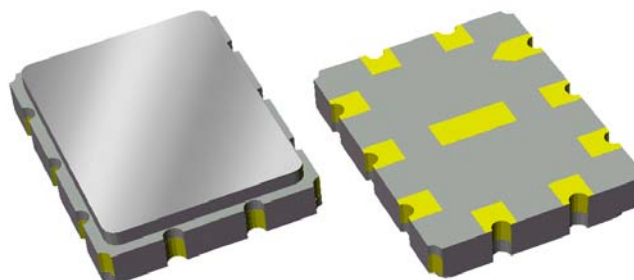


Preliminary Data Sheet

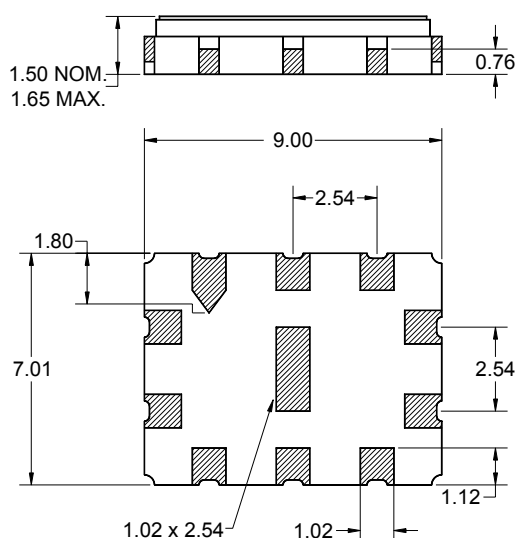
Features

- For broadband applications
- Typical 3dB bandwidth of 44.0 MHz
- High attenuation
- Single-ended operation
- Ceramic Surface Mount Package (SMP)
- Replaces Sawtek P/N 851943 (BW 3dB=44 MHz)
- Hermetic
- RoHS compliant (2002/95/EC), Pb-free 



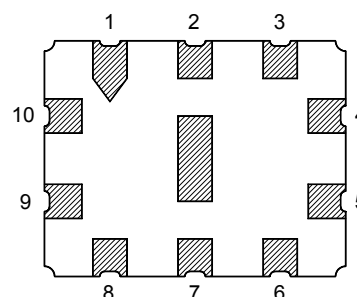
Package

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

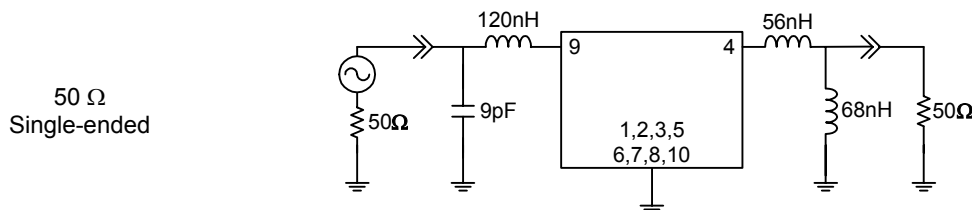
Parameter ⁽³⁾	Minimum	Typical	Maximum	Unit
Center Frequency	-	140	-	MHz
Minimum Insertion Loss	-	21.75	22.5	dB
Lower 1 dB Bandedge ⁽⁴⁾	-	119.4	122.0	MHz
Upper 1 dB Bandedge	158.0	160.8	-	MHz
Lower 3 dB Bandedge ⁽⁴⁾	-	118.0	119.1	MHz
Upper 3 dB Bandedge	160.9	162.0	-	MHz
Lower 40 dB Bandedge ⁽⁴⁾	112.95	113.6	-	MHz
Upper 40 dB Bandedge	-	166.3	167.05	MHz
Amplitude Variation 122.0 - 158.0 MHz	-	0.5	1.5	dB p-p
Phase Linearity 122.0 - 158.0 MHz	-	2.55	5.5	deg p-p
Group Delay Variation 122.0 - 158.0 MHz	-	10.62	30	ns p-p
Absolute Delay	-	0.768	-	μsec
Relative Attenuation ⁽⁴⁾				
10 - 60 MHz	57	64	-	dB
60 - 112 MHz	48	57	-	dB
168 - 250 MHz	43	56	-	dB
250 - 300 MHz	52	57	-	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

