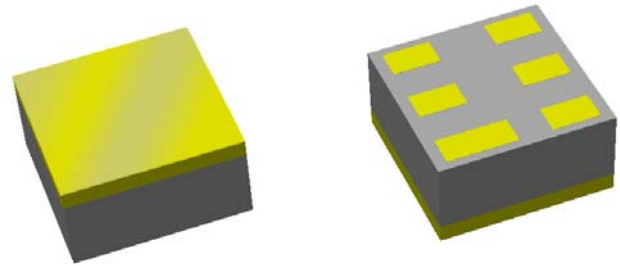


# Data Sheet

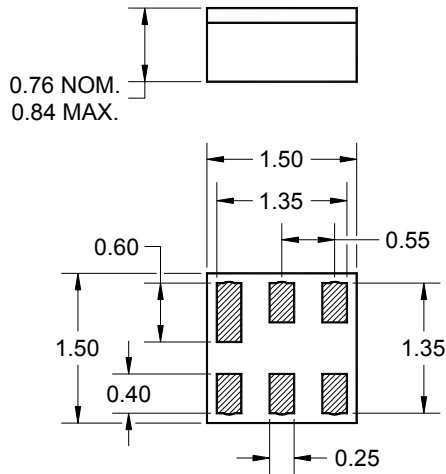
## Features

- 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

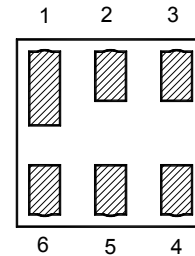


Dimensions shown are nominal in millimeters  
 All tolerances are  $\pm 0.10$ mm

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

## Pin Configuration

Bottom View



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

# Data Sheet

## Electrical Specifications <sup>(1)</sup>

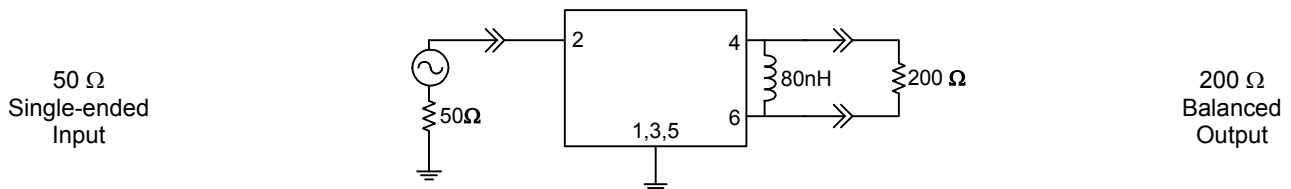
Operating Temperature Range: <sup>(2)</sup> +25 °C

Parameter <sup>(3)</sup>	Minimum	Typical	Maximum	Unit
<b>Center Frequency</b>	-	942.5	-	MHz
<b>Maximum Insertion Loss</b> 925 - 960 MHz	-	1.35	1.7	dB
<b>Amplitude Variation</b> 925 - 960 MHz	-	0.3	0.8	dB
<b>Absolute Attenuation</b>				
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
<b>Output Amplitude Balance ( S<sub>31</sub>/S<sub>21</sub> )</b> 925 - 960 MHz	-1	0.8	1	dB
<b>Output Phase Balance [Φ(S<sub>31</sub>)-ΦS<sub>21</sub>+180]</b> 925 - 960 MHz	-10	3.5	10	degree
<b>Input/Output VSWR</b> 925 - 960 MHz	-	1.9	2.5	
<b>Source Impedance <sup>(4)</sup></b>	-	50	-	Ω
<b>Load Impedance (Balanced) <sup>(4)</sup></b>	-	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 <sup>(1)</sup>

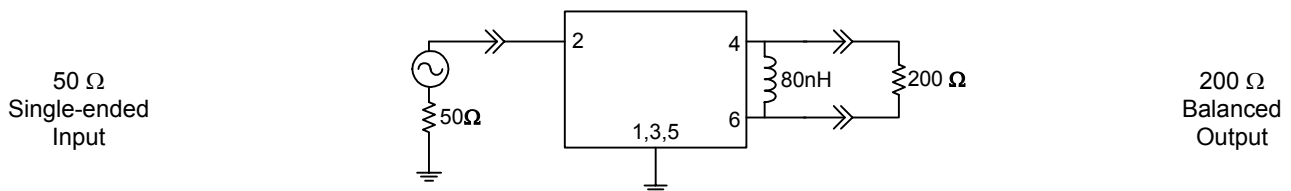
Operating Temperature Range: <sup>(2)</sup> -10 to +80 °C

