

# Data Sheet

## QF2100Q06A

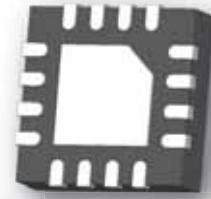
### Quadrifilar Directional Coupler

### 1980 MHz-2200 MHz



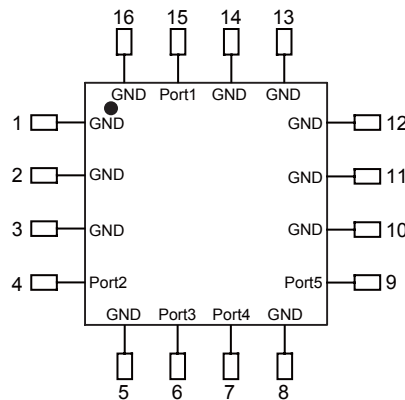
## Features

- Ultra Small Size (3×3mm)
- Excellent phase & amplitude balance
- Excellent repeatability
- With internal 50 ohm termination ( no need external termination )
- Built with leading edge RFIC design technology
- Have one Input port and four Output port that have 0°, 90°, 180°, 270° of phase difference
- Tape & Reel



## Applications

- GNSS ( Compass, GPS, Glonass, Galileo ) Antenna



TOP VIEW

Port 1	Port 2	Port 3	Port4	Port 5
Input	Output1 -6dB, 0°	Output2 -6dB, -90°	Output3 -6dB, -180°	Output4 -6dB, -270°

## Electrical Specifications at 25° C

Part No.	Freq. Range (MHz) FL~FU	Power (W)	Size LxW (mm)	Typical Return Loss (dB)	Typical Insertion Loss (dB)	Typical Isolation (dB)	Typical Phase Balance (deg)	Typical Amplitude Balance (dB)
QF2100Q06A	1980-2200	5	3X3	12	1	10	90±3	±0.5

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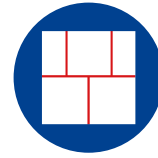
Add : 3F, Building 3, Southern District 2 of Zhongguan Honghualing Industrial Park, Xili, Nanshan, Shenzhen, China  
Tel : 86-755-8355-1886 Fax : 86-755-8355-2533

For detailed performance specs & shopping online see Yantel web site : [www.yantel-corp.com](http://www.yantel-corp.com)

