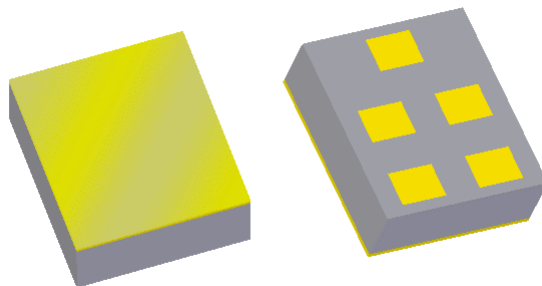


Preliminary Data Sheet

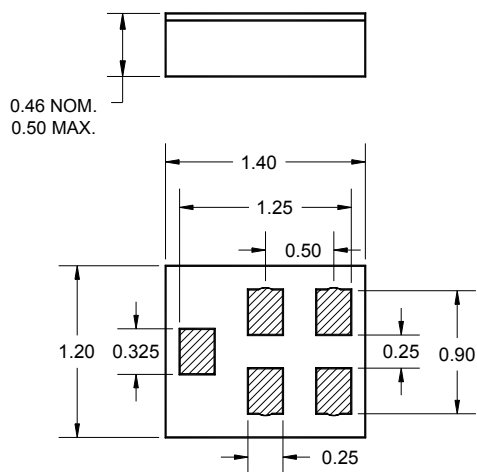
Features

- For WCDMA applications
- Usable bandwidth of 60 MHz
- Low loss
- Single-ended input, 50 Ω
- Balanced output, 100 Ω
- Ceramic Chip Scale Package (CSP)
- Hermetic
- RoHS compliant (2002/95/EC), Pb-free 



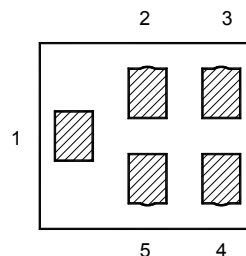
Package

Surface Mount 1.40 x 1.20 x 0.46 mm



Pin Configuration

Bottom View



Pin No.	Description
1	Input
3,4	Output
2,5	Case ground

Dimensions shown are nominal in millimeters
All tolerances are ± 0.10 mm

Body: Al_2O_3 ceramic
Lid: Kovar or Alloy 42, Au over 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⁾

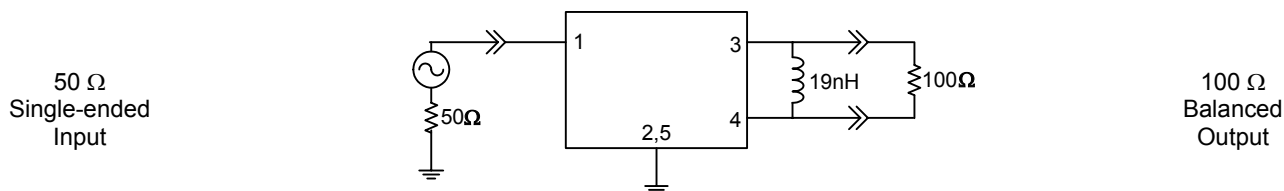
Operating Temperature Range: ⁽²⁾ -30 to +85 °C

Parameter ⁽³⁾	Minimum	Typical	Maximum	Unit
Center Frequency	-	2140	-	MHz
Maximum Insertion Loss 2110 - 2170 MHz	-	2	2.5	dB
Absolute Attenuation				
10 - 1920 MHz	30	35	-	dB
1920 - 1980 MHz	35	48	-	dB
1980 - 2050 MHz	25	35	-	dB
2230 - 2300 MHz	10	18	-	dB
4220 - 4340 MHz	10	57	-	dB
Amplitude Ripple 2110 - 2170 MHz	-	0.1	1.5	dB p-p
Output Amplitude Balance (S_{31}/S_{21}) 2110 - 2170 MHz	-1.8	-0.67	1.8	dB
Output Phase Balance ($\Phi(S_{31}) - \Phi S_{21} + 180$) 2110 - 2170 MHz	-13	-9.4	13	degree
Input/Output VSWR 2110 - 2170 MHz	-	1.5:1	2.2:1	-
Source Impedance ⁽⁴⁾	-	50	-	Ω
Load Impedance (Balanced) ⁽⁴⁾	-	100 19nH	-	Ω

Notes:

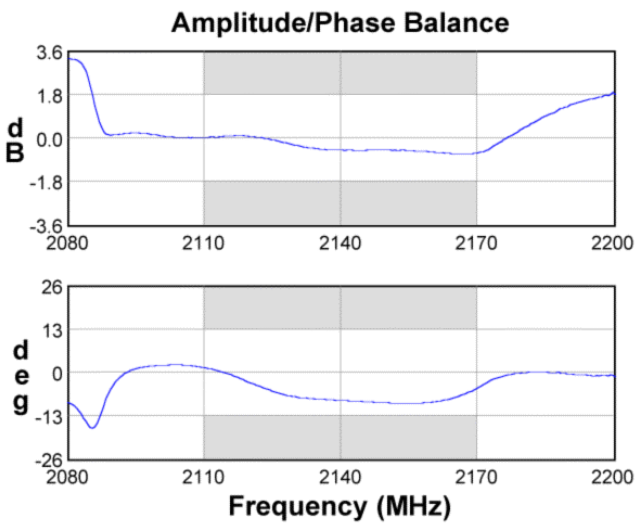
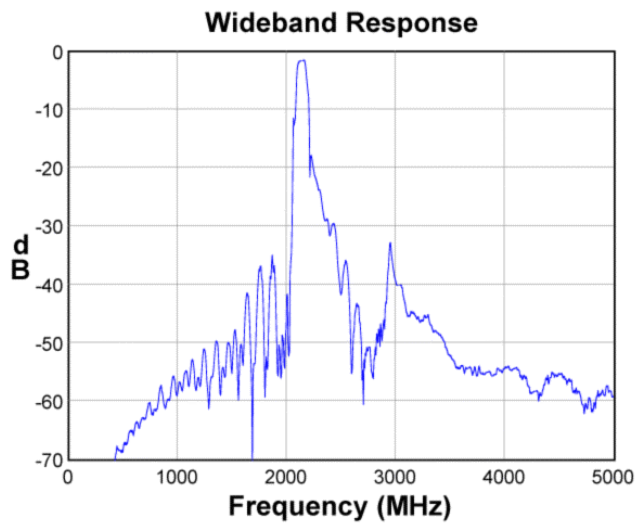
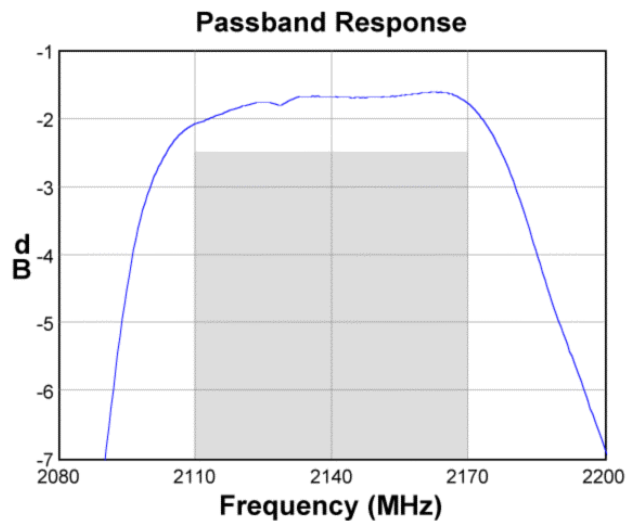
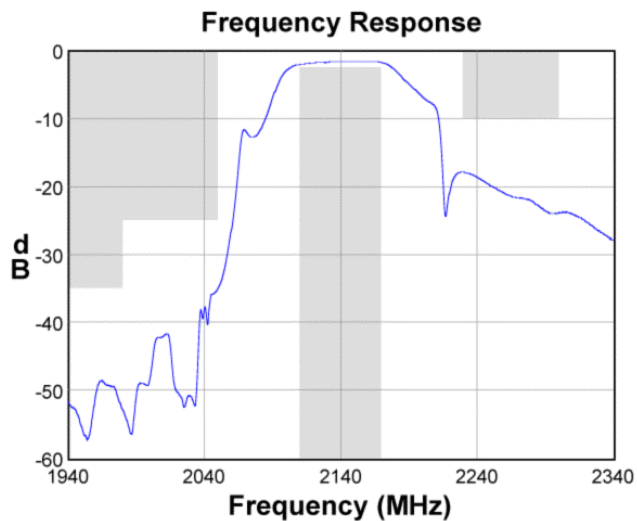
1. All specifications are based on the test circuit shown below
2. In production, devices will be tested at room temperature to a guardbanded specification to ensure electrical compliance over temperature
3. Electrical margin has been built into the design to account for the variations due to temperature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

Test Circuit:

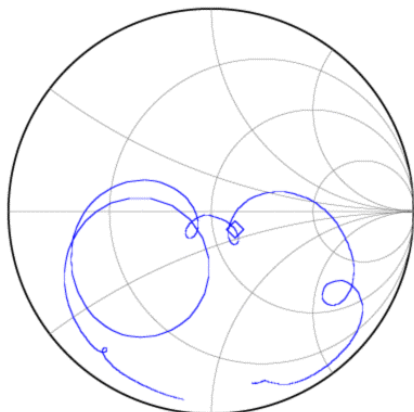


Preliminary Data Sheet

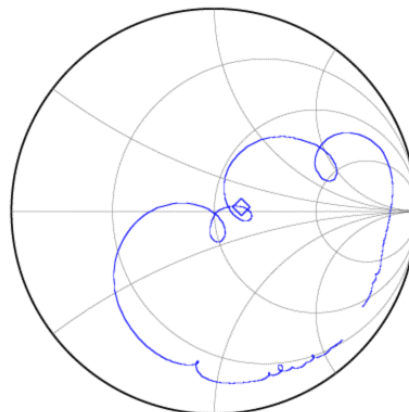
Typical Performance (at +25°C)



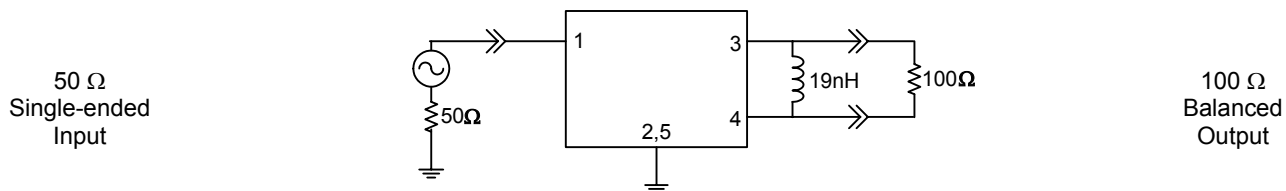
Input Smith Chart



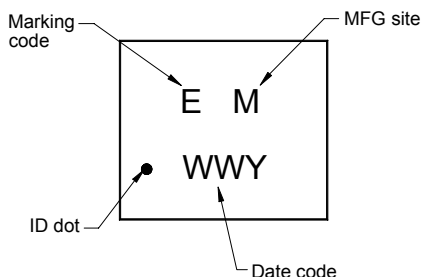
Output Smith Chart



Matching Schematics

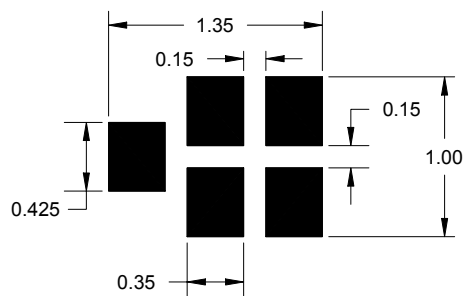


Marking



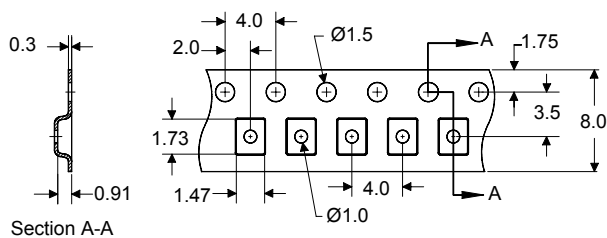
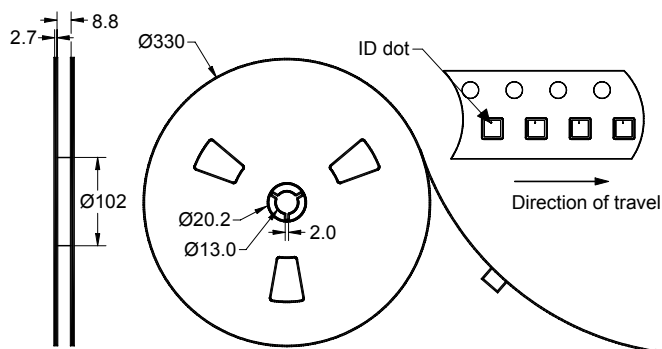
The date code consists of: WW = 2 digit week,
Y = last digit of year, M = manufacturing site code

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: 10000 units/reel

Preliminary Data Sheet

Maximum Ratings

Parameter	Symbol	Minimum	Maximum	Unit
Operating Temperature Range	T	-30	+85	°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.

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[representatives or distributors](#)