Parameter <sup>(3)</sup>	Minimum	Typical	Maximum	Unit
<b>Center Frequency</b>	-	942.5	-	MHz
<b>Maximum Insertion Loss</b> 925 - 960 MHz	-	1.35	2.1	dB
<b>Amplitude Variation</b> 925 - 960 MHz	-	0.3	1.1	dB
<b>Absolute Attenuation</b>				
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
<b>Output Amplitude Balance ( S<sub>31</sub>/S<sub>21</sub> )</b> 925 - 960 MHz	-1	0.8	1	dB
<b>Output Phase Balance [Φ(S<sub>31</sub>)-ΦS<sub>21</sub>+180]</b> 925 - 960 MHz	-10	3.5	10	degree
<b>Input/Output VSWR</b> 925 - 960 MHz	-	1.9	2.5	
<b>Source Impedance <sup>(4)</sup></b>	-	50	-	Ω
<b>Load Impedance (Balanced) <sup>(4)</sup></b>	-	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
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**Test Circuit:**



# Data Sheet

## Electrical Specifications <sup>(1)</sup>

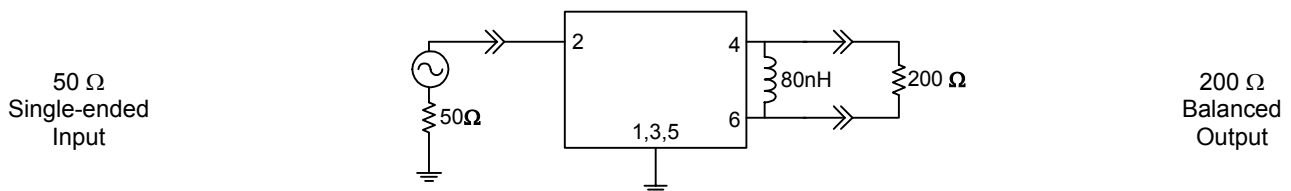
Operating Temperature Range: <sup>(2)</sup> -25 to +80 °C

Parameter <sup>(3)</sup>	Minimum	Typical	Maximum	Unit
<b>Center Frequency</b>	-	942.5	-	MHz
<b>Maximum Insertion Loss</b>				
925 - 960 MHz	-	1.35	2.3	dB
925 - 960 MHz (-10 to +75 °C)	-	1.35	2.1	dB
<b>Amplitude Variation</b>				
925 - 960 MHz	-	0.3	1.3	dB
<b>Absolute Attenuation</b>				
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
<b>Output Amplitude Balance ( S<sub>31</sub>/S<sub>21</sub> )</b>				
925 - 960 MHz	-1	0.8	1	dB
<b>Output Phase Balance [Φ(S<sub>31</sub>)-ΦS<sub>21</sub>+180]</b>				
925 - 960 MHz	-10	3.5	10	degree
<b>Input/Output VSWR</b>				
925 - 960 MHz	-	1.9	2.5	
<b>Source Impedance <sup>(4)</sup></b>	-	50	-	Ω
<b>Load Impedance (Balanced) <sup>(4)</sup></b>	-	200  80nH	-	Ω