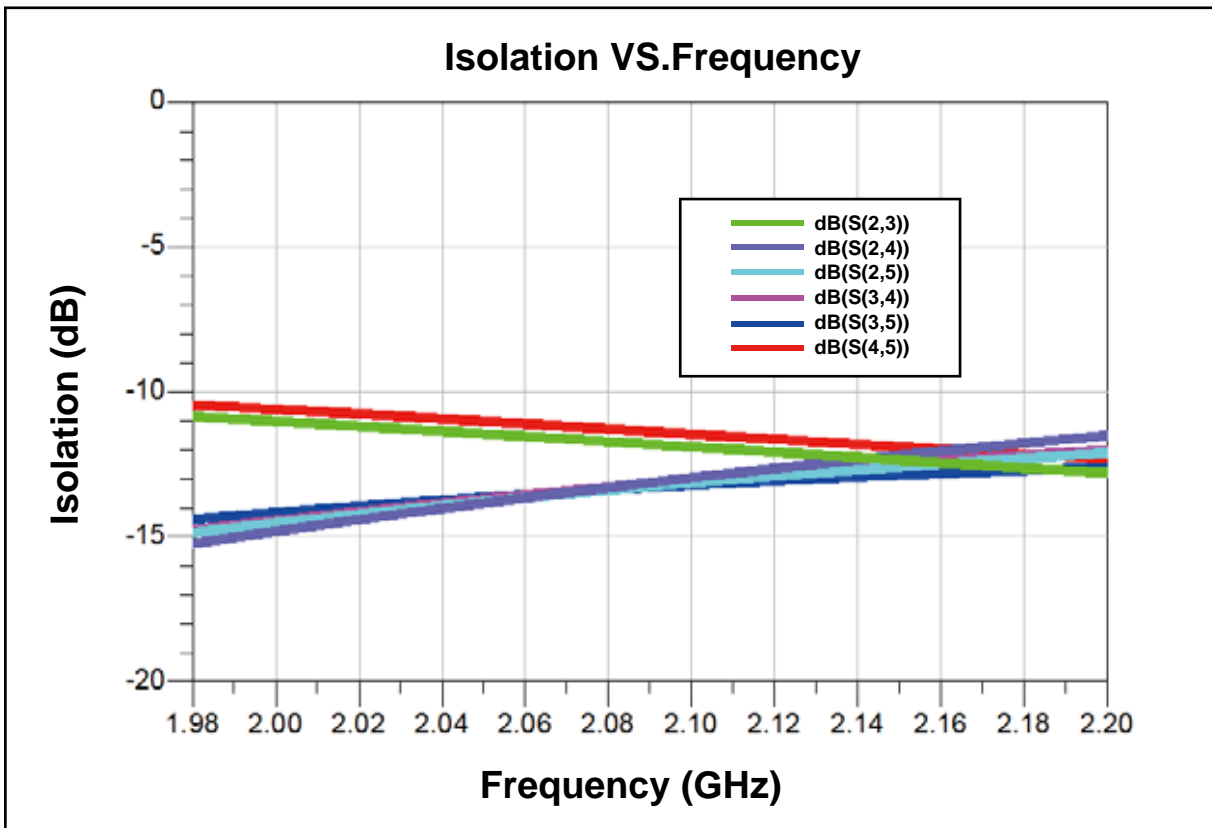
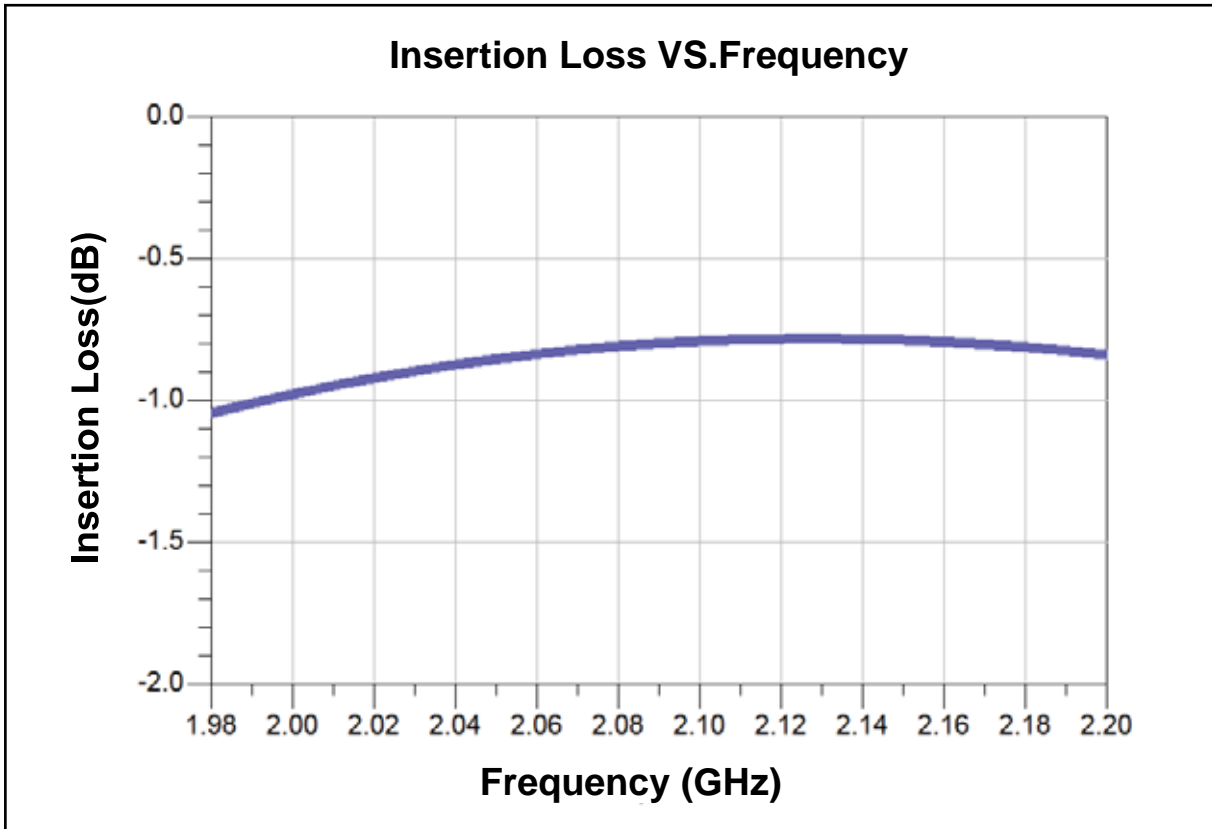
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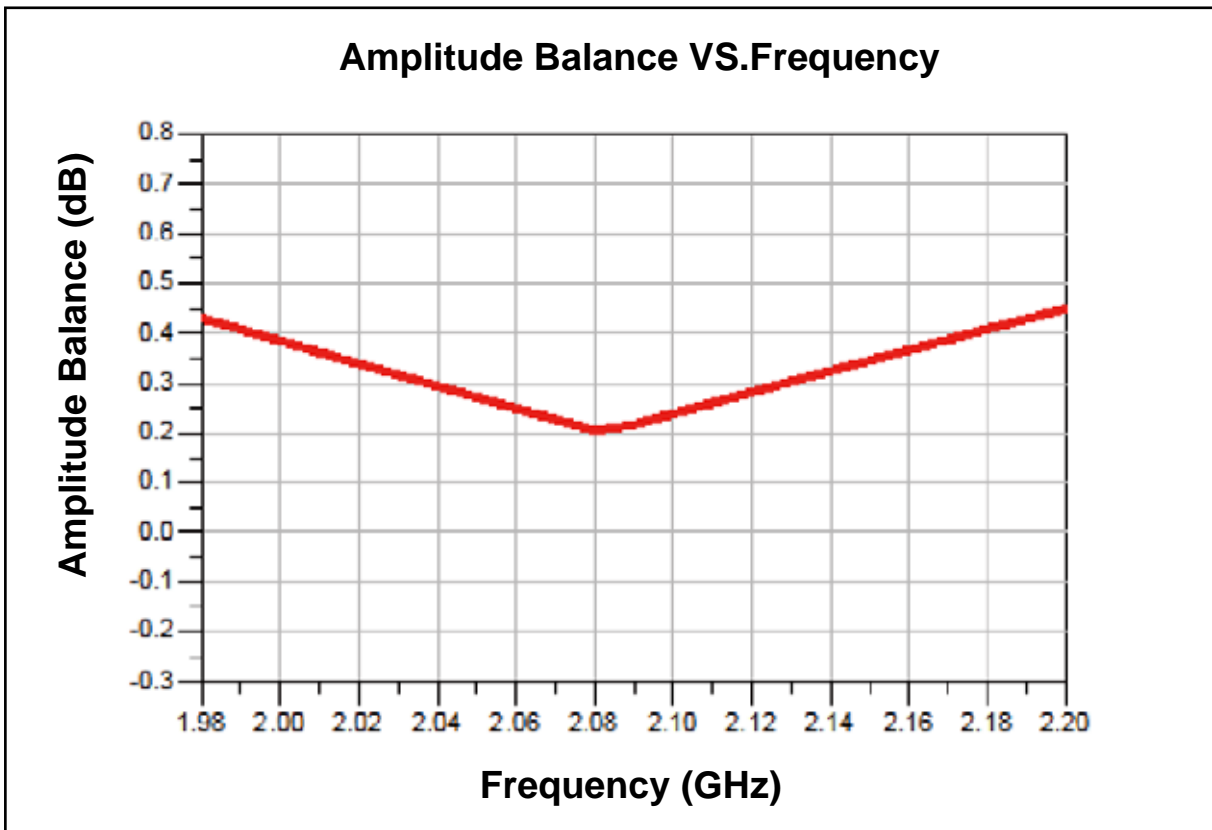
