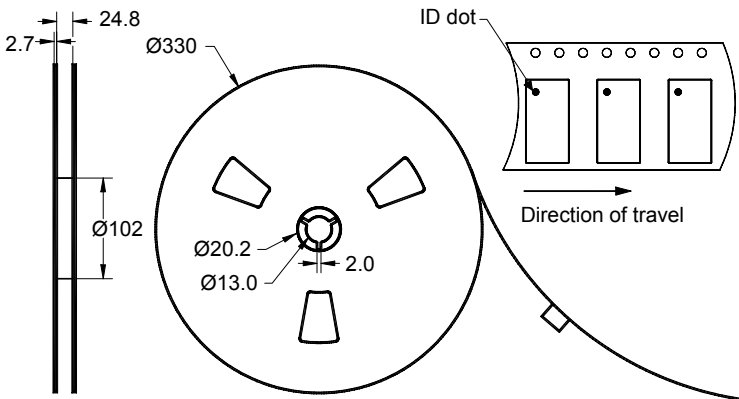
The date code consists of: day of the current year (Julian, 3 digits), last digit of the year (1 digit) and hour (2 digits)

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

Preliminary Data Sheet

Maximum Ratings

| Parameter | Symbol | Minimum | Typical | Maximum | Unit |
|-----------------------------|------------------|---------|---------|---------|------|
| Operating Temperature Range | T | 0 | +25 | +70 | °C |
| Storage Temperature Range | T _{stg} | -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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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](#)