

# Data Sheet

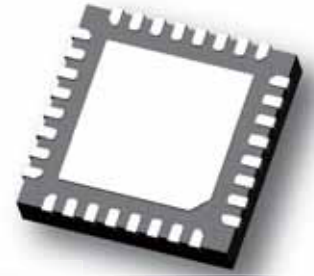
## QF2060Q06A

Quadrifilar Directional Coupler  
1520 MHz-2600 MHz



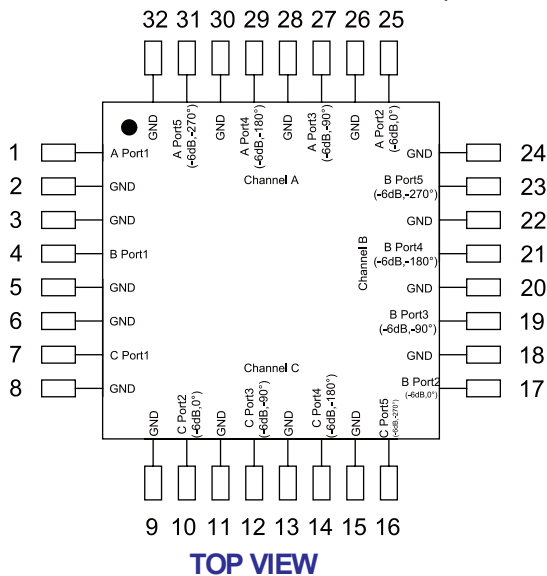
### Features

- Ultra Small Size (4×4mm)
- Excellent phase & amplitude balance
- Excellent repeatability
- Passive RF IC, no need external DC power supply
- With internal 50 ohm termination ( no need external termination )
- Built with leading edge RFIC design technology
- Have three Input port and Twelve Output ports that have -6dB -(0°, 90°, 180°, 270°) of phase difference
- Quadrifilar Coupler, 4-Phased Antenna Feeder, Helicaled Antenna Feeder
- Operating Temperature: -40°C to +85°C
- Tape & Reel



### Applications

- Realizing the World's Most Compact High Precision GNSS Antenna (GPS, Beidou, Galileo, Glonass)



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

### Electrical Specifications at 25°C

Channel	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)
Channel A	1520-1660	4	4×4	11-27	1.02	10-16	-8~0	±0.9
Channel B	1980-2200			10-24	1.50	7-20	-12~+5	±0.9
Channel C	2400-2600			12	1.45	9	-10~+6	±0.9

