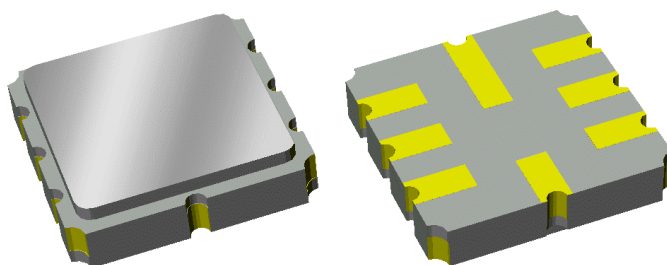


Preliminary Data Sheet

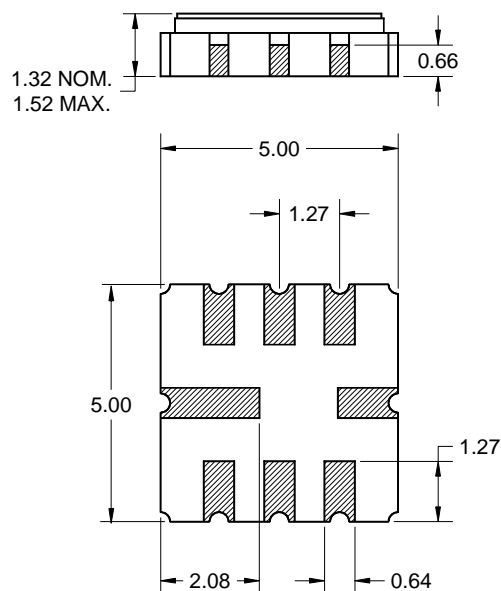
Features

- 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



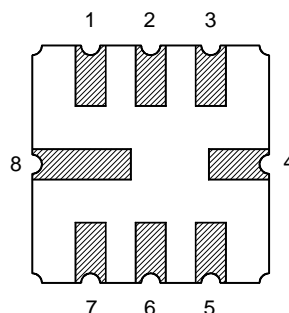
Package

Surface Mount 5.00 x 5.00 x 1.32 mm



Pin Configuration

Bottom View



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

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

Preliminary Data Sheet

Electrical Specifications ⁽¹⁾

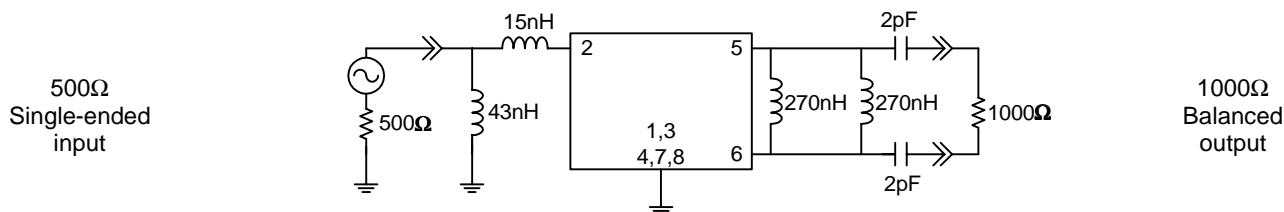
Operating Temperature Range: ⁽²⁾ -30 to +80 °C

Parameter ⁽³⁾	Minimum	Typical	Maximum	Unit
Center Frequency, f_0	-	220.38	-	MHz
Insertion Loss at 220.38 MHz				
Excluding losses due to matching	-	6.0	8.0	dB
Including losses in matching test circuit shown below	-	9.0	11.0	dB
Lower 5 dB Point	-	-	219.75	MHz
Upper 5 dB Point	221.01	-	-	MHz
Amplitude Variation 220.08 - 220.68 MHz	-	0.4	1.2	dB p-p
Phase Ripple 219.765 - 220.995 MHz	-	1.90	3.5	deg RMS
Attenuation ⁽⁴⁾				
219.13 MHz	35	40	-	dB
221.63 MHz	35	41	-	dB
218.33 MHz	33	38	-	dB
222.43 MHz	33	41	-	dB
Optimal Source Impedance: ⁽⁵⁾	-	1380 Ω 71nH	-	Ω
Optimal Load Impedance: ⁽⁵⁾	-	4300 Ω 164nH	-	Ω

Notes:

