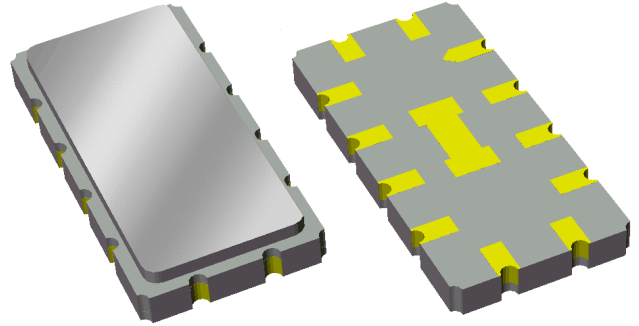


**Data Sheet**

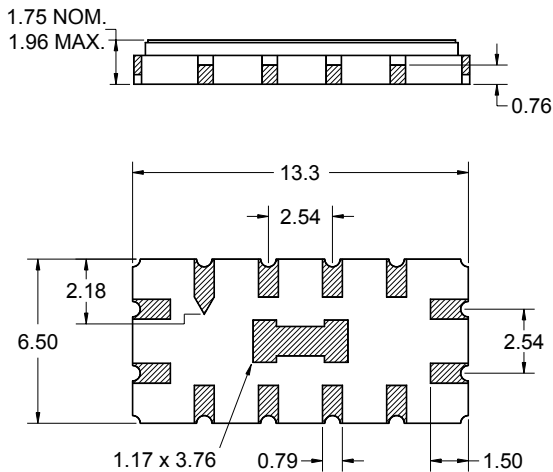
**Features**

- For GSM/EDGE applications
- Usable bandwidth 400 KHz
- Single-ended and differential operation
- Ceramic Surface Mount Package (SMP)
- Small size



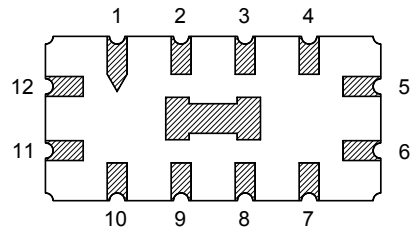
**Package**

Surface Mount 13.3 x 6.50 x 1.75 mm



**Pin Configuration**

Bottom View



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

Dimensions shown are nominal in millimeters  
All tolerances are  $\pm 0.15$ mm except overall  
length and width  $\pm 0.10$ mm

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

# Data Sheet

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

Operating Temperature Range: <sup>(2)</sup> -10 to +85 °C

Parameter <sup>(3)</sup>	Minimum	Typical	Maximum	Unit
<b>Center Frequency</b>	-	208	-	MHz
<b>Insertion Loss at Fo</b>	4	5.0	7	dB
<b>1 dB Lower Frequency</b>	-	207.724	207.8	MHz
<b>1 dB Upper Frequency</b>	208.2	208.340	-	MHz
<b>8 dB Lower Frequency</b>	207.4	207.498	-	MHz
<b>8 dB Upper Frequency</b>	-	208.571	208.6	MHz
<b>20 dB Lower Frequency</b>	206.8	207.294	-	MHz
<b>20 dB Upper Frequency</b>	-	208.774	209.2	MHz
<b>Amplitude Variation</b> 207.8 - 208.2 MHz	-	0.38	1	dB p-p
<b>Group Delay Variation</b> 207.8 - 208.2 MHz	-	172	300	nsec
<b>Absolute Delay</b> 207.8 - 208.2 MHz	0.7	1.113	1.7	µsec
<b>Absolute Attenuation</b> 10 - 195 MHz	55	63	-	dB
195.0 - 198.5 MHz	43	62	-	dB
198.5 - 202.0 MHz	40	51	-	dB
202.0 - 204.6 MHz	34	45	-	dB
204.6 - 206.2 MHz	25	39	-	dB
206.2 - 206.8 MHz	20	31	-	dB
209.2 - 209.8 MHz	20	33	-	dB
209.8 - 211.4 MHz	25	37	-	dB
211.4 - 214.0 MHz	34	45	-	dB
214.0 - 217.5 MHz	40	53	-	dB
217.5 - 221.0 MHz	43	55	-	dB
221.0 - 450.0 MHz	55	60	-	dB
<b>Input/Output VSWR</b> 207.8 - 208.2 MHz	-	1.46/1.54	2.3	-
<b>Source Impedance <sup>(4)</sup></b>	-	50	-	Ω
<b>Load Impedance <sup>(4)</sup></b>	-	50	-	Ω