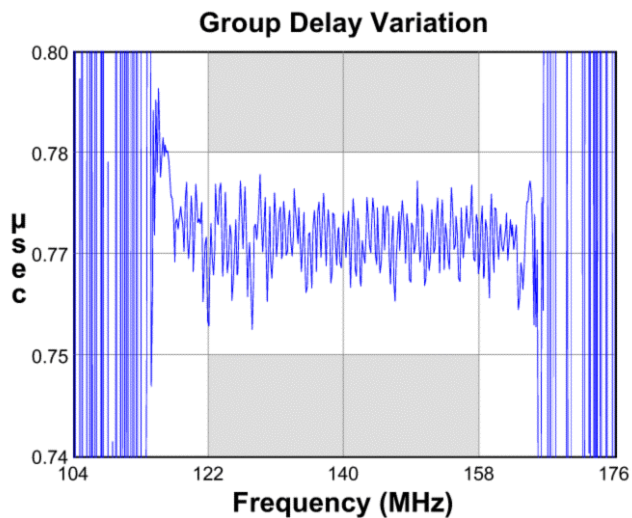
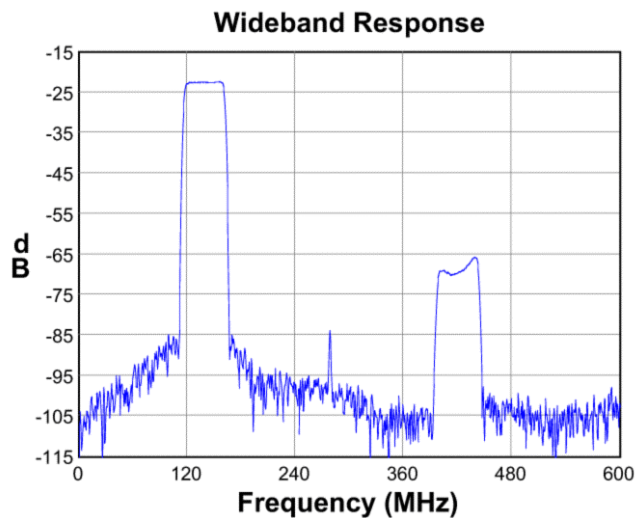
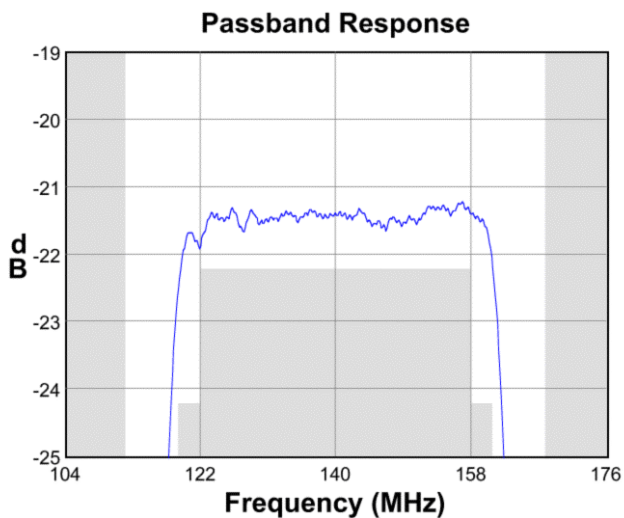
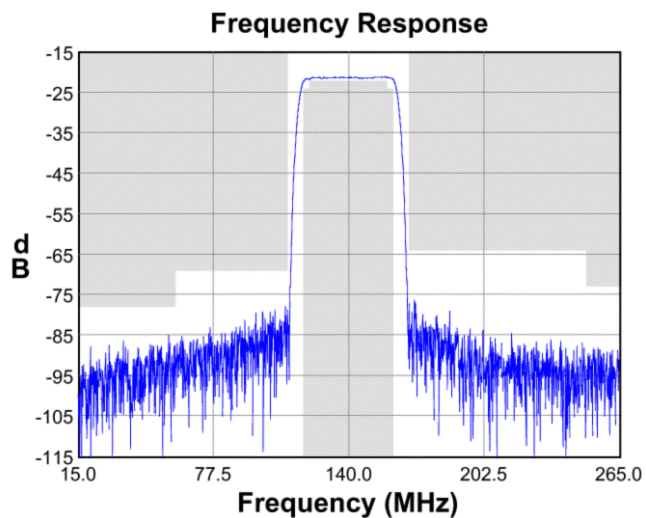
Test Circuit:

