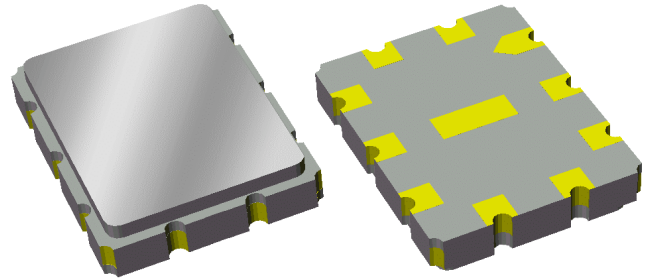


Preliminary Data Sheet

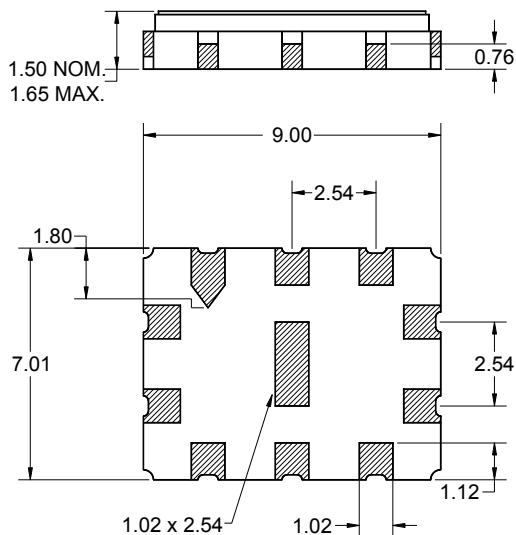
Features

- For broadband applications
- Typical 3dB bandwidth of 33.2 MHz
- High attenuation
- Single-ended operation
- Ceramic Surface Mount Package (SMP)
- Small size
- Replaces Sawtek P/N 851937 (BW 3dB=32 MHz)



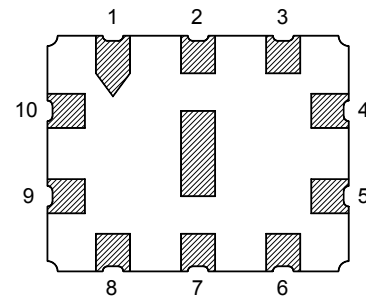
Package

Surface Mount 9.00 x 7.01 x 1.50 mm



Pin Configuration

Bottom View



Pin No.	Description
4	Output
5	Output return
9	Input
10	Input return
1,2,3,6,7,8	Case ground

Dimensions shown are nominal in millimeters
All tolerances are ± 0.15 mm except overall
length and width $+0.10$ mm/ -0.15 mm

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

Preliminary Data Sheet

Electrical Specifications ⁽¹⁾

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

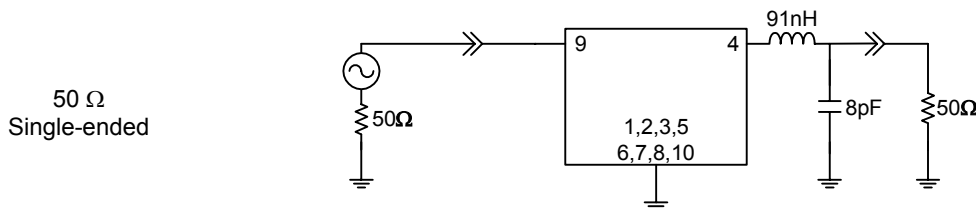
Parameter ⁽³⁾	Minimum	Typical	Maximum	Unit
Center Frequency	-	140	-	MHz
Minimum Insertion Loss	-	21.7	22.5	dB
Lower 1 dB Bandedge ⁽⁴⁾	-	124.29	125.15	MHz
Upper 1 dB Bandedge	154.85	155.88	-	
Lower 3 dB Bandedge ⁽⁴⁾	-	123.42	124.2	MHz
Upper 3 dB Bandedge	155.8	156.64	-	
Lower 40 dB Bandedge ⁽⁴⁾	119.65	120.31	-	MHz
Upper 40 dB Bandedge	-	159.58	160.35	
Amplitude Variation 125.15 - 154.85 MHz	-	0.46	1.10	dB p-p
Phase Linearity 125.15 - 154.85 MHz	-	2.75	6.0	deg p-p
Group Delay Variation 125.15 - 154.85 MHz	-	15.46	30	ns p-p
Absolute Delay	-	0.905	-	μsec
Relative Attenuation ⁽⁴⁾				
15 - 60 MHz	45	56	-	dB
60 - 115 MHz	43	54	-	dB
165 - 200 MHz	42	52	-	dB
200 - 300 MHz	47	58	-	dB
Terminating Source Impedance: ⁽⁵⁾	-	50	-	Ω
Terminating Load Impedance: ⁽⁵⁾	-	50	-	Ω
Substrate Material	-	128 LiNbO ₃	-	-
Temperature Coefficient of Frequency	-	-74	-	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 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:

