
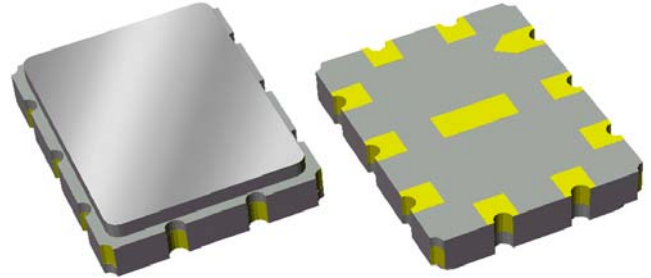


Preliminary Data Sheet

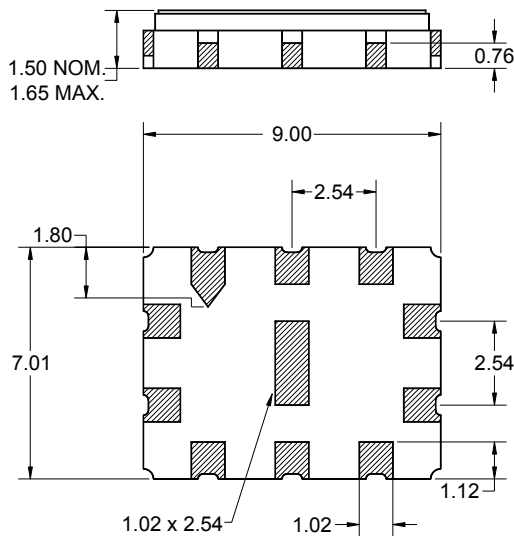
Features

- For broadband applications
- 3 dB bandwidth 72 MHz
- High-attenuation
- Single-ended operation
- Ceramic Surface Mount Package (SMP)
- Hermetic
- RoHS compliant (2002/95/EC), Pb-free 



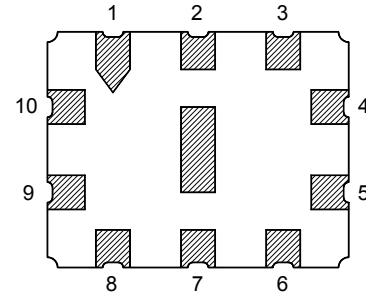
Package

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/ -0.10 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

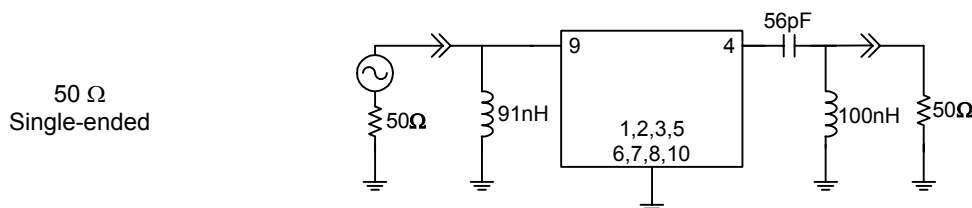
Parameter ⁽³⁾	Minimum	Typical ⁽⁴⁾	Maximum	Unit
Center Frequency	-	140	-	MHz
Maximum Insertion Loss at 140 MHz	-	21	22.5	dB
Lower 1.5 dB Bandedge	-	103	109	MHz
Upper 1.5 dB Bandedge	171	177	-	MHz
Lower 3 dB Bandedge	-	102	104	MHz
Upper 3 dB Bandedge	176	178	-	MHz
Lower 40 dB Bandedge	89	97	-	MHz
Upper 40 dB Bandedge	-	186	191	MHz
Amplitude Variation 109 - 171 MHz	-	0.7	1.5	dB p-p
Phase Linearity 109 - 171 MHz	-	4.0	10	deg p-p
Group Delay Variation 109 - 171 MHz	-	30	100	ns p-p
Relative Attenuation 15 - 75 MHz	45	50	-	dB
75 - 89 MHz	40	43	-	dB
191 - 215 MHz	40	44	-	dB
215 - 298 MHz	42	46	-	dB
Source Impedance ⁽⁵⁾	-	50	-	Ω
Load Impedance ⁽⁵⁾	-	50	-	Ω
Substrate Material	-	128-LiNbO ₃	-	-
Temperature Coefficient of Frequency	-	-74	-	ppm/°C

Notes:

- All specifications are based on the test circuit shown below
- In production, devices will be tested at room temperature to a guardbanded specification to ensure electrical compliance over temperature
- Electrical margin has been built into the design to account for the variations due to temperature drift and manufacturing tolerances
- All typical values given at 23 °C
- This is the optimum impedance in order to achieve the performance shown