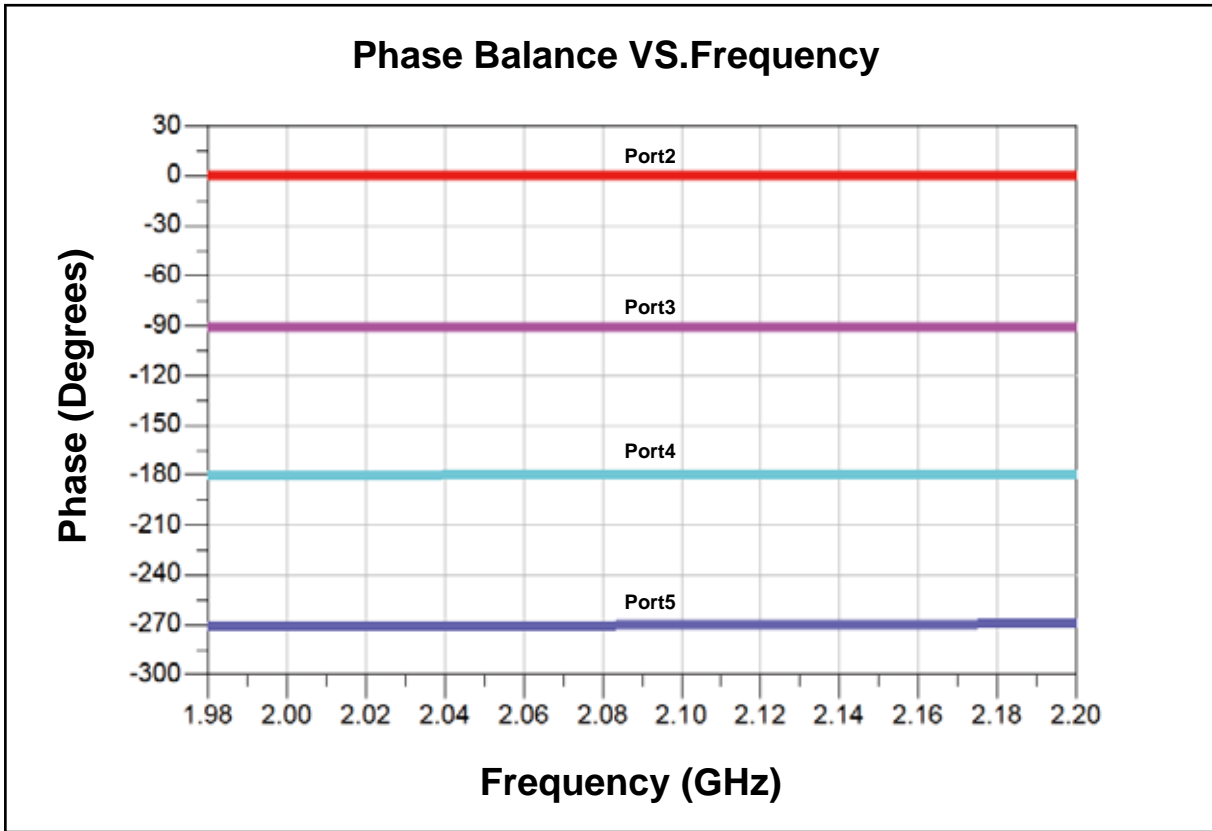
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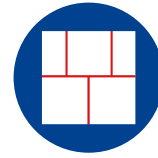
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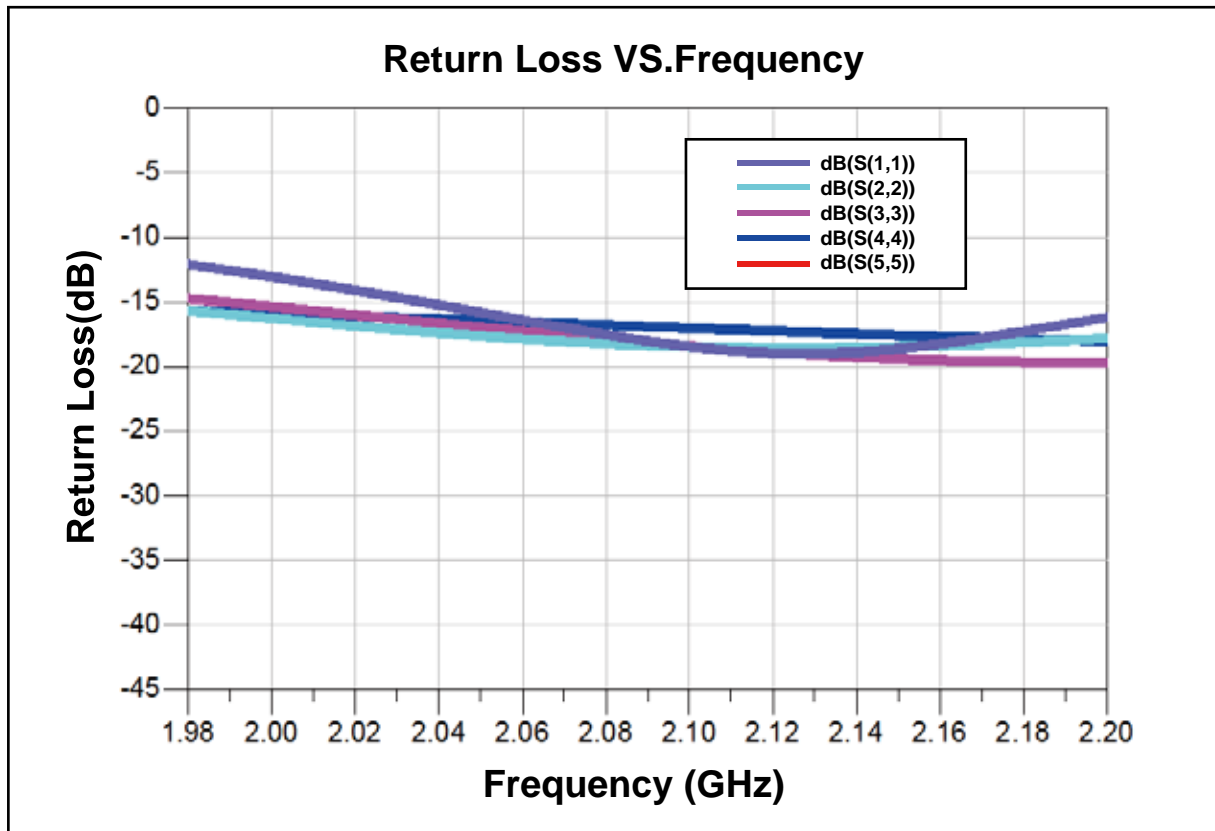
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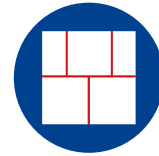
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### Test Method

	S-Parameter[dB]	Power Method[dB]
Output1	S21	$10 \cdot \log \left( \frac{P_{Out 1}}{P_{in}} \right)$
Output2	S31	$10 \cdot \log \left( \frac{P_{Out 2}}{P_{in}} \right)$
Output3	S41	$10 \cdot \log \left( \frac{P_{Out 3}}{P_{in}} \right)$
Output4	S51	$10 \cdot \log \left( \frac{P_{Out 4}}{P_{in}} \right)$
Insertion Loss		$10 \cdot \log \left( \frac{P_{in}}{P_{Out 1} + P_{Out 2} + P_{Out 3} + P_{Out 4}} \right)$
Amplitude Balance		$10 \cdot \log \left( \frac{P_{(Out1 \sim Out4)}}{\frac{P_{Out 1} + P_{Out 2} + P_{Out 3} + P_{Out 4}}{4}} \right)$
Isolation1	S23	$10 \cdot \log \left( \frac{P_{Out 3}}{P_{Out 2}} \right)$
Isolation2	S24	$10 \cdot \log \left( \frac{P_{Out 4}}{P_{Out 2}} \right)$
Isolation3	S25	$10 \cdot \log \left( \frac{P_{Out 5}}{P_{Out 2}} \right)$
Isolation4	S34	$10 \cdot \log \left( \frac{P_{Out 4}}{P_{Out 3}} \right)$
Isolation5	S35	$10 \cdot \log \left( \frac{P_{Out 5}}{P_{Out 3}} \right)$
Isolation6	S45	$10 \cdot \log \left( \frac{P_{Out 5}}{P_{Out 4}} \right)$
Phase Balance1(0°)	Phase <sub>(S21)</sub>	
Phase Balance2(-90°)	Phase <sub>(S31)</sub> -Phase <sub>(S21)</sub>	
Phase Balance3(-180°)	Phase <sub>(S41)</sub> -Phase <sub>(S21)</sub>	
Phase Balance4(-270°)	Phase <sub>(S51)</sub> -Phase <sub>(S21)</sub>	

$P_{in}$  : Power of Input Port1       $P_{Out 1}$  : Power of Output Port2  
 $P_{Out 2}$  : Power of Output Port3       $P_{Out 3}$  : Power of Output Port4  
 $P_{Out 4}$  : Power of Output Port5

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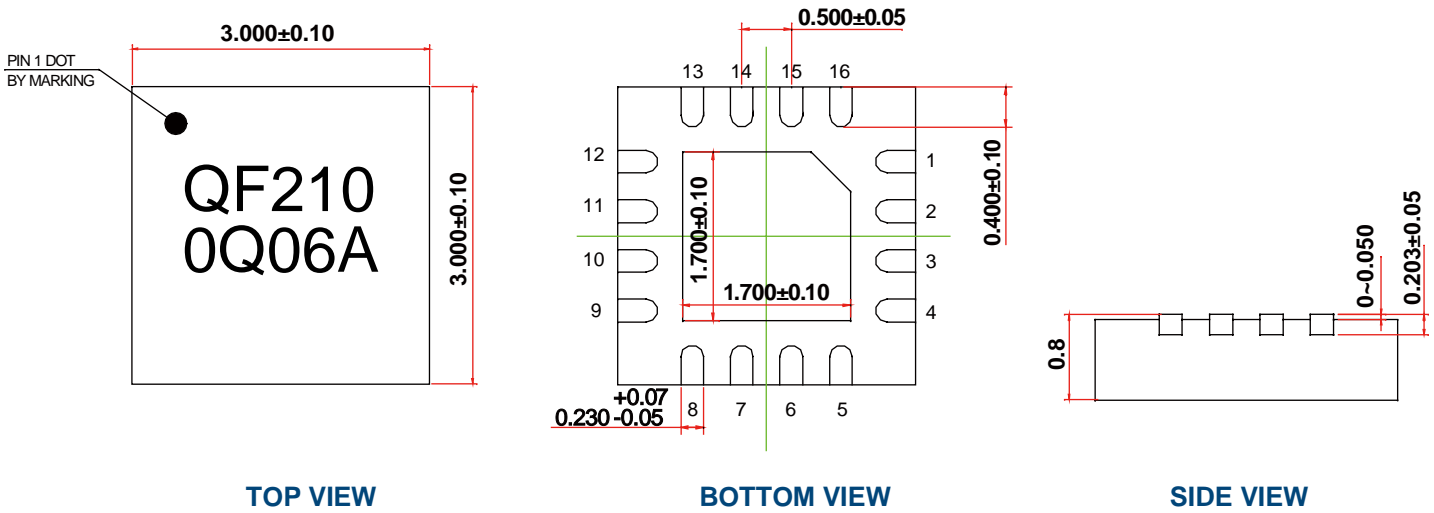
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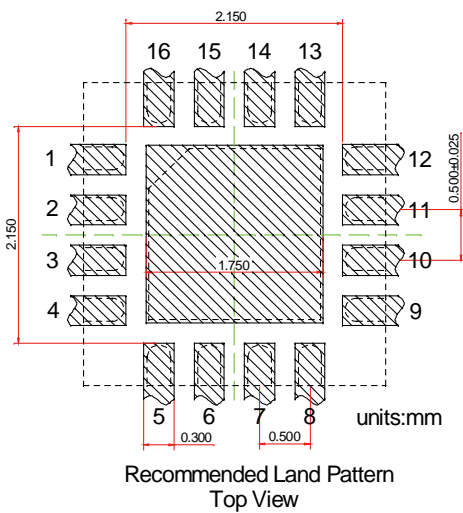
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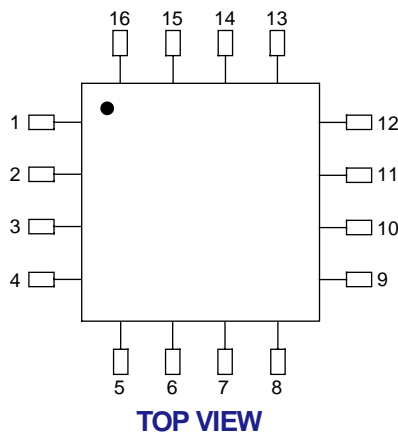
## Outline Drawing



## Land Pattern



## Pin Out



Pin #	Connection
1	GND
2	GND
3	GND
4	PORT 2(-6dB, 0°)
5	GND
6	PORT 3(-6dB, -90°)
7	PORT 4(-6dB, -180°)
8	GND
9	PORT 5(-6dB, -270°)
10	GND
11	GND
12	GND
13	GND
14	GND
15	PORT 1(Input)
16	GND
Center Pad	GND

**Notes:** All dimensions show in millimeters

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