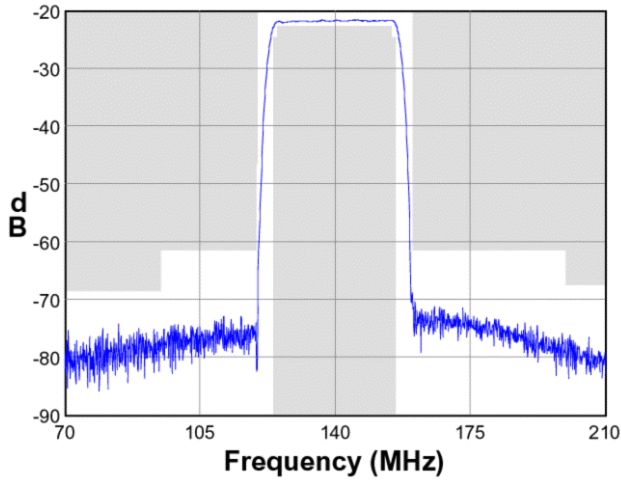
Actual matching values may vary due to PCB layout and parasitics



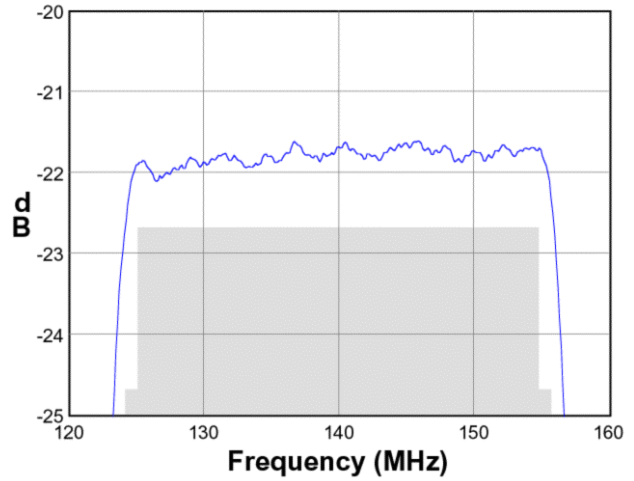
Preliminary Data Sheet

Typical Performance (at +25°C)