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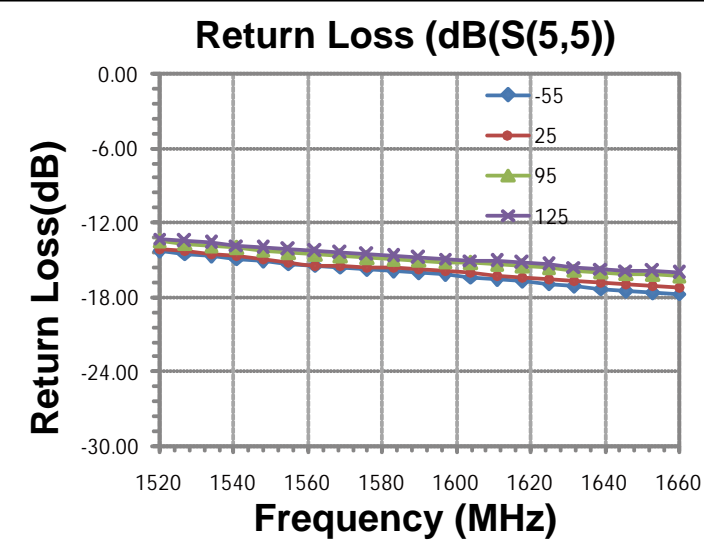
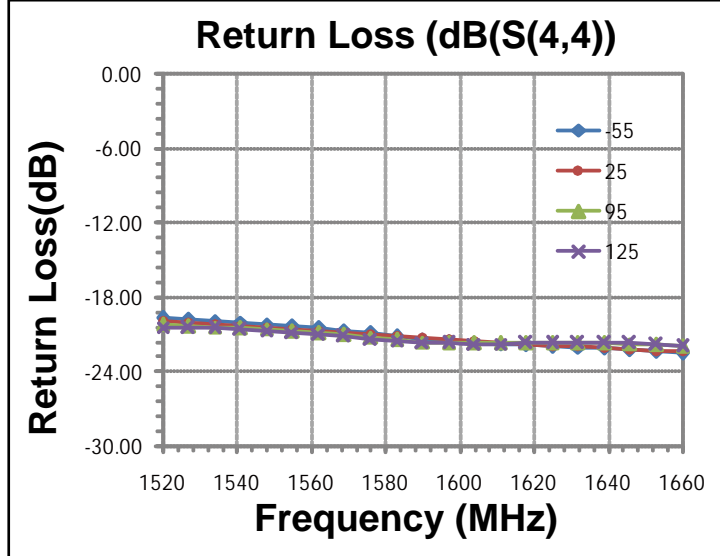
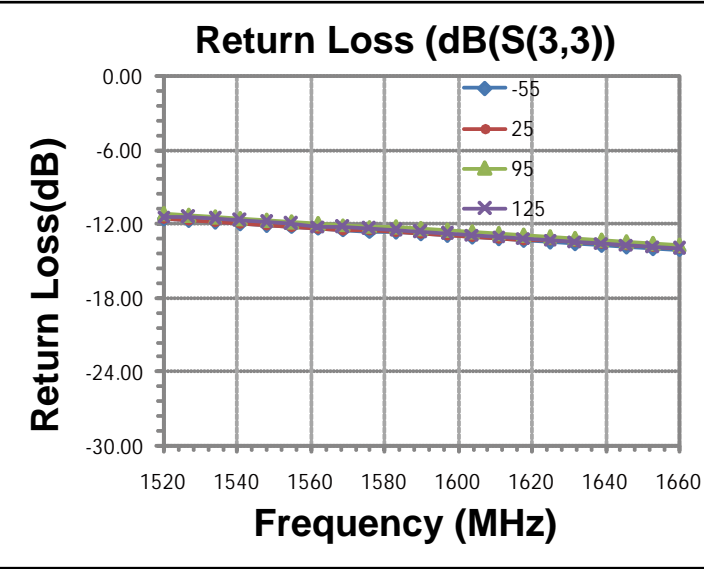
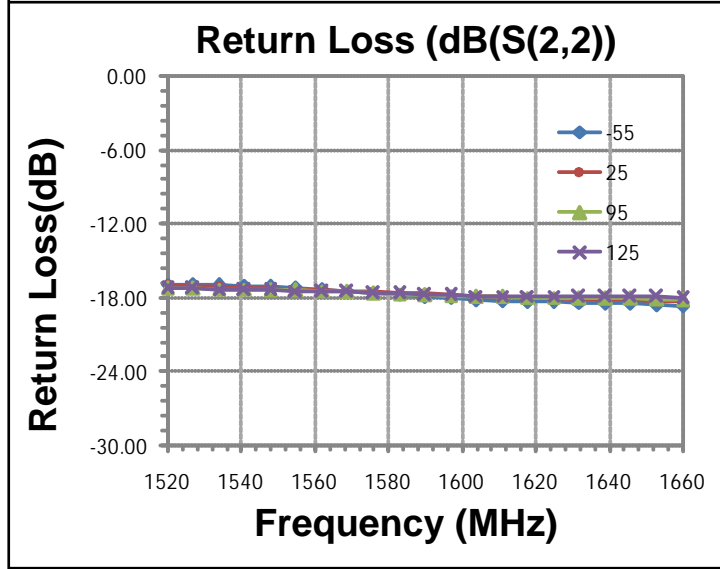
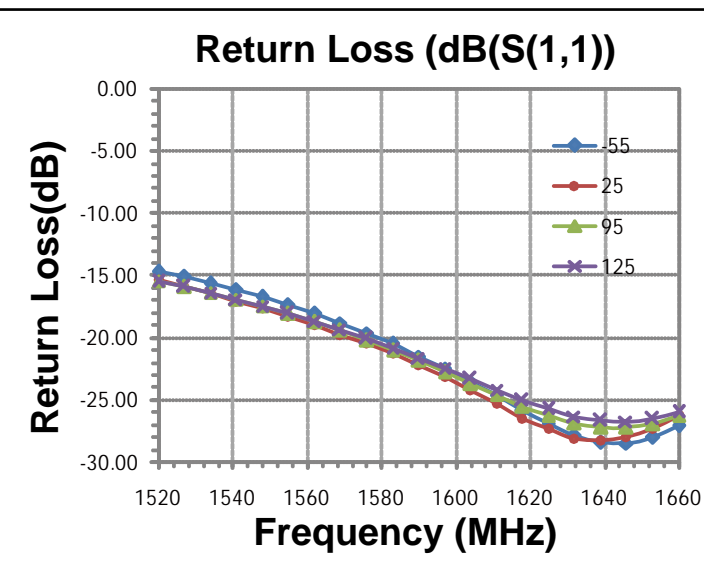
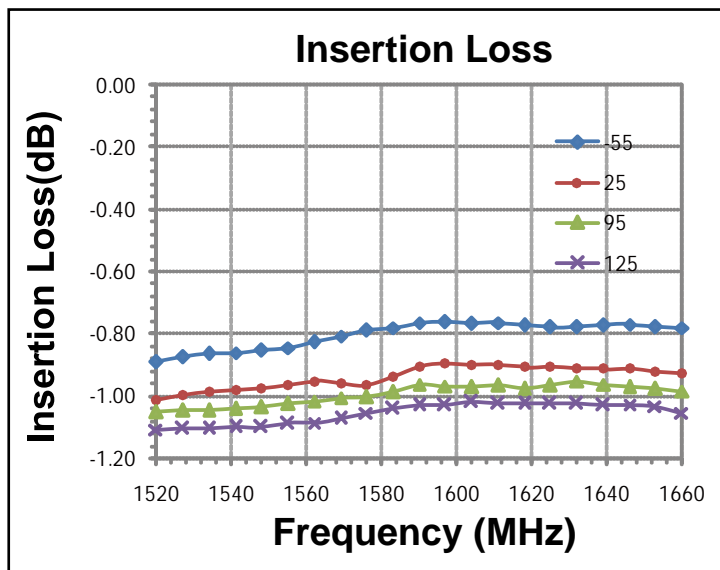
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## QF2060Q06A 1520 MHz-2600 MHz

