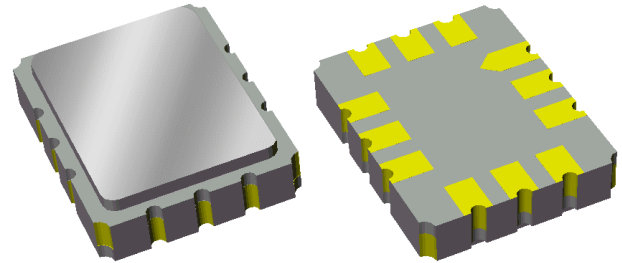


Data Sheet

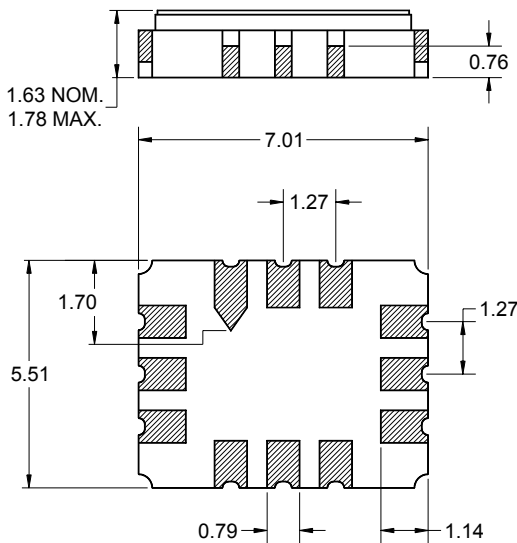
Features

- For PCS handset IF applications
- Usable bandwidth of 1.260 MHz
- Low loss
- High attenuation at tones
- Single-ended or balanced operation
- Ceramic Surface Mount Package (SMP)
- Small size



Package

Surface Mount 5.51 x 7.01 x 1.63 mm

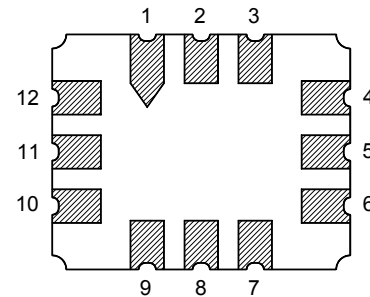


Dimensions shown are nominal in millimeters
 All tolerances are ± 0.15 mm except overall
 length and width ± 0.13 mm

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

Pin Configuration

Bottom View



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

Data Sheet

Electrical Specifications ⁽¹⁾

Operating Temperature Range: ⁽²⁾ -30 to +80 °C

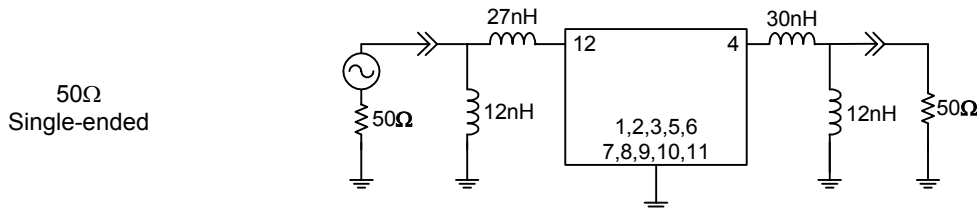
Parameter ⁽³⁾	Minimum	Typical	Maximum	Unit
Center Frequency, f_0	-	220.38	-	MHz
Insertion Loss at 220.38 MHz	-	7.2	9	dB
Lower 5 dB Point	-	219.64	219.75	MHz
Upper 5 dB Point	221.01	221.20	-	MHz
Lower 33 dB Point	219.13	219.29	-	MHz
Upper 33 dB Point	-	221.55	221.63	MHz
Amplitude Variation 220.08 - 220.68 MHz	-	0.5	1.2	dB p-p
Phase Ripple 219.765 - 220.995 MHz	-	2.1	3.5	deg RMS
Attenuation ⁽⁴⁾				
219.13 MHz (+25 °C)	35	44	-	dB
221.63 MHz (+25 °C)	35	42	-	dB
218.33 MHz	-	48	-	dB
222.43 MHz	-	48	-	dB
Source Impedance ⁽⁵⁾	-	50	-	Ω
Load Impedance ⁽⁵⁾	-	50	-	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. Relative to insertion loss at 220.38 MHz
5. This is the optimum impedance in order to achieve the performance shown

Test Circuit:

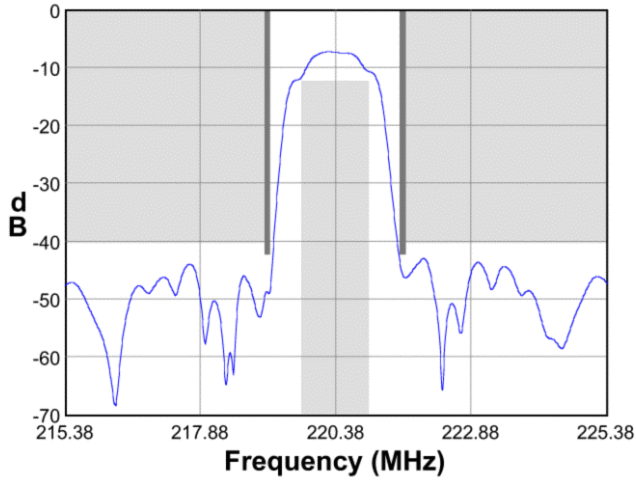
Actual matching values may vary due to PCB layout and parasitics



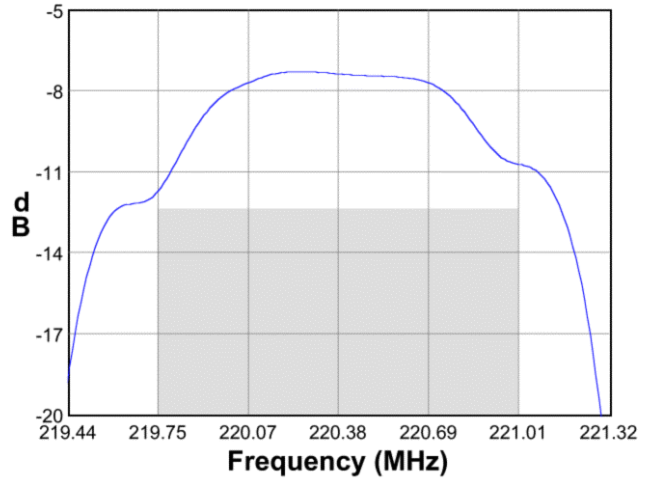
Data Sheet

Typical Performance (at +25°C)