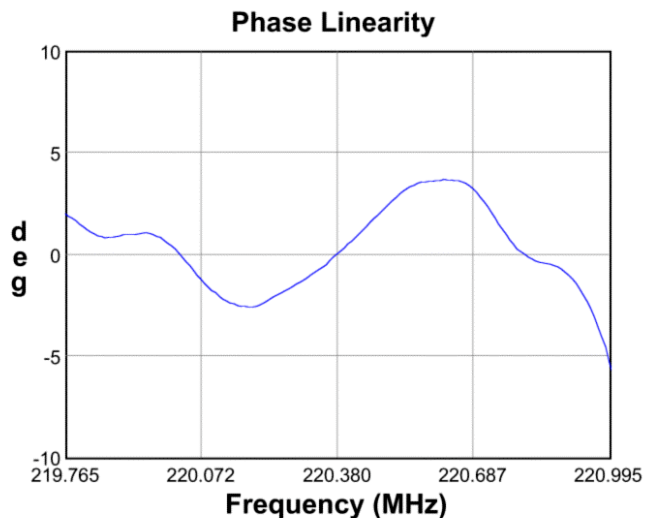
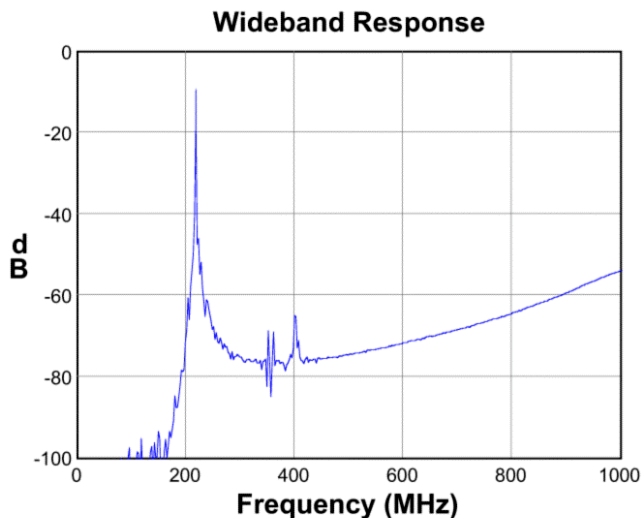
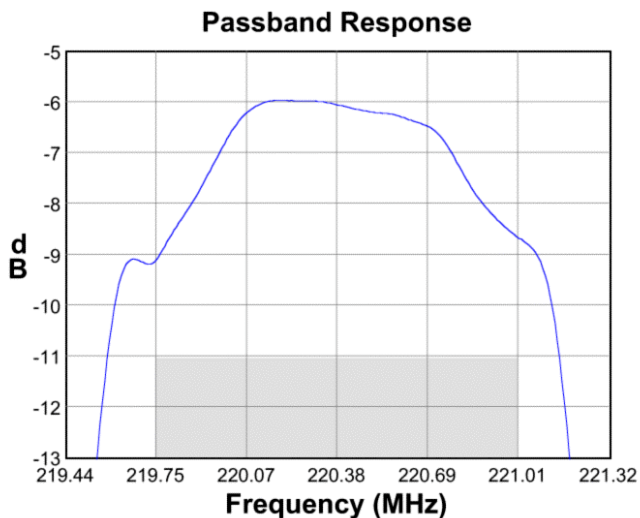
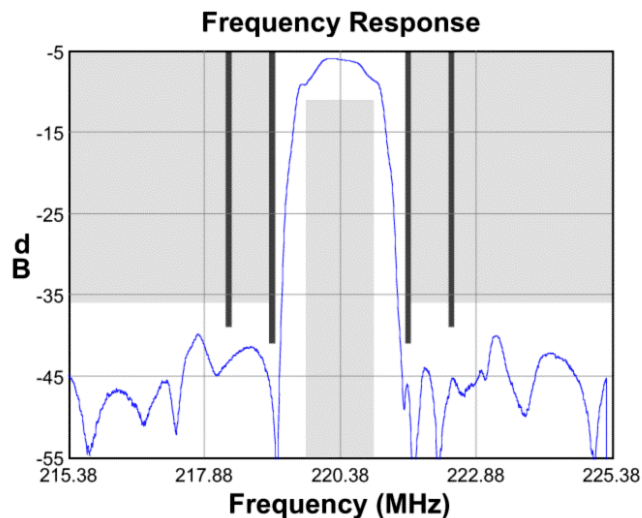
1. All specifications are based on the test circuit shown below
2. In production, devices will be tested at room temperature to a guardbanded specification to ensure electrical compliance over temperature
3. Electrical margin has been built into the design to account for the variations due to temperature drift and manufacturing tolerances
4. Relative to insertion loss at 220.38 MHz
5. This is the complex conjugate of the unmatched filter's impedance resulting in maximum power transfer

Test Circuit:

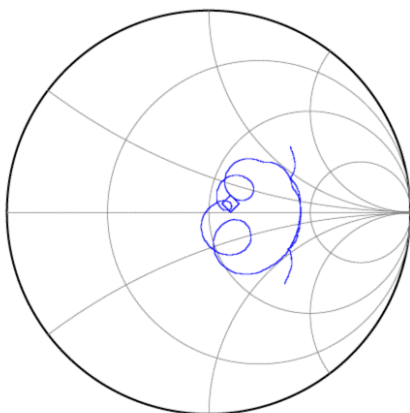


Preliminary Data Sheet

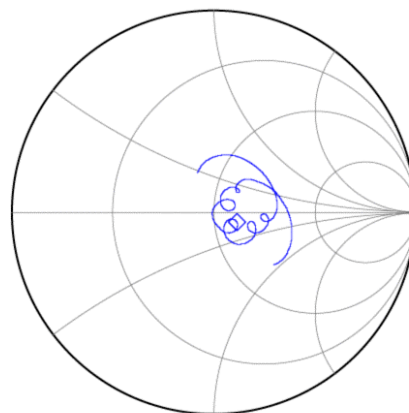
Typical Performance (at +25°C)



