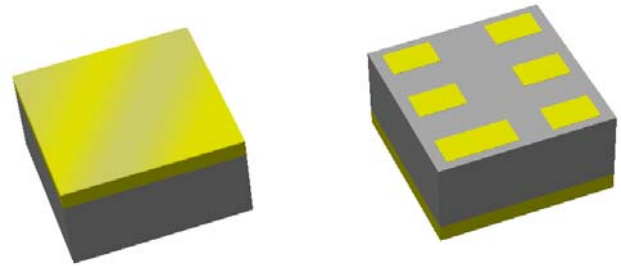


Data Sheet

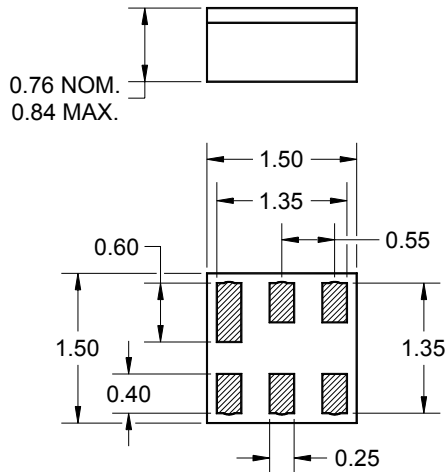
Features

- For EGSM applications
- Usable bandwidth of 35 MHz
- Compatible with leading chipset suppliers
- Ultra low loss
- Single-ended input, 50Ω
- Balanced output, 200Ω
- Chip Scale Package (CSP)
- Hermetic



Package

Surface Mount 1.50 x 1.50 x 0.76 mm

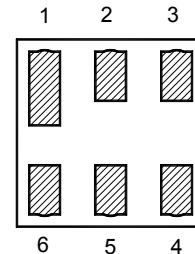


Dimensions shown are nominal in millimeters
 All tolerances are $\pm 0.10\text{mm}$

Body: Al_2O_3 ceramic
 Lid: Kovar or Alloy 42, Au over Ni plated
 Terminations: Au plating 0.5 - 1.0 μm ,
 over a 2 - 6 μm Ni plating

Pin Configuration

Bottom View



Pin No.	Description
2	Input
4,6	Output
1,3,5	Case ground

Data Sheet

Electrical Specifications ⁽¹⁾

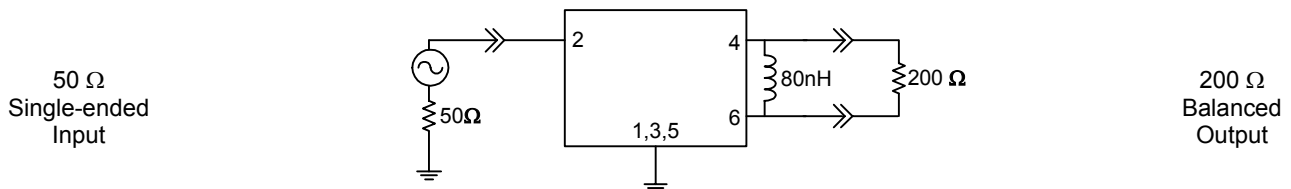
Operating Temperature Range: ⁽²⁾ +25 °C

Parameter ⁽³⁾	Minimum	Typical	Maximum	Unit
Center Frequency	-	942.5	-	MHz
Maximum Insertion Loss 925 - 960 MHz	-	1.35	1.7	dB
Amplitude Variation 925 - 960 MHz	-	0.3	0.8	dB
Absolute Attenuation				
10 - 880 MHz	31	37	-	dB
880 - 905 MHz	22	24	-	dB
905 - 915 MHz	16	21	-	dB
980 - 1050 MHz	18	20	-	dB
1050 - 1100 MHz	25	31	-	dB
1100 - 2775 MHz	30	34	-	dB
2775 - 2880 MHz	45	53	-	dB
2880 - 4625 MHz	38	44	-	dB
4625 - 4800 MHz	45	55	-	dB
4800 - 6000 MHz	43	50	-	dB
Output Amplitude Balance (S₃₁/S₂₁) 925 - 960 MHz	-1	0.8	1	dB
Output Phase Balance [Φ(S₃₁)-ΦS₂₁+180] 925 - 960 MHz	-10	3.5	10	degree
Input/Output VSWR 925 - 960 MHz	-	1.9	2.5	
Source Impedance ⁽⁴⁾	-	50	-	Ω
Load Impedance (Balanced) ⁽⁴⁾	-	200 80nH	-	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:



Data Sheet

Electrical Specifications ⁽¹⁾

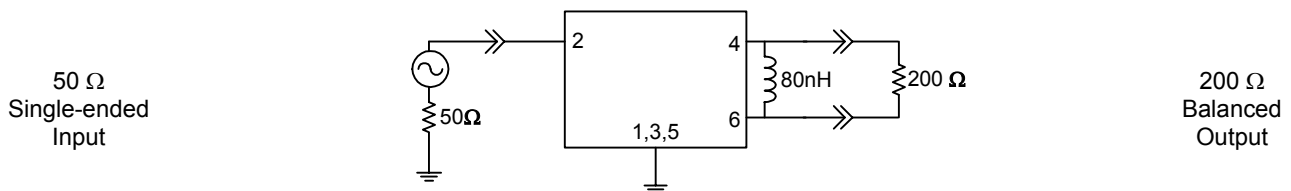
Operating Temperature Range: ⁽²⁾ -10 to +80 °C

Parameter ⁽³⁾	Minimum	Typical	Maximum	Unit
Center Frequency	-	942.5	-	MHz
Maximum Insertion Loss 925 - 960 MHz	-	1.35	2.1	dB
Amplitude Variation 925 - 960 MHz	-	0.3	1.1	dB
Absolute Attenuation				
10 - 880 MHz	31	37	-	dB
880 - 905 MHz	22	24	-	dB
905 - 915 MHz	16	21	-	dB
980 - 1050 MHz	18	20	-	dB
1050 - 1100 MHz	25	31	-	dB
1100 - 2775 MHz	30	34	-	dB
2775 - 2880 MHz	45	53	-	dB
2880 - 4625 MHz	38	44	-	dB
4625 - 4800 MHz	45	55	-	dB
4800 - 6000 MHz	43	50	-	dB
Output Amplitude Balance (S₃₁/S₂₁) 925 - 960 MHz	-1	0.8	1	dB
Output Phase Balance [Φ(S₃₁)-ΦS₂₁+180] 925 - 960 MHz	-10	3.5	10	degree
Input/Output VSWR 925 - 960 MHz	-	1.9	2.5	
Source Impedance ⁽⁴⁾	-	50	-	Ω
Load Impedance (Balanced) ⁽⁴⁾	-	200 80nH	-	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:



Data Sheet

Electrical Specifications ⁽¹⁾

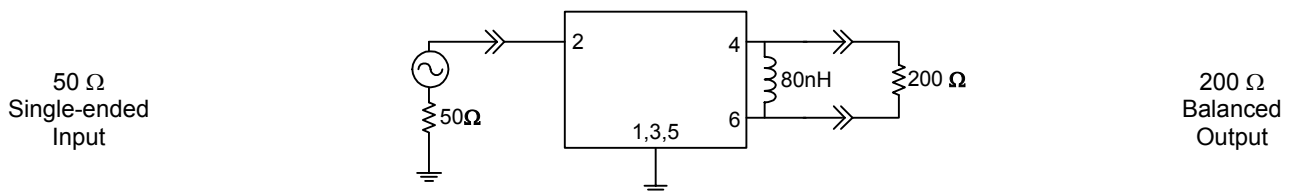
Operating Temperature Range: ⁽²⁾ -25 to +80 °C

Parameter ⁽³⁾	Minimum	Typical	Maximum	Unit
Center Frequency	-	942.5	-	MHz
Maximum Insertion Loss				
925 - 960 MHz	-	1.35	2.3	dB
925 - 960 MHz (-10 to +75 °C)	-	1.35	2.1	dB
Amplitude Variation				
925 - 960 MHz	-	0.3	1.3	dB
Absolute Attenuation				
10 - 880 MHz	31	37	-	dB
880 - 905 MHz	22	24	-	dB
905 - 915 MHz	16	21	-	dB
980 - 1050 MHz	18	20	-	dB
1050 - 1100 MHz	25	31	-	dB
1100 - 2775 MHz	30	34	-	dB
2775 - 2880 MHz	45	53	-	dB
2880 - 4625 MHz	38	44	-	dB
4625 - 4800 MHz	45	55	-	dB
4800 - 6000 MHz	43	50	-	dB
Output Amplitude Balance (S₃₁/S₂₁)				
925 - 960 MHz	-1	0.8	1	dB
Output Phase Balance [Φ(S₃₁)-ΦS₂₁+180]				
925 - 960 MHz	-10	3.5	10	degree
Input/Output VSWR				
925 - 960 MHz	-	1.9	2.5	
Source Impedance ⁽⁴⁾	-	50	-	Ω
Load Impedance (Balanced) ⁽⁴⁾	-	200 80nH	-	Ω

Notes:

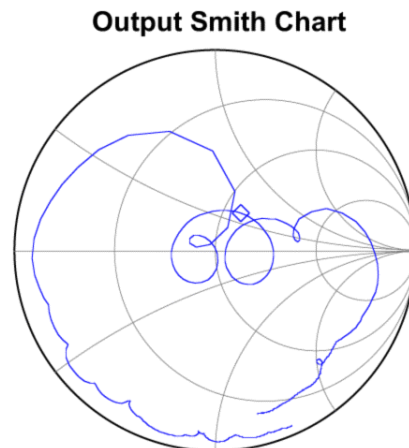
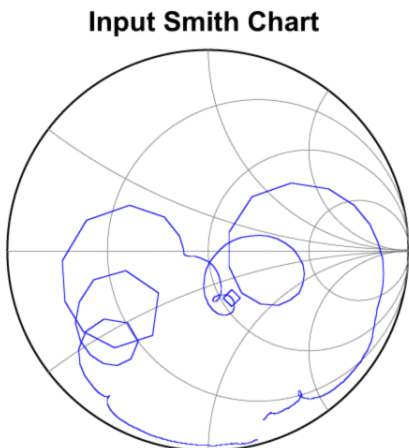
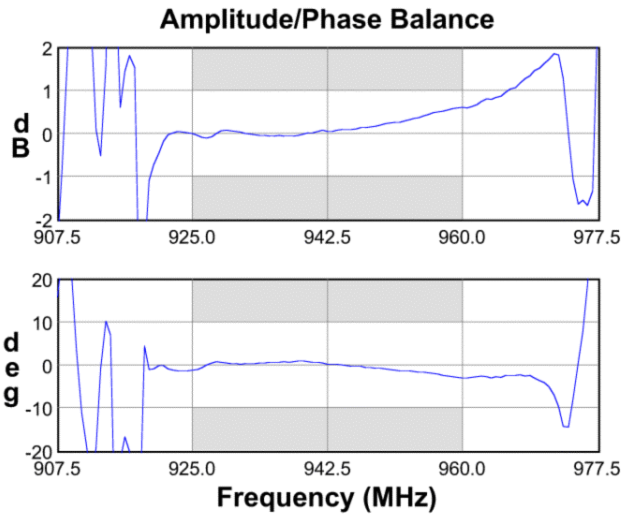
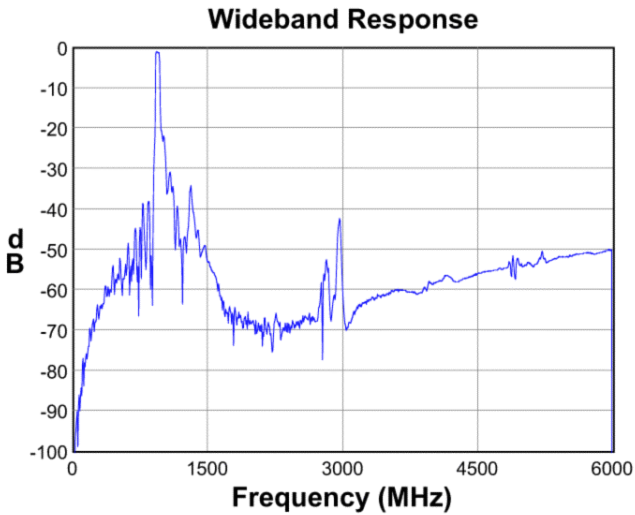
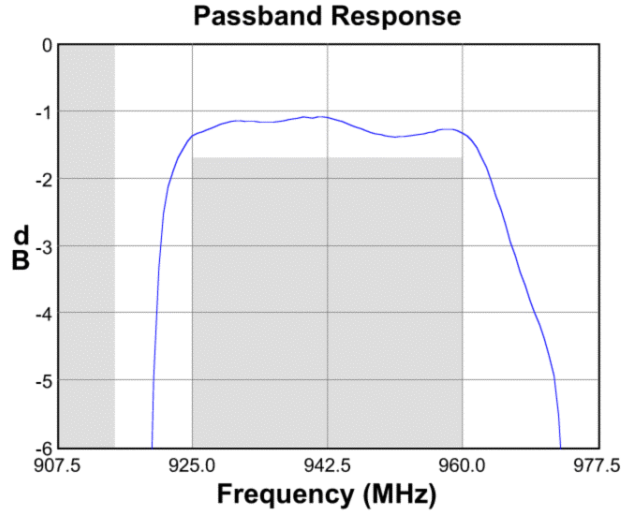
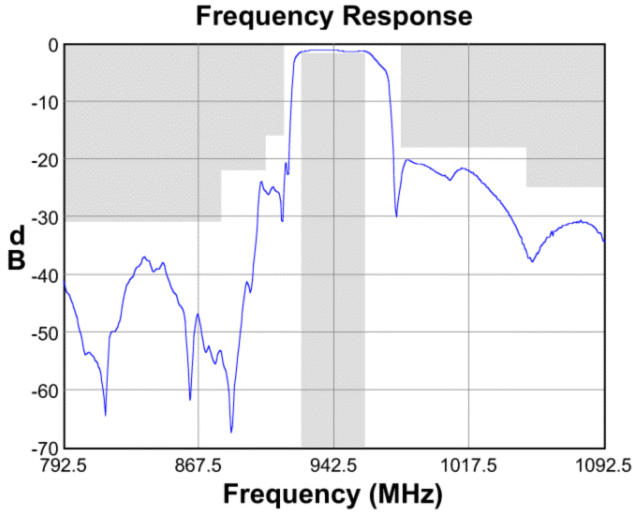
1. All specifications are based on the test circuit shown below
2. In production, devices will be tested at room temperature to a guardbanded specification to ensure electrical compliance over temperature
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4. This is the optimum impedance in order to achieve the performance shown