Actual matching values may vary due to PCB layout and parasitics

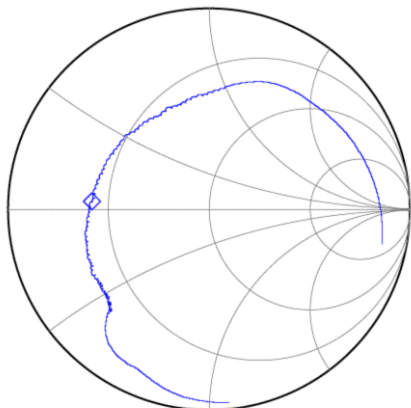


Preliminary Data Sheet

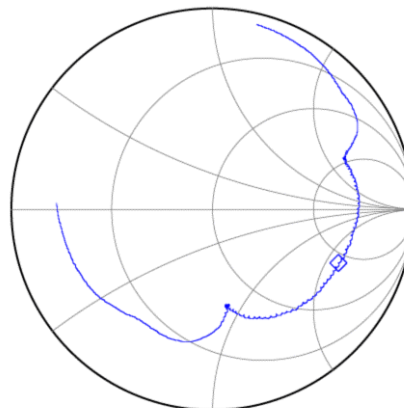
Typical Performance (at +25°C)



Input Smith Chart



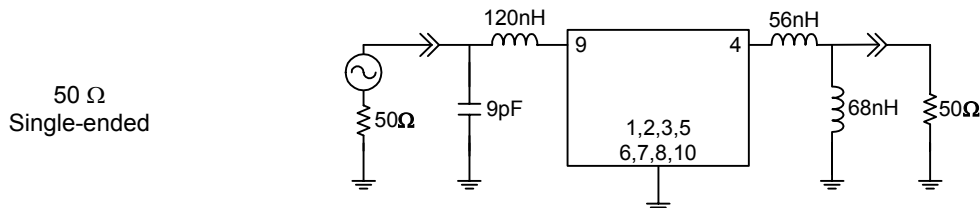
Output Smith Chart



Preliminary Data Sheet

Matching Schematics

Actual matching values may vary due to PCB layout and parasitics

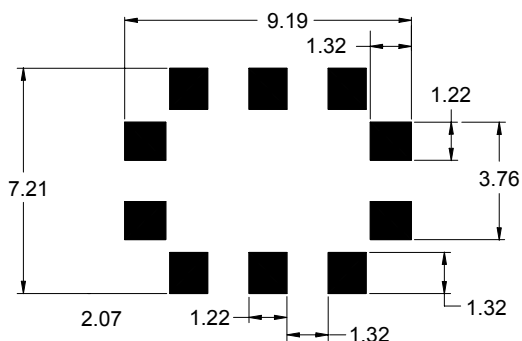


Marking



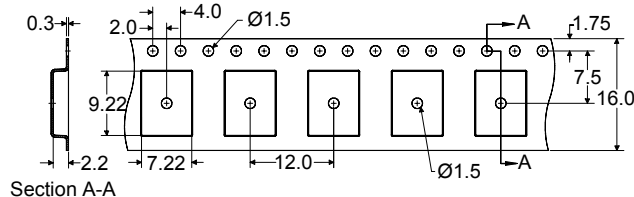
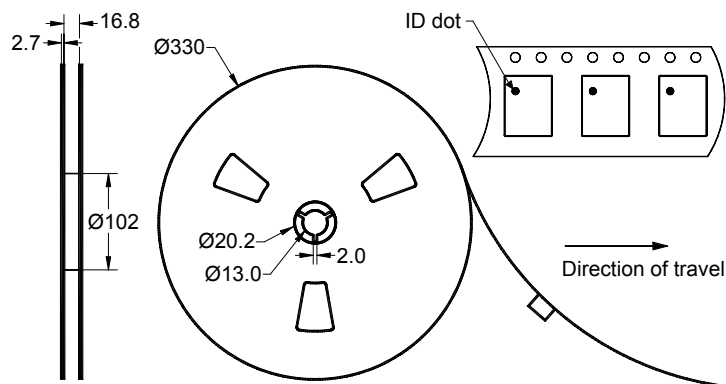
The date code consists of: day of the current year (Julian, 3 digits), last digit of the year (1 digit) and hour (2 digits)

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

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](#)

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[representatives or distributors](#)