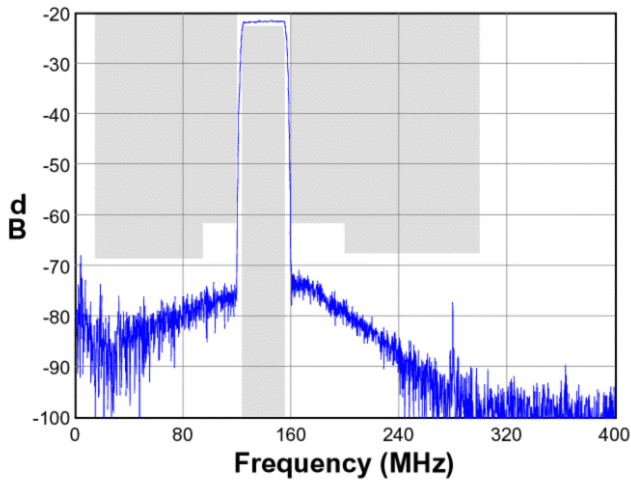
Frequency Response



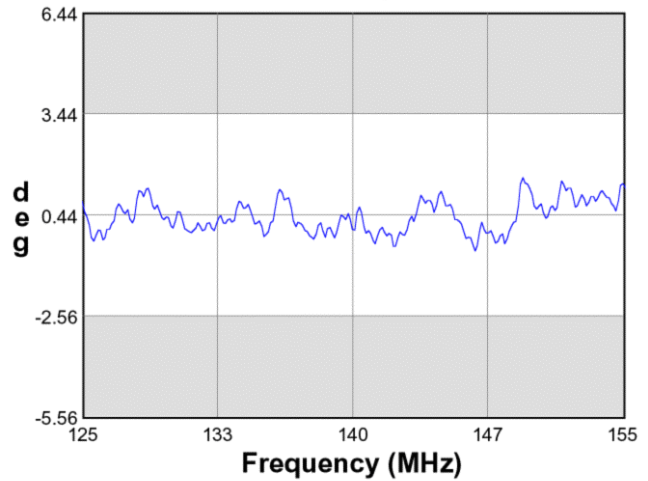
Passband Response



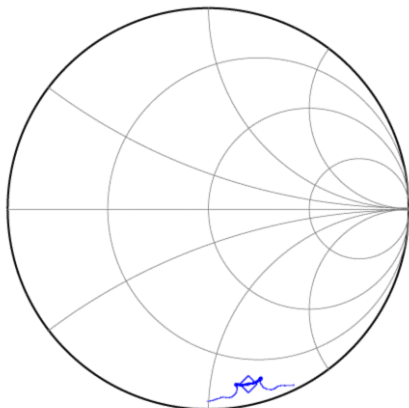
Widespan Response



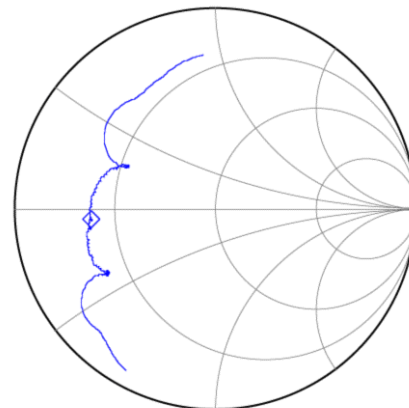
Phase Response



Input Smith Chart



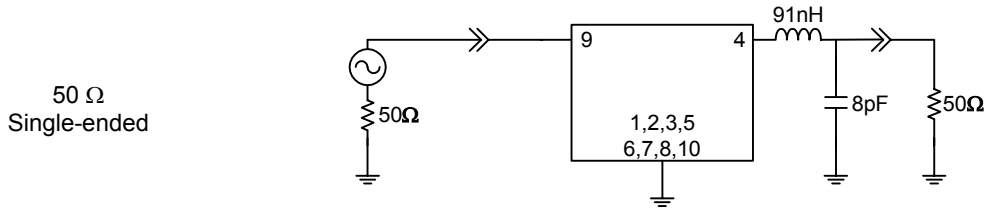
Output Smith Chart



Preliminary Data Sheet

Matching Schematics

Actual matching values may vary due to PCB layout and parasitics

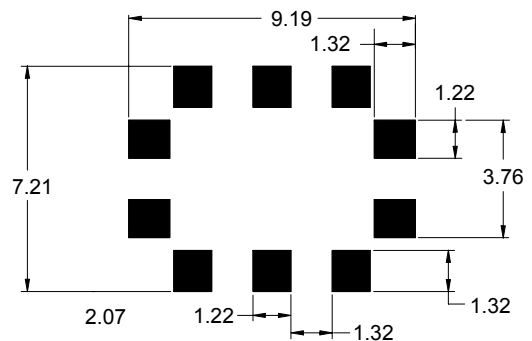


Marking



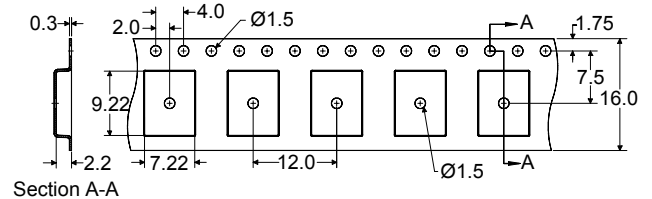
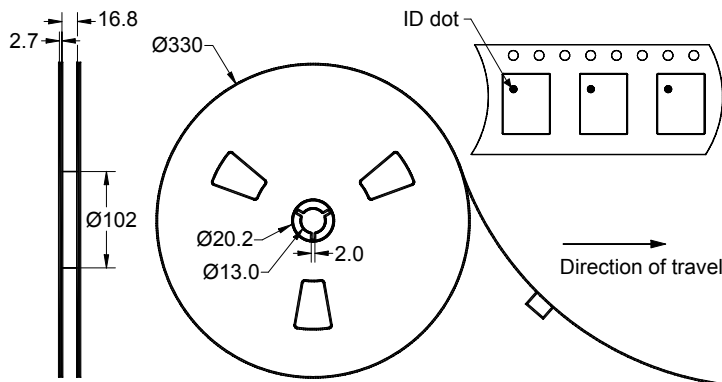
The date code consists of: day of the current year (Julian, 3 digits), last digit of the year (1 digit) and hour (2 digits)

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](#)

[Reel and Packaging Label](#)

[Other Technical Information](#)

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