
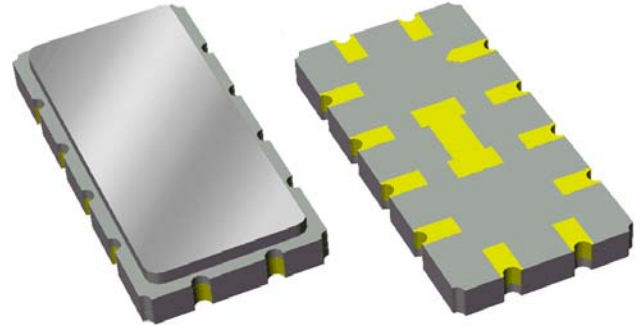


Preliminary Data Sheet

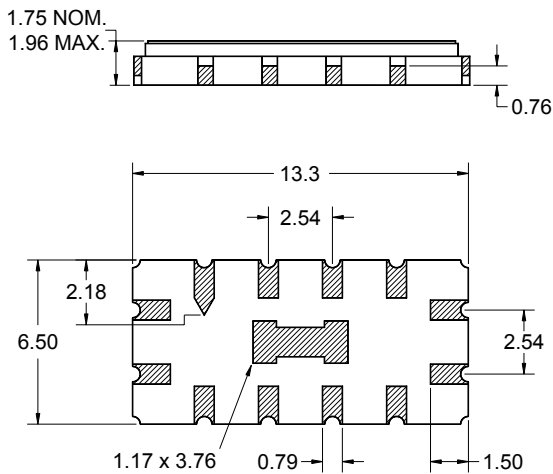
Features

- For multi carrier WCDMA applications
- Usable 1.0 dB bandwidth of 18.4 MHz
- Low loss
- High Attenuation
- Single-ended operation, 50 Ω
- Ceramic Surface Mount Package (SMP)
- Hermetic
- **RoHS** compliant (2002/95/EC), **Pb-free** 



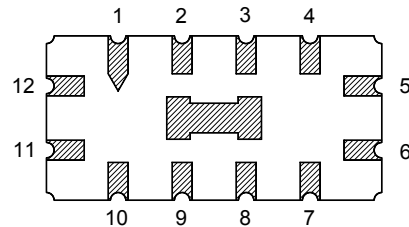
Package

Surface Mount 13.30 x 6.50 x 1.75 mm



Pin Configuration

Bottom View



Pin No.	Description
5	Output
11	Input
6,12	To be grounded
1,2,3,4	Case ground
7,8,9,10	Case ground

Dimensions shown are nominal in millimeters
All tolerances are ± 0.15 mm except overall
length and width ± 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⁾ -30 to +80 °C

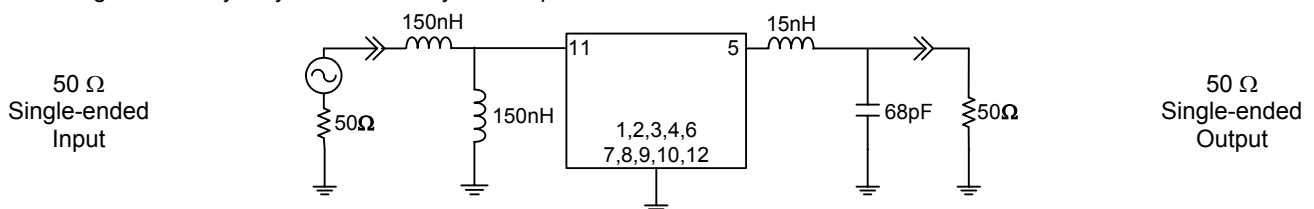
Parameter ⁽³⁾	Minimum	Typical	Maximum	Unit
Center Frequency, f_o	-	140	-	MHz
Insertion Loss @ f_o	-	9.3	11	dB
1.0 dB Bandwidth ⁽⁴⁾	-	20.7	-	MHz
Lower 1.0 dB Bandedge	-	129.7	130.8	MHz
Upper 1.0 dB Bandedge	149.2	150.4	-	MHz
3.0 dB Bandwidth ⁽⁴⁾	-	21.6	-	MHz
Lower 3.0 dB Bandedge	-	129.3	130.2	MHz
Upper 3.0 dB Bandedge	149.8	150.9	-	MHz
35 dB Bandwidth ⁽⁴⁾	-	24.4	-	MHz
Lower 35 dB Bandedge	126.8	128.0	-	MHz
Upper 35 dB Bandedge	-	152.4	153.2	MHz
Passband Ripple ⁽⁵⁾ Over the 1 dB bandwidth	-	0.5	0.8	dB
Group Delay Ripple 130.8 - 149.2 MHz	-	100	150	nsec
Absolute Delay	-	1	-	µsec
Relative Attenuation ⁽⁴⁾				
10 - 90 MHz	35	55	-	dB
90 - 120 MHz	40	53	-	dB
120 - 126.8 MHz	35	45	-	dB
153.2 - 160 MHz	35	39	-	dB
160 - 190 MHz	40	49	-	dB
190 - 800 MHz	35	58	-	dB
Input VSWR 130.8 - 149.2 MHz	-	2.0	2.5	-
Output VSWR 130.8 - 149.2 MHz	-	1.8	2.3	-
Source/Load Impedance ⁽⁶⁾	-	50	-	Ω