**Notes:**

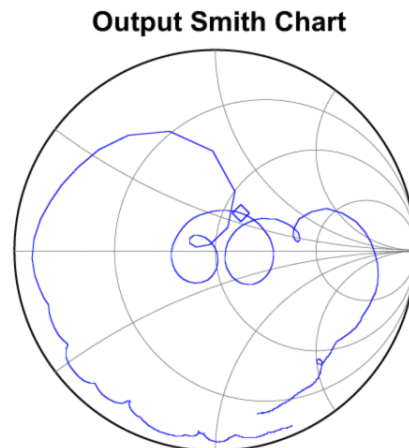
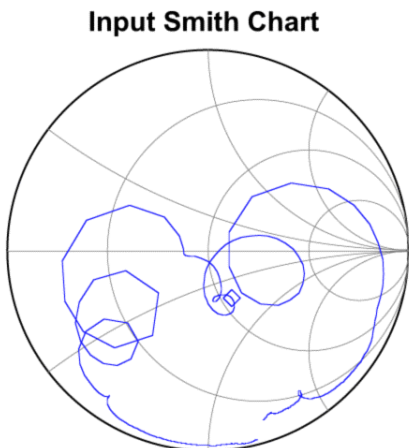
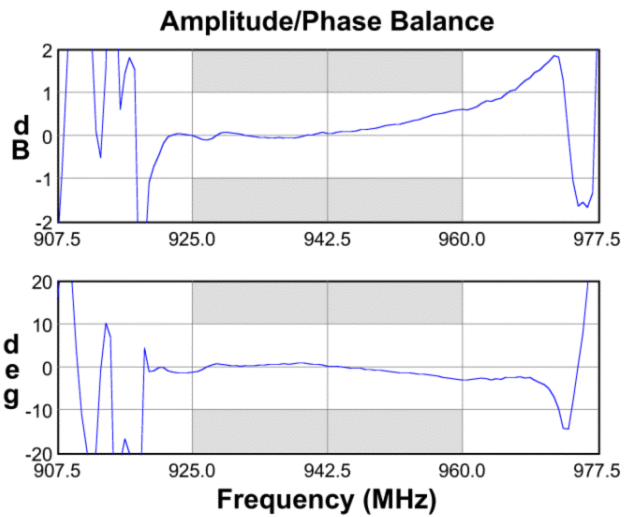
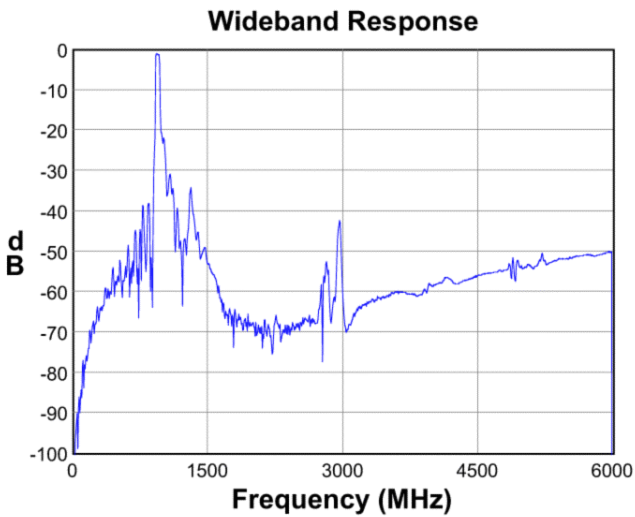
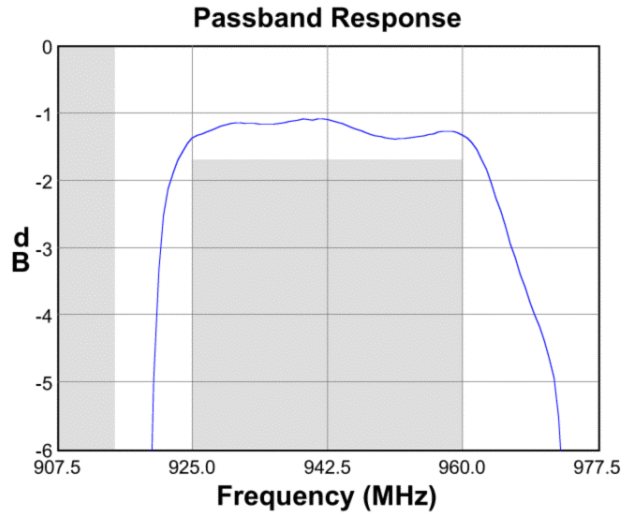
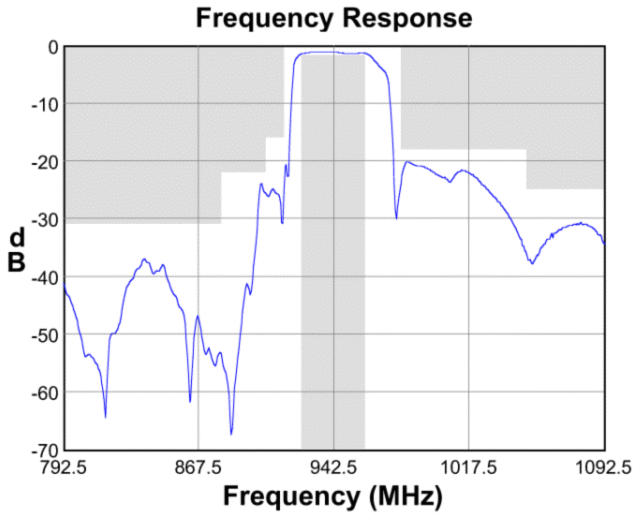
1. All specifications are based on the test circuit shown below
2. In production, devices will be tested at room temperature to a guardbanded specification to ensure electrical compliance over temperature
3. Electrical margin has been built into the design to account for the variations due to temperature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