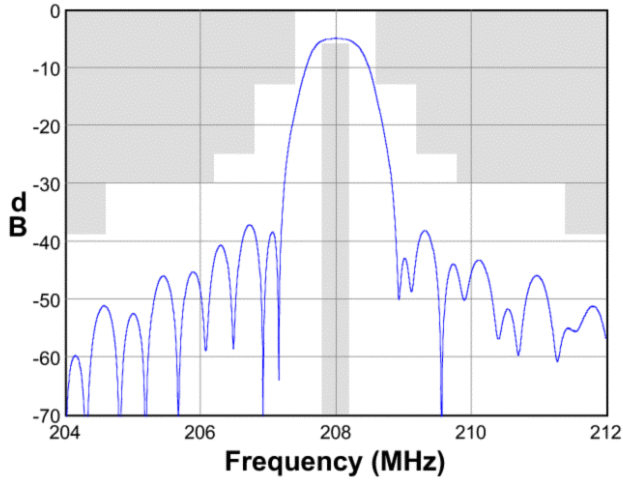
### Notes:

1. All specifications are based on the test circuit shown on page 4
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

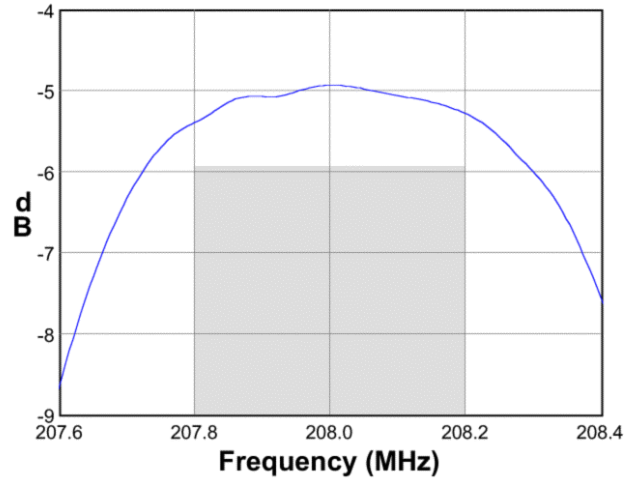
**Data Sheet**

**Typical Performance (at +25°C)**

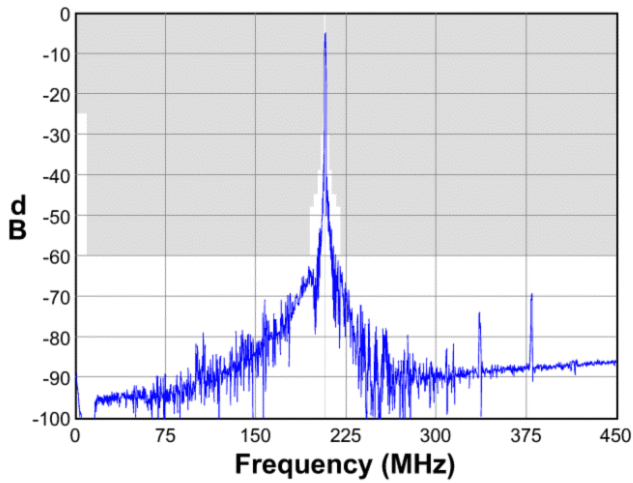
**Frequency Response**



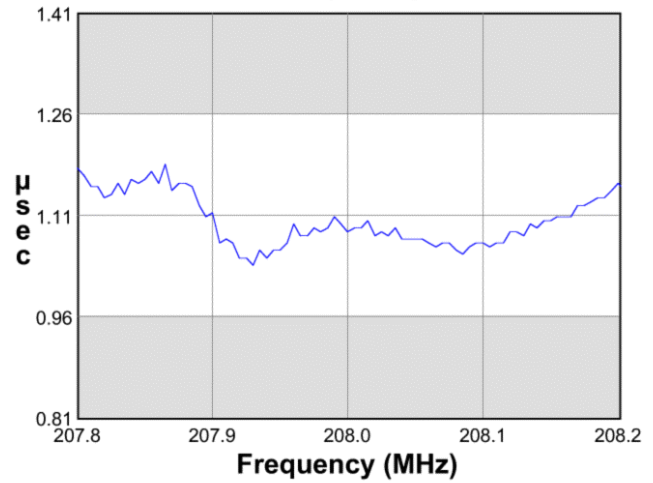
**Passband Response**



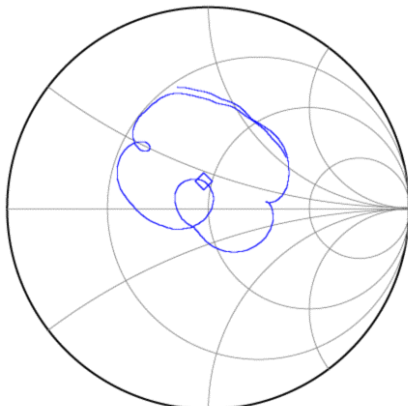
**Wideband Response**



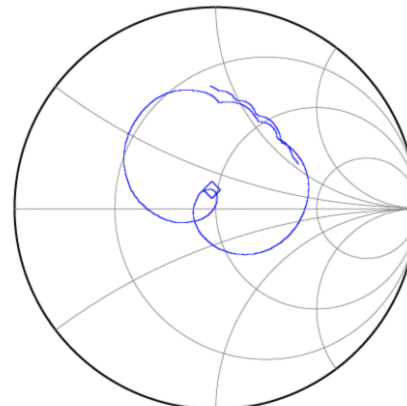
**Group Delay**



**Input Smith Chart**



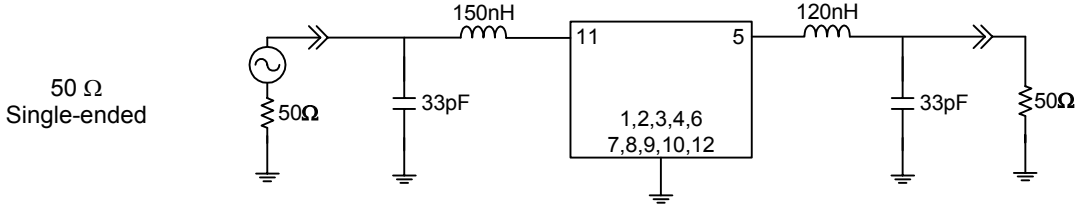
**Output Smith Chart**



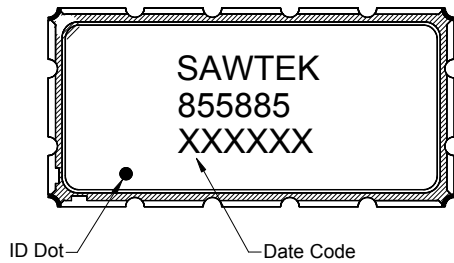
**Data Sheet**

**Matching Schematics**

Actual matching values may vary due to PCB layout and parasitics

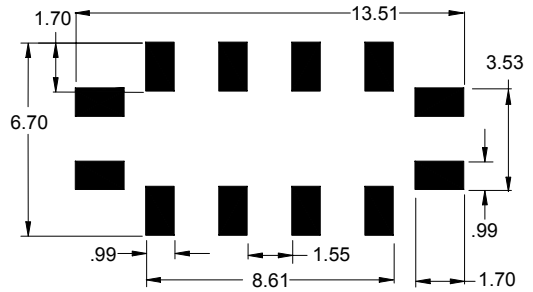