### Quadrifilar Directional Coupler

#### Channel A 1520 MHz-1660 MHz



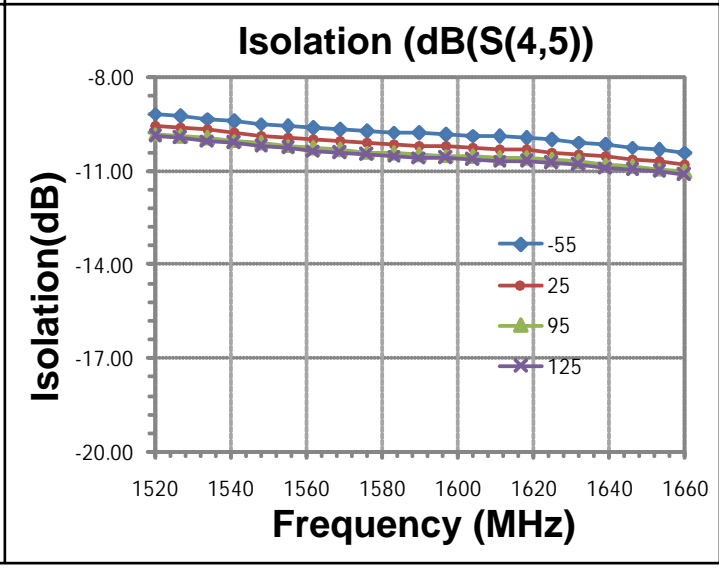
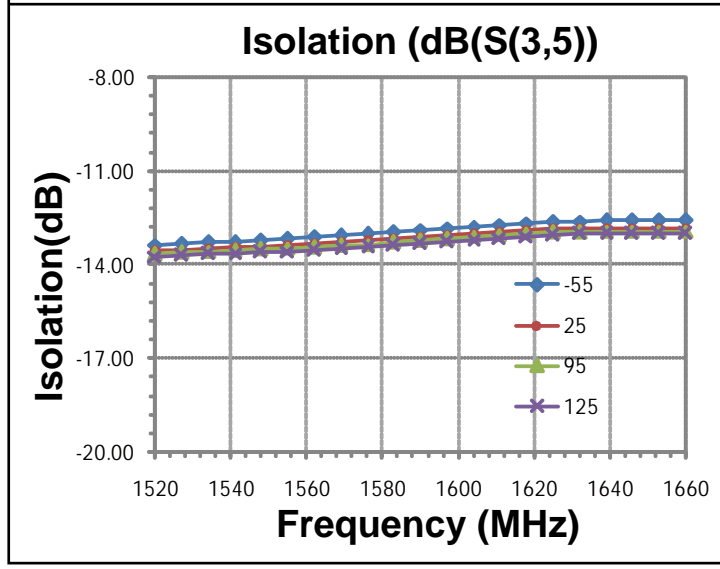
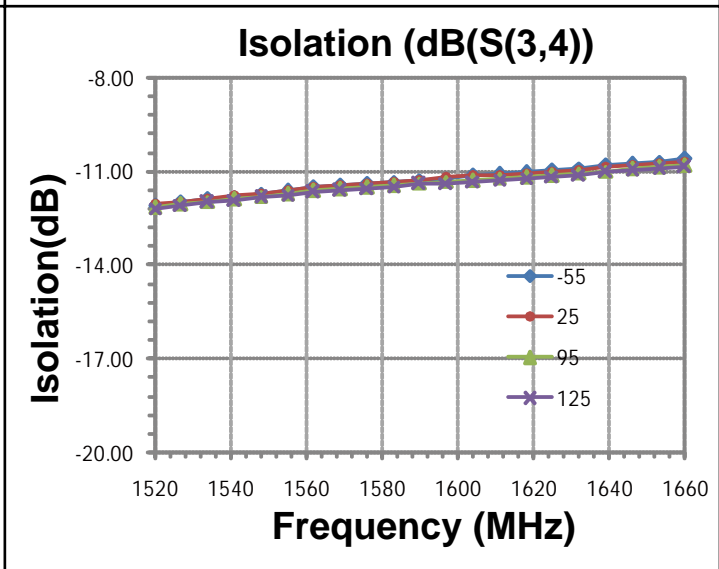
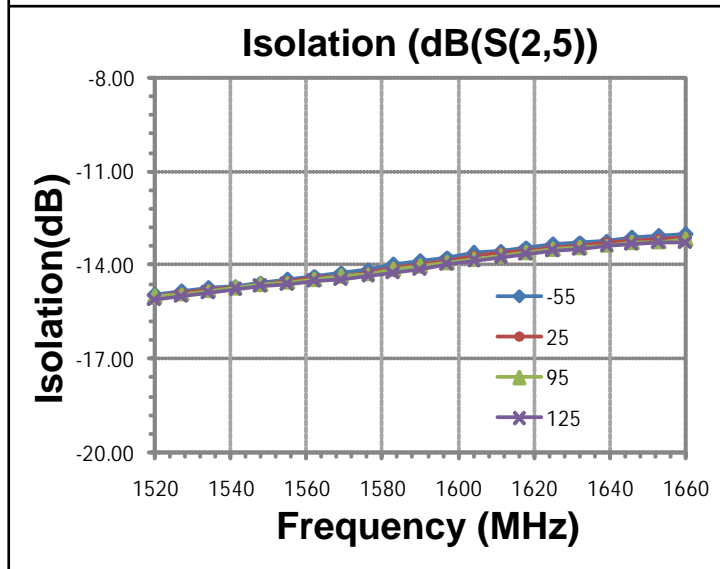
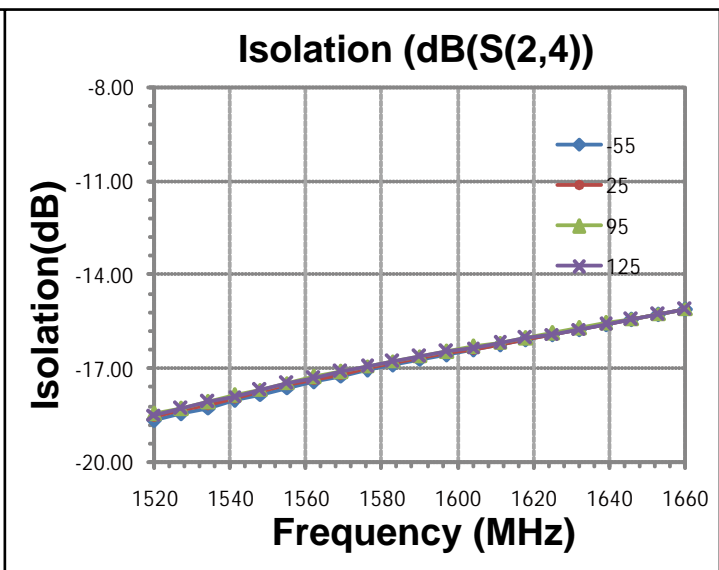
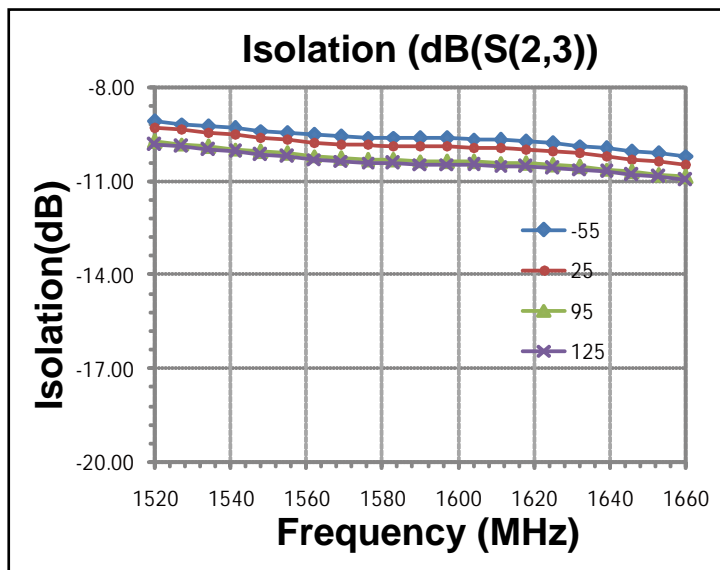
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### Quadrifilar Directional Coupler