Input Smith Chart



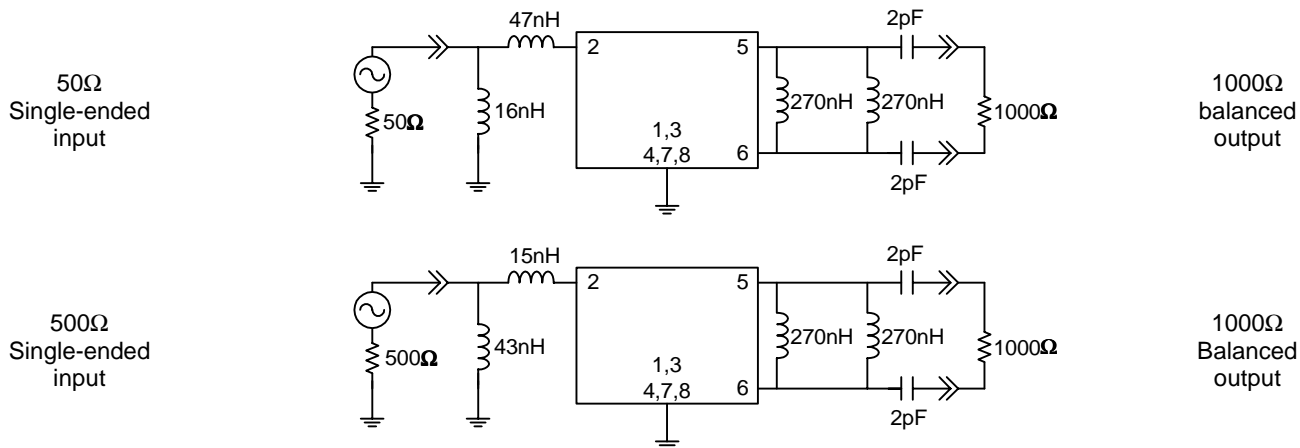
Output Smith Chart



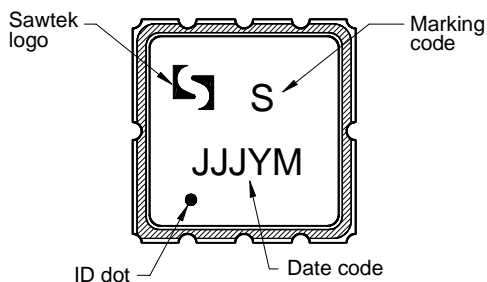
Preliminary Data Sheet

Matching Schematics

Actual matching values may vary due to PCB layout and parasitics

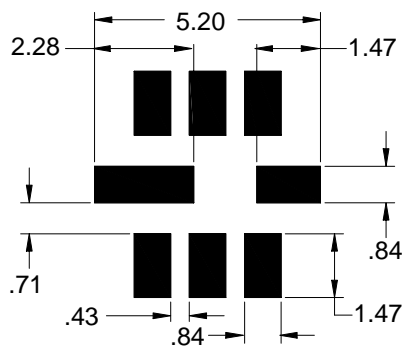


Marking



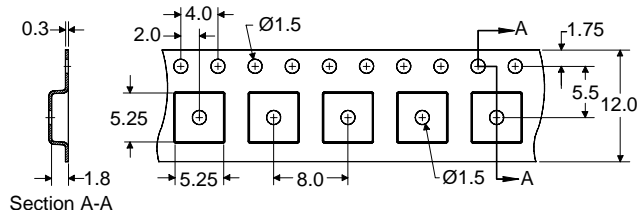
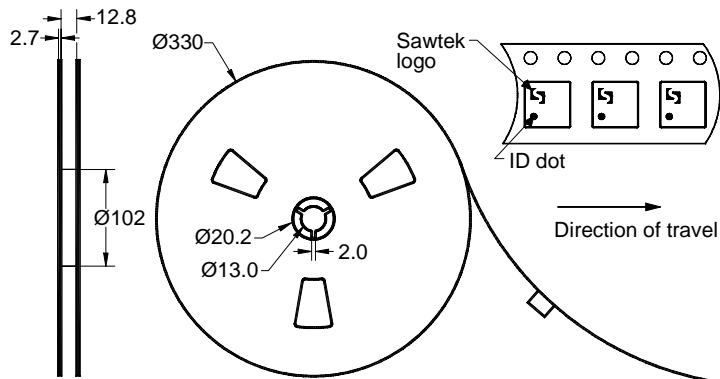
The date code consists of: JJJ = Julian day,
Y = last digit of year, M = manufacturing site code

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: 4000 units/reel

Preliminary 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](#)[Reel and Packaging Label](#)[Other Technical Information](#)

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network of [sales offices](#),
[representatives or distributors](#)