**Marking**



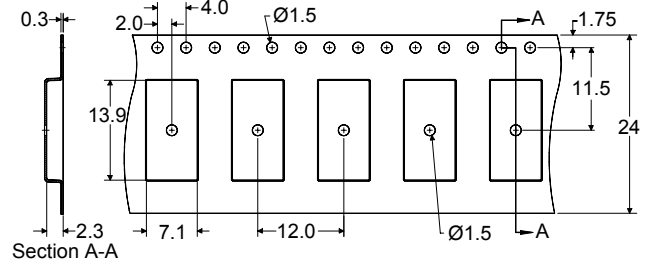
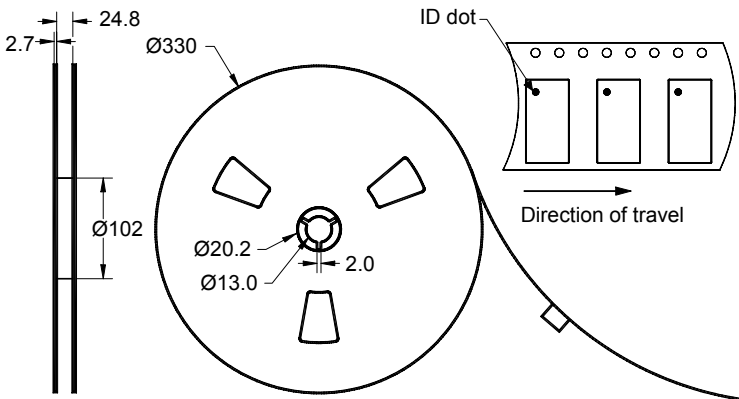
The date code consists of: day of the current year (Julian, 3 digits), last digit of the year (1 digit) and hour (2 digits)

**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

# Data Sheet

## Maximum Ratings

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Operating Temperature Range	T	-10	+25	+85	°C
Storage Temperature Range	T <sub>stg</sub>	-40	-	+125	°C
Input Power	P <sub>in</sub>	-	-	10	dBm

### Warnings

- Electrostatic Sensitive Device (ESD) 
- Avoid ultrasonic exposure

## Links to Additional Technical Information

[PCB Layout Tips](#)

[Qualification Flowchart](#)

[Soldering Profile](#)

[S-Parameters](#)

[Other Technical Information](#)

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