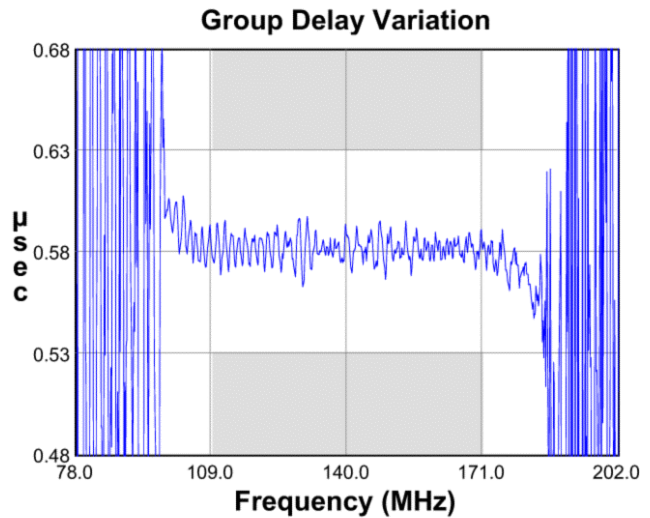
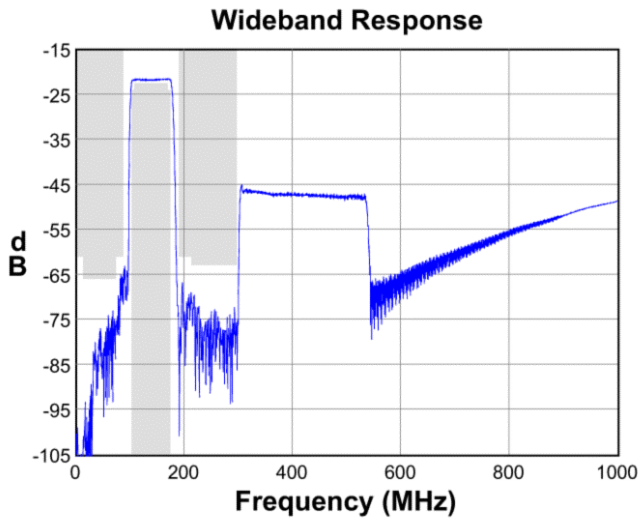
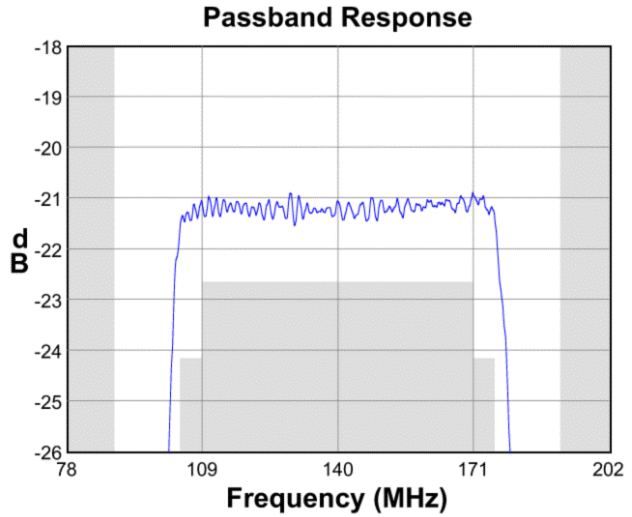
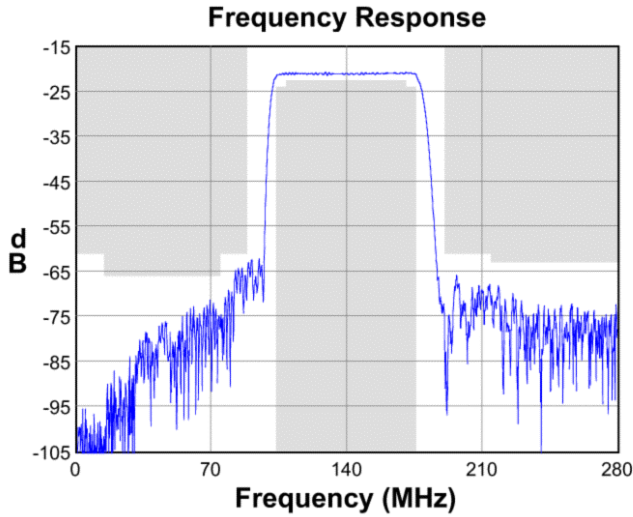
Test Circuit:

Actual matching values may vary due to PCB layout and parasitics

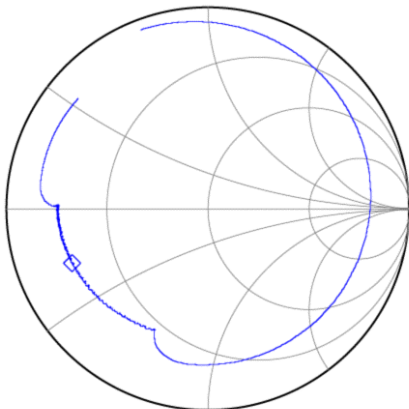


Preliminary Data Sheet

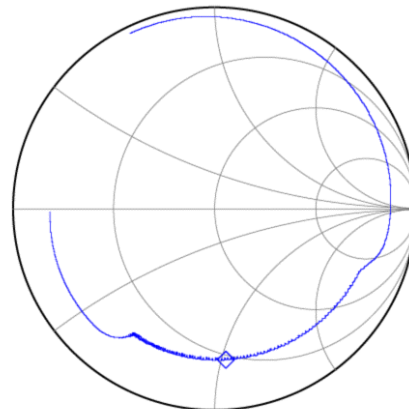
Typical Performance (at +25°C)



Input Smith Chart



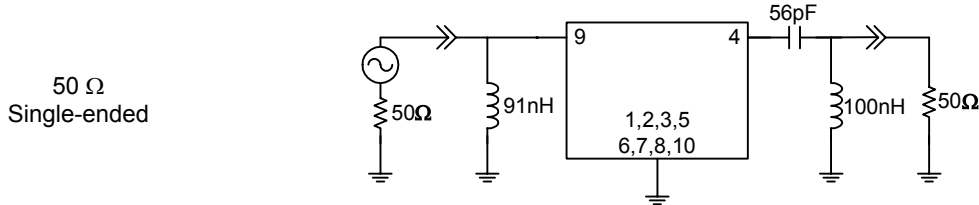
Output Smith Chart



Preliminary Data Sheet

Matching Schematics

Actual matching values may vary due to PCB layout and parasitics

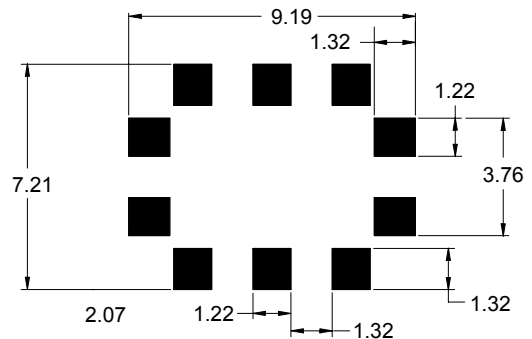


Marking



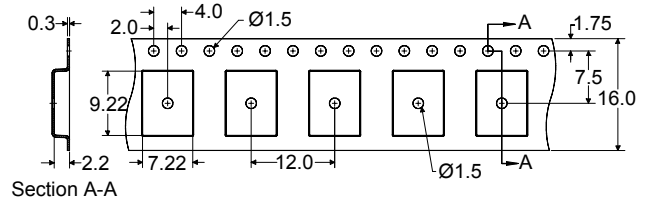
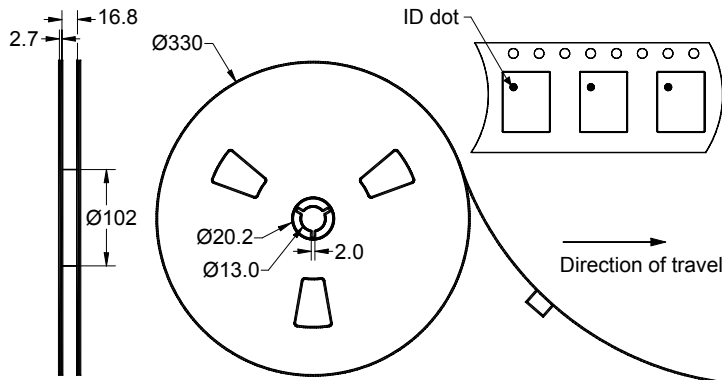
The date code consists of: day of the current year (Julian, 3 digits), last digit of the year (1 digit) and hour (2 digits)

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	Maximum	Unit
Operating Temperature Range	T	-10	+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](#)

Sawtek's liability is limited only to the Surface Acoustic Wave (SAW) component(s) described in this data sheet. Sawtek does not accept any liability for applications, processes, circuits or assemblies, which are implemented using any Sawtek component described in this data sheet.

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](#)