#### Channel A 1520 MHz-1660 MHz



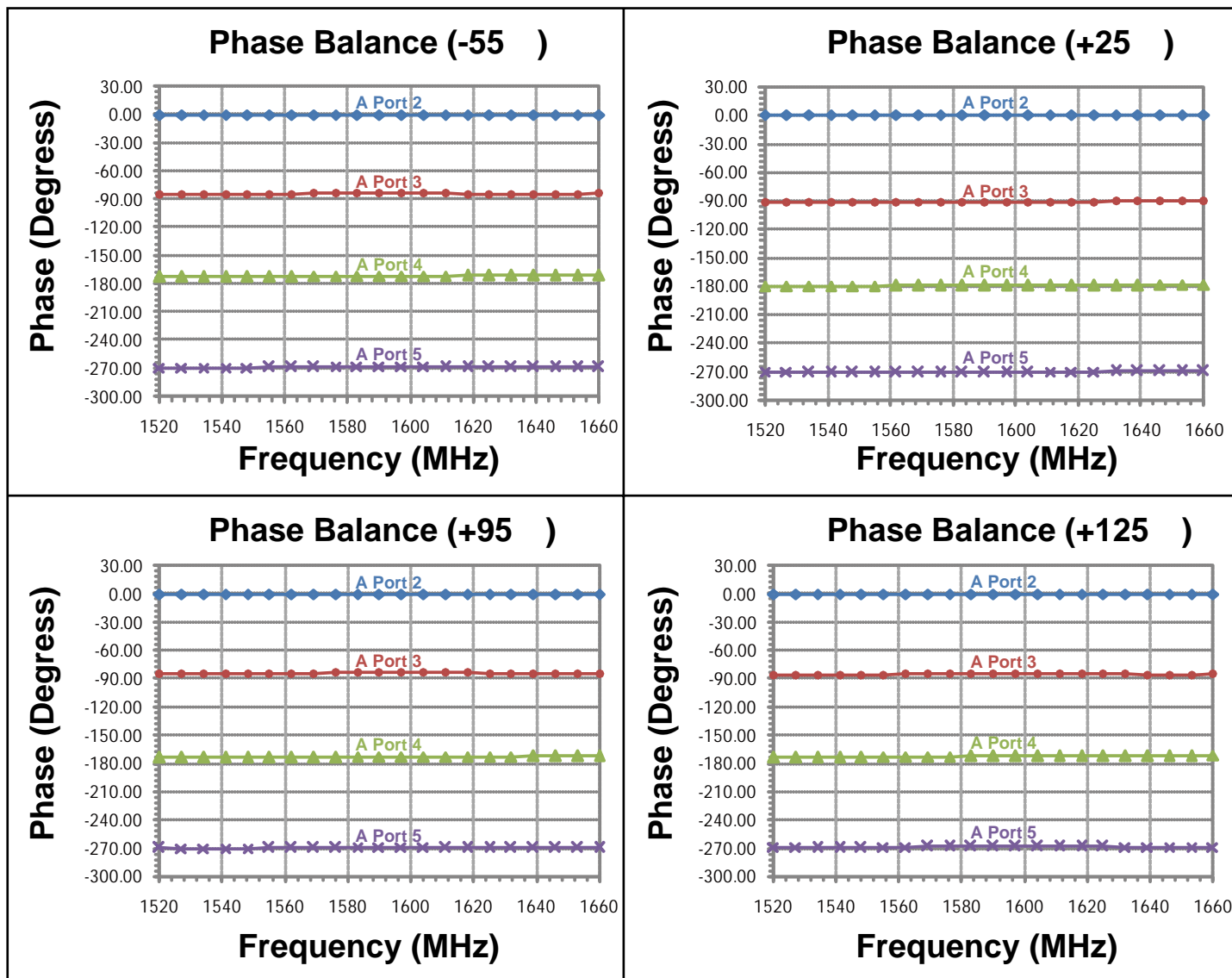
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### Quadrifilar Directional Coupler