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 manufacturing tolerances
- All attenuation measurements are referenced from loss at f_o
- Describes the maximum peak to adjacent valley variation over the passband (not including roll-off).
- This is the optimum impedance in order to achieve the performance shown

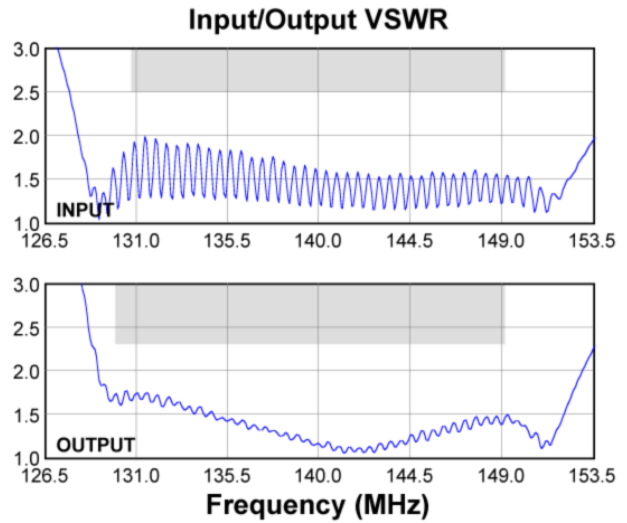
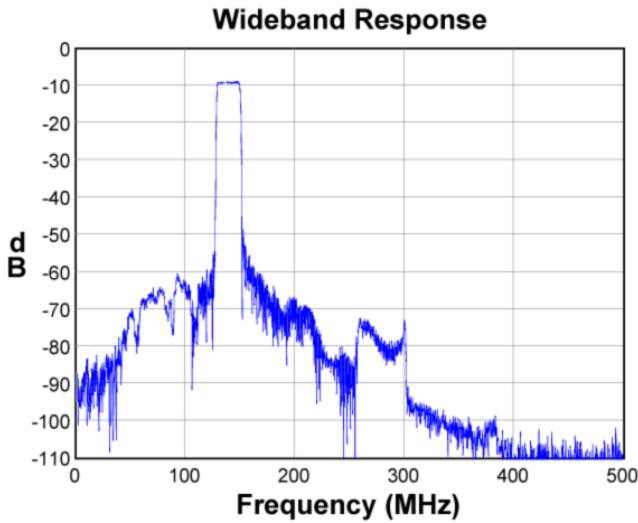
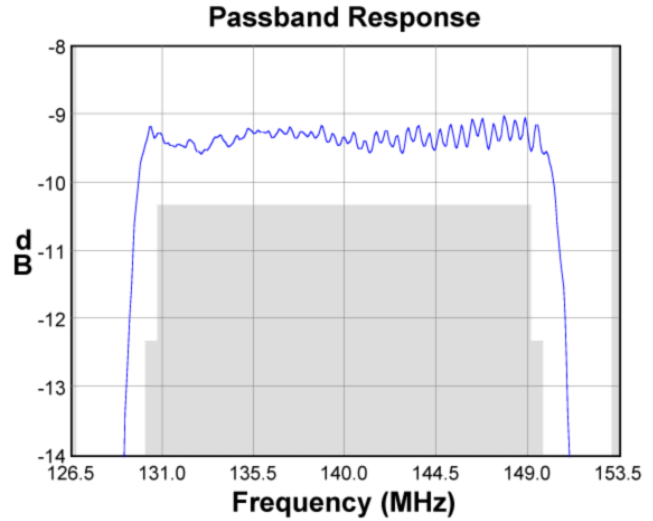
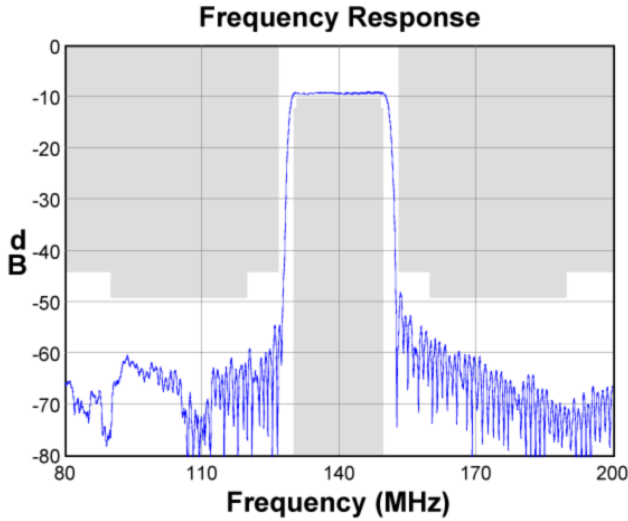
Test Circuit:

Actual Matching values may vary due to PCB layout and parasitics

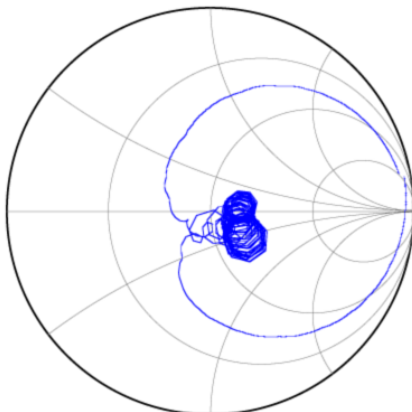


Preliminary Data Sheet

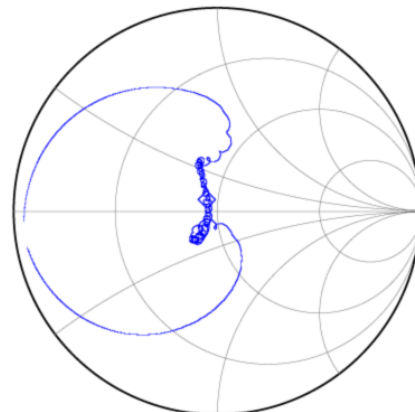
Typical Performance (at +25°C)



Input Smith Chart



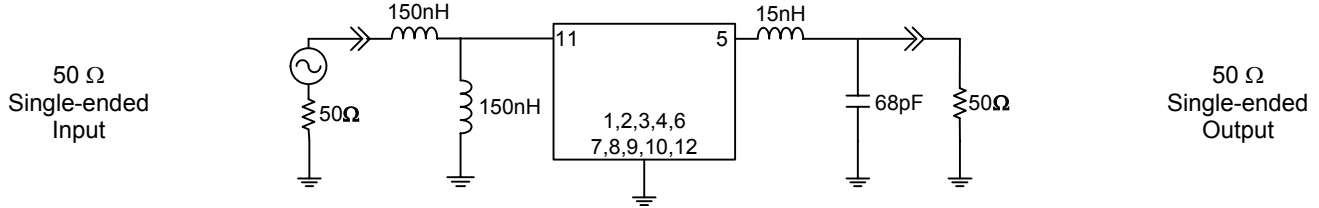
Output Smith Chart



Preliminary Data Sheet

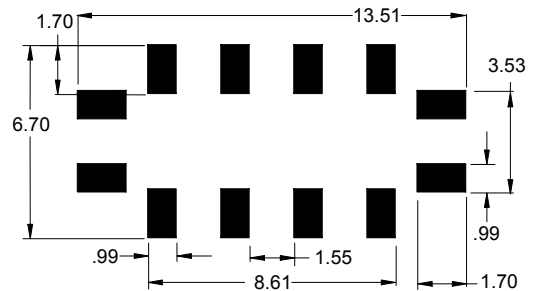
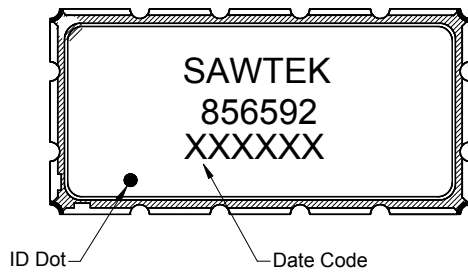
Matching Schematics

Actual matching values may vary due to PCB layout and parasitics



Marking

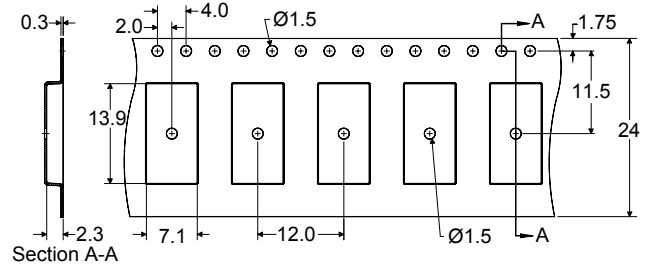
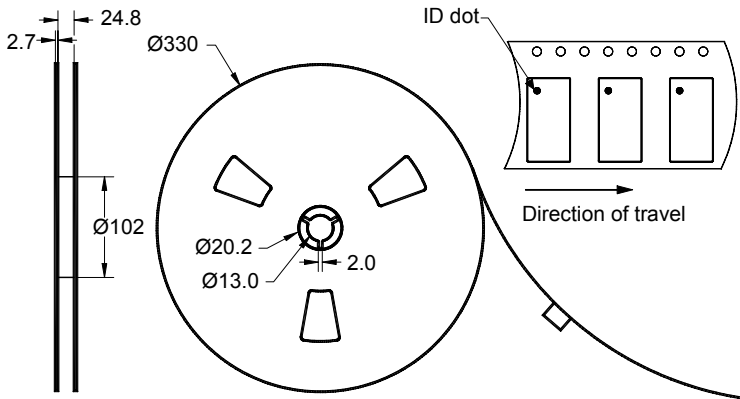
PCB Footprint



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

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	-30	+80	°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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