**Test Circuit:**



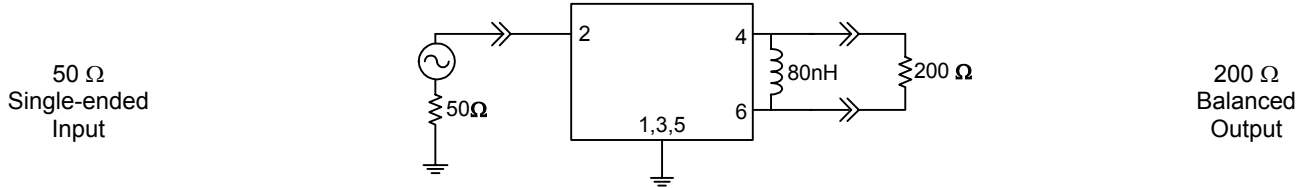
**Data Sheet**

**Typical Performance (at +25°C)**

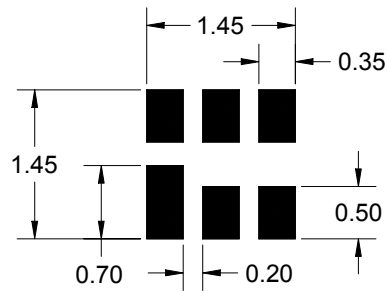
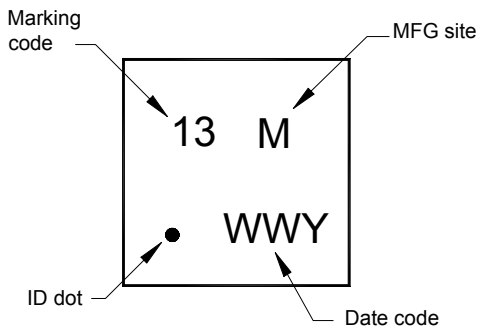


**Data Sheet**

**Matching Schematics**



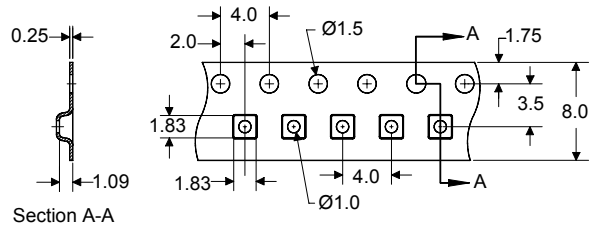
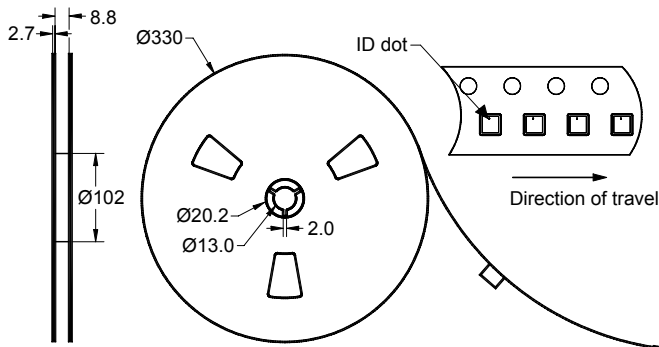
**Marking PCB Footprint**



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 <sub>stg</sub>	-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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## Contact Information



PO Box 609501  
 Orlando, FL 32860-9501  
 USA

Phone: +1 (407) 886-8860  
 Fax: +1 (407) 886-7061  
 Email: [custservice@sawtek.com](mailto:custservice@sawtek.com)  
 Web: [www.sawtek.com](http://www.sawtek.com)

Or contact one of our worldwide  
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[Representatives or distributors](#)