#### Channel A 1520 MHz-1660 MHz



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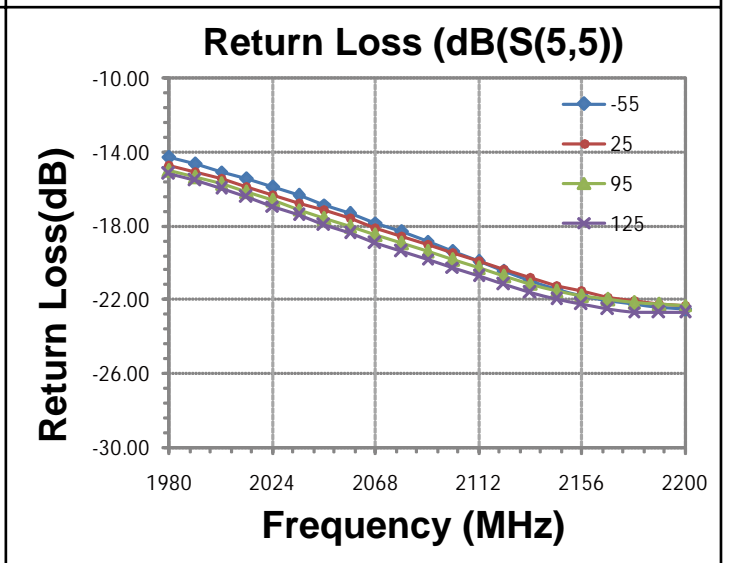
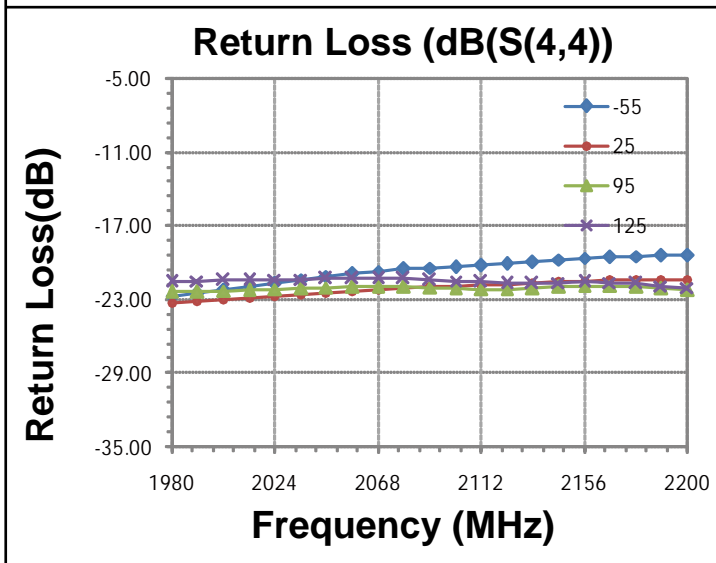
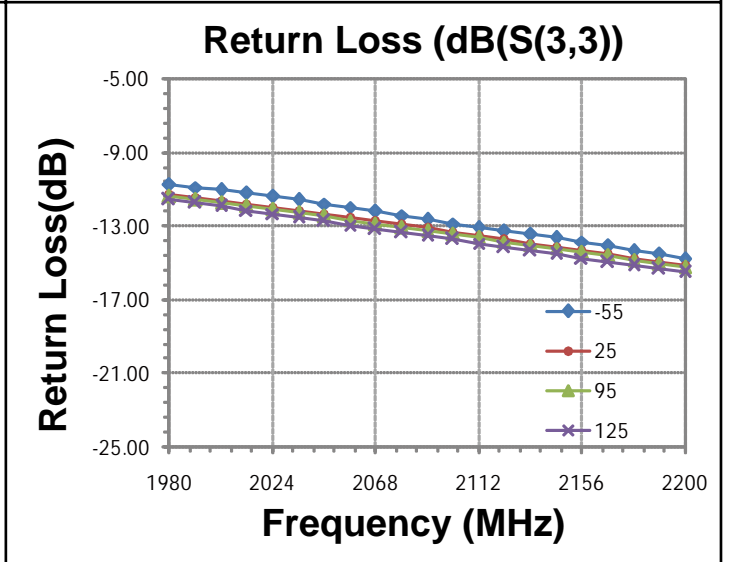
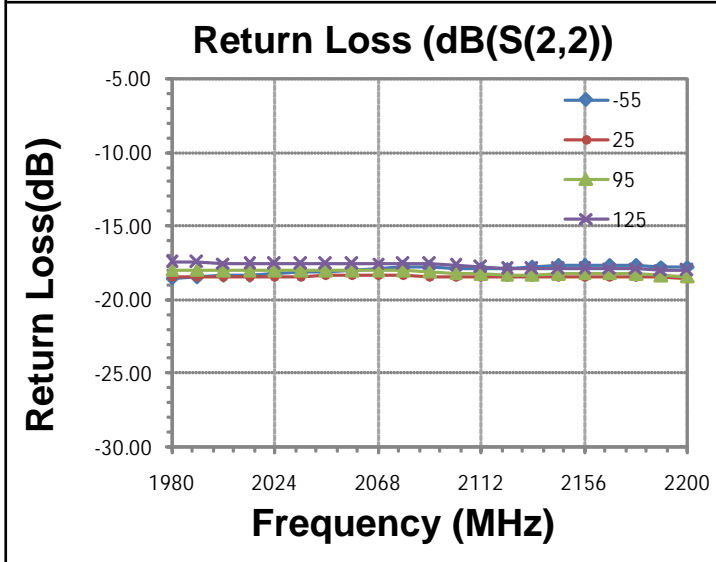