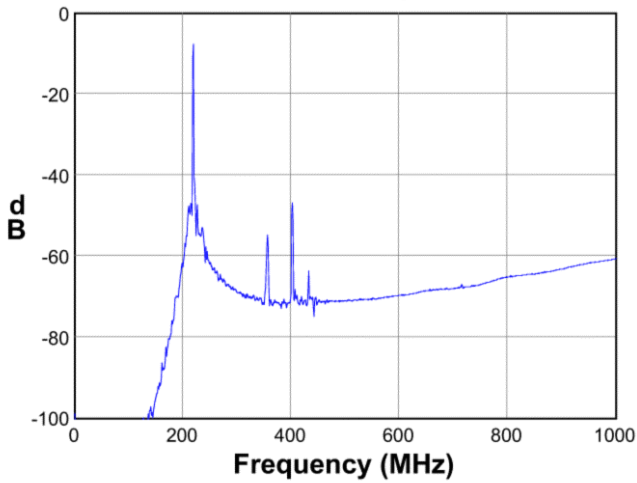
Frequency Response



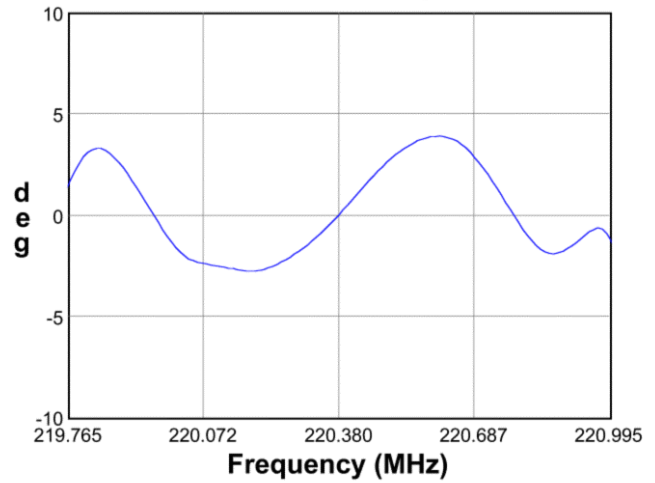
Passband Response



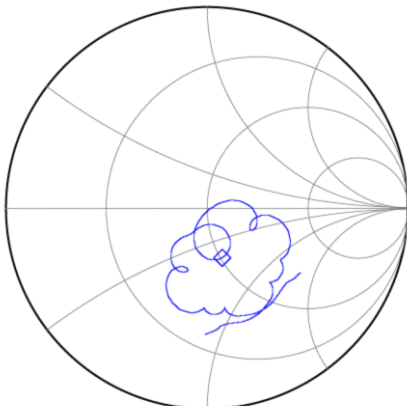
Wideband Response



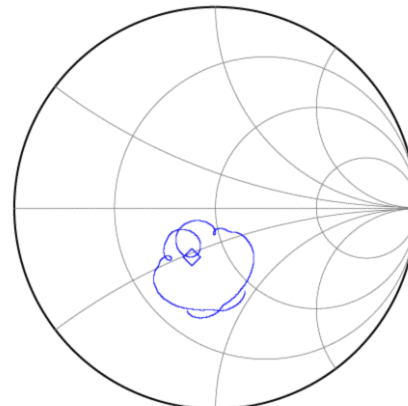
Phase Linearity



Input Smith Chart



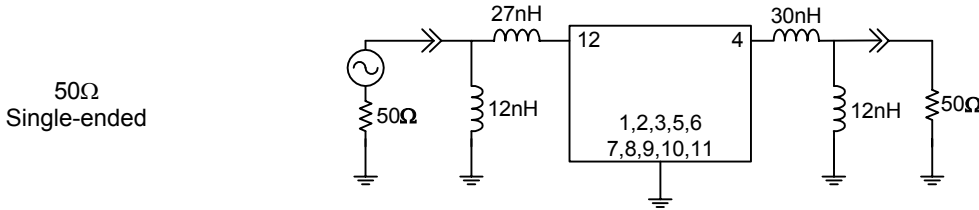
Output Smith Chart



Data Sheet

Matching Schematics

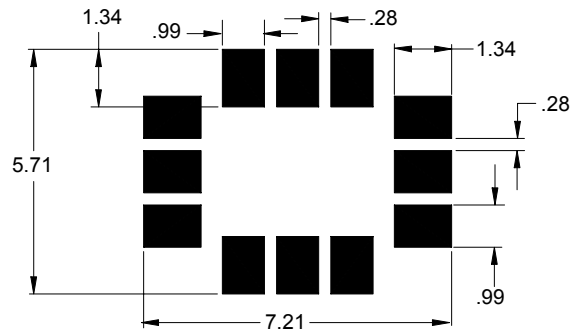
Actual matching values may vary due to PCB layout and parasitics



Marking

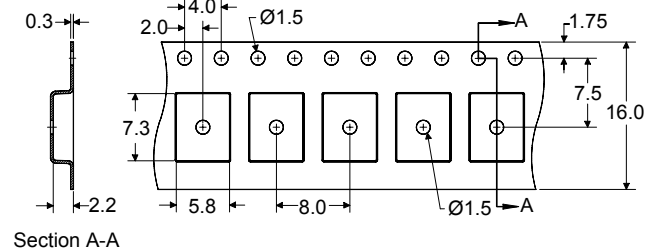
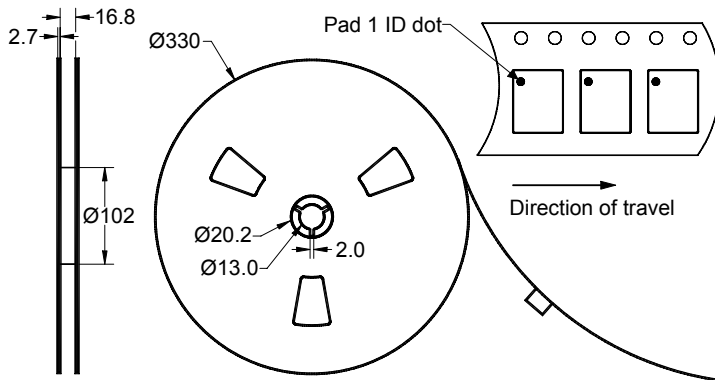


PCB Footprint



This footprint represents a recommendation only
Dimensions shown are nominal in millimeters

Tape and Reel




Dimensions shown are nominal in millimeters
Packaging quantity: 3000 units/reel

Data Sheet

Maximum Ratings

Parameter	Symbol	Minimum	Maximum	Unit
Operating Temperature Range	T	-30	+80	°C
Storage Temperature Range	T _{stg}	-40	+85	°C

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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[representatives or distributors](#)