Test Circuit:



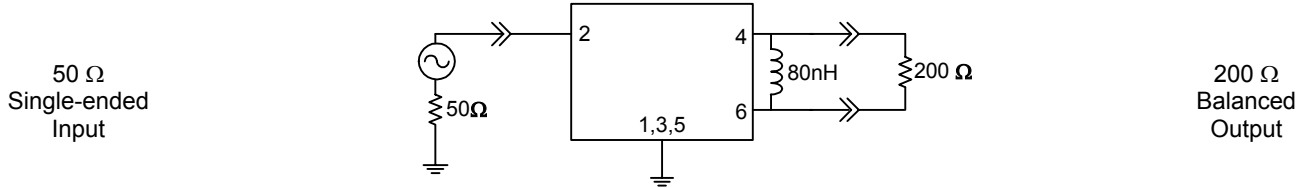
Data Sheet

Typical Performance (at +25°C)

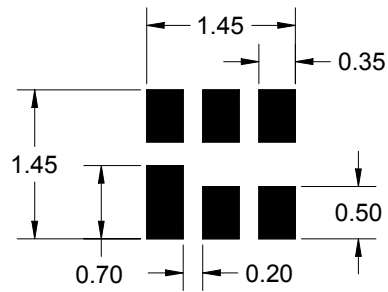
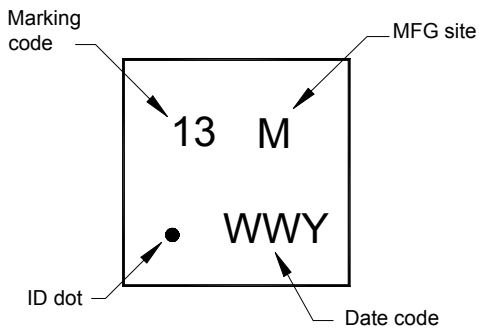


Data Sheet

Matching Schematics



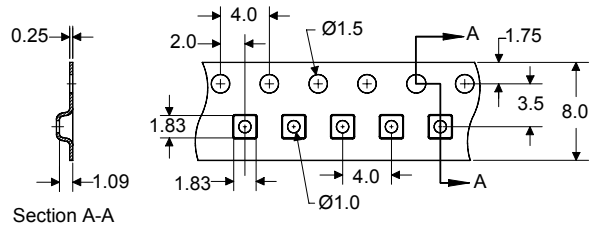
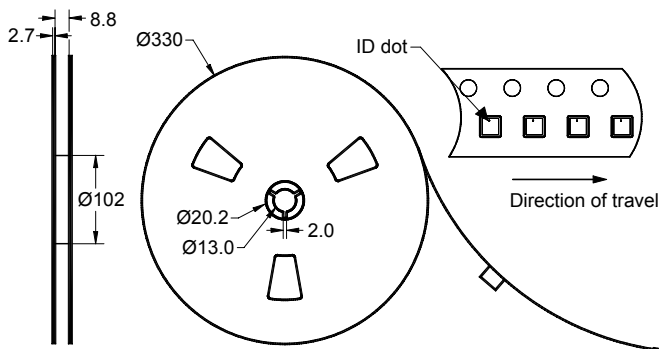
Marking PCB Footprint



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

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

Data Sheet

Maximum Ratings

Parameter	Symbol	Minimum	Maximum	Unit
Operating Temperature Range	T	-25	+80	°C
Storage Temperature Range	T _{stg}	-40	+85	°C

Warnings

- Electrostatic Sensitive Device (ESD) 
- Avoid ultrasonic exposure

Material Content

- Does not contain lead (Pb) or other RoHS restricted materials

Links to Additional Technical Information

[PCB Layout Tips](#)

[Qualification Flowchart](#)

[Soldering Profile](#)

[S-Parameters](#)

[Other Technical Information](#)

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 Network of [sales offices](#),
[Representatives or distributors](#)