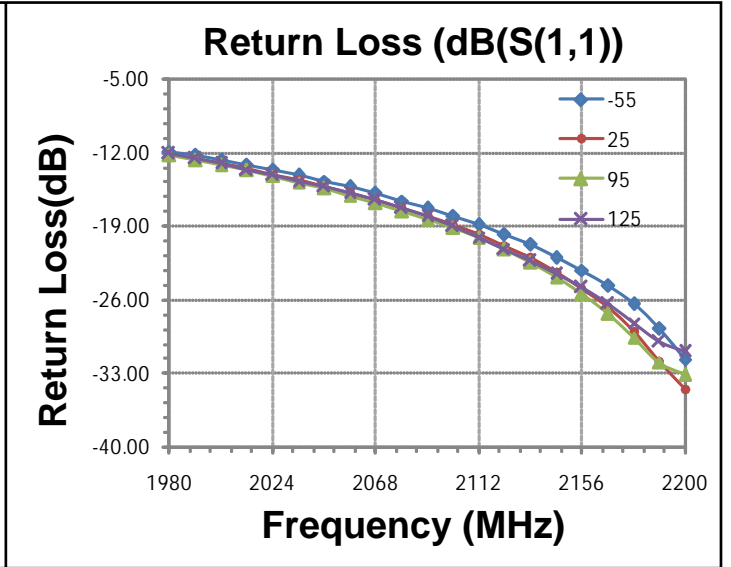
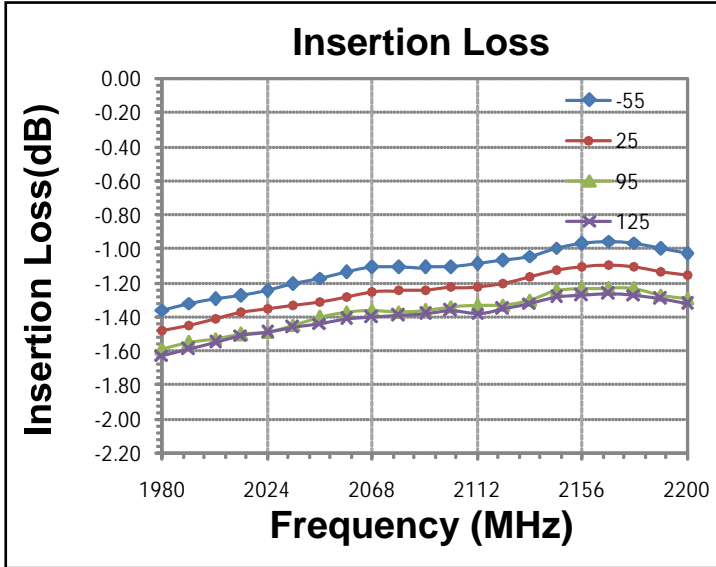
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**Data Sheet**  
**QF2060Q06A 1520 MHz-2600 MHz**  
**Quadrifilar Directional Coupler**  
**Channel B 1980 MHz-2200 MHz**



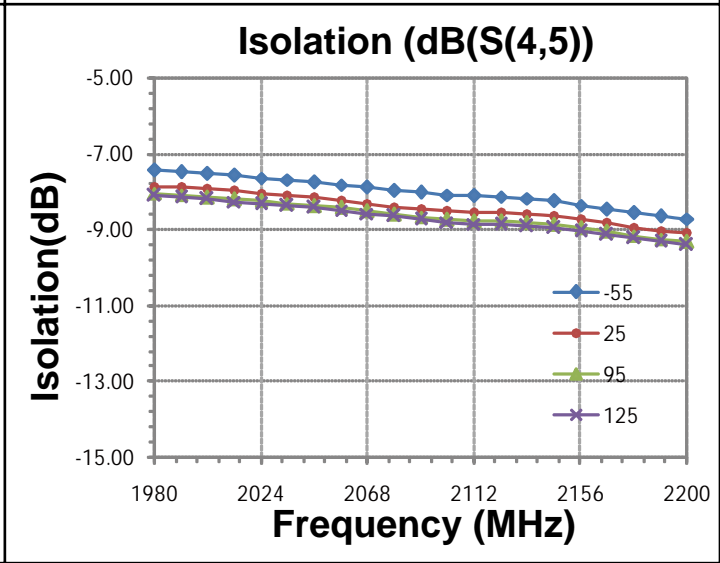
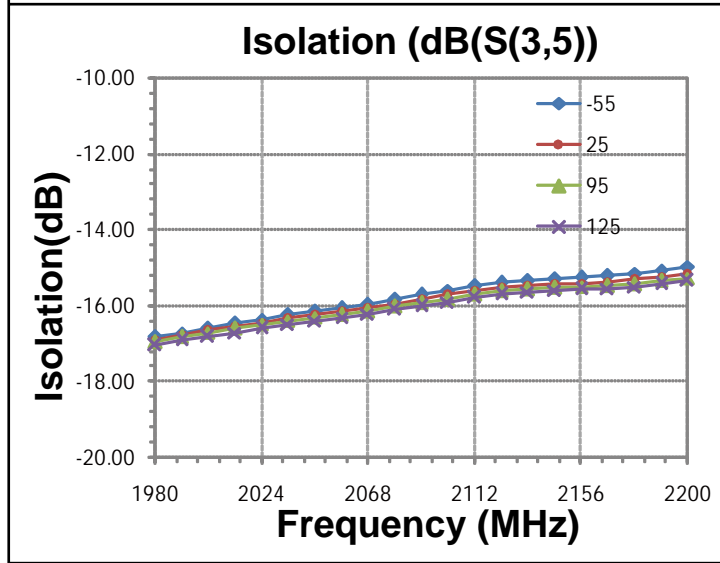
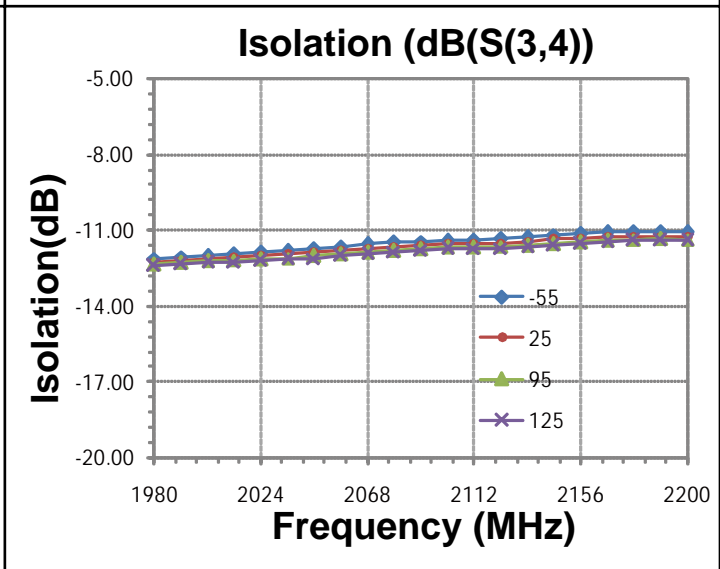
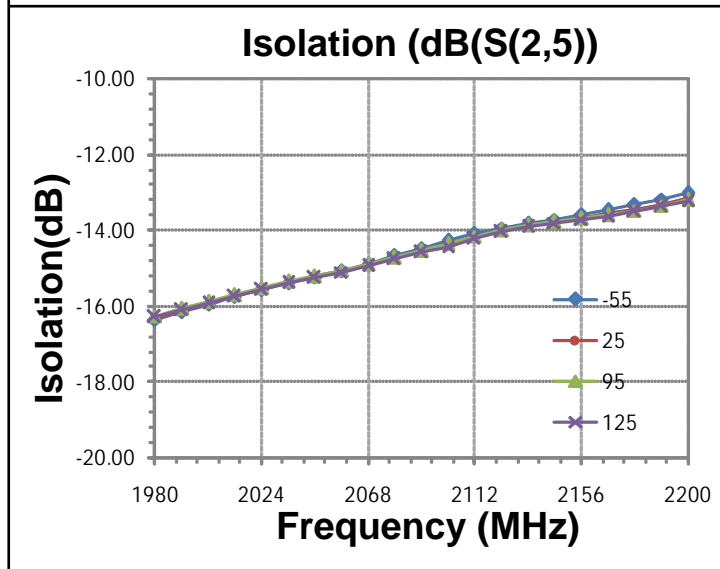
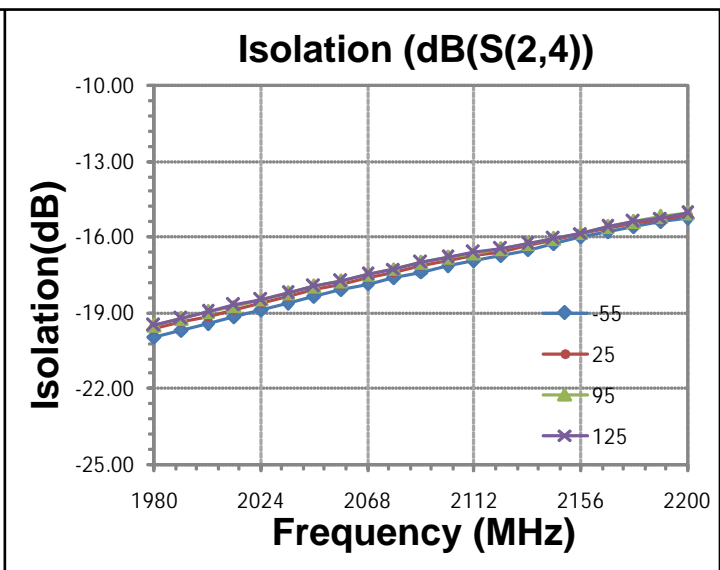
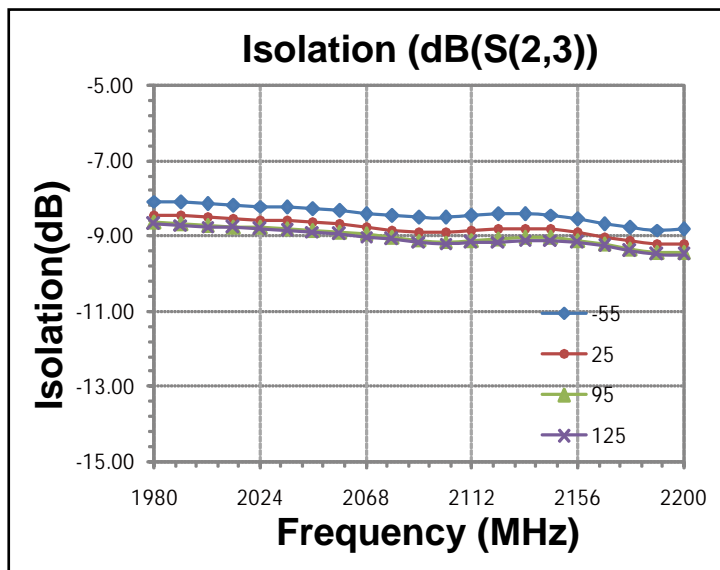
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## QF2060Q06A 1520 MHz-2600 MHz

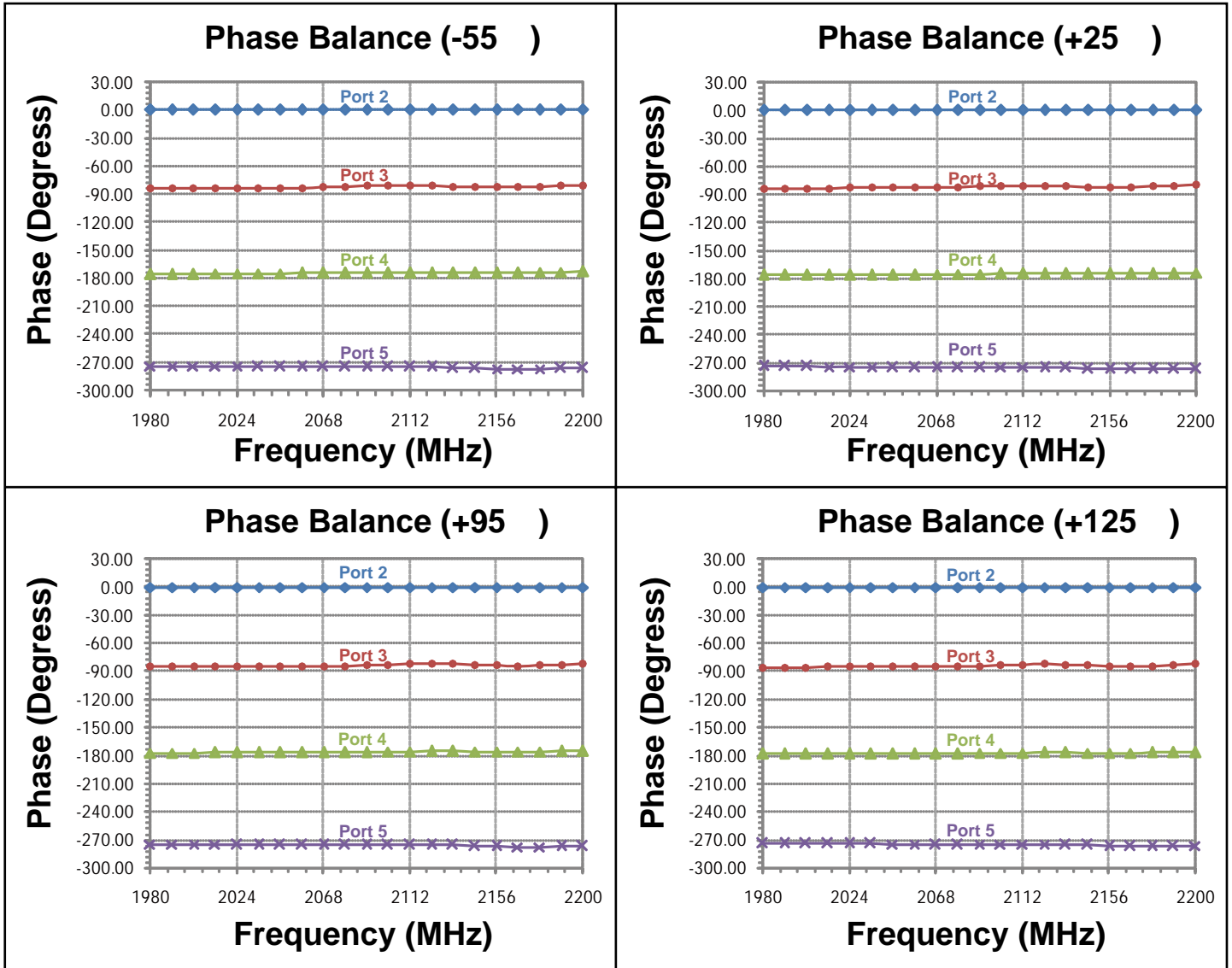
### Quadrifilar Directional Coupler

#### Channel B 1980 MHz-2200 MHz



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**Quadrifilar Directional Coupler**  
**Channel B 1980 MHz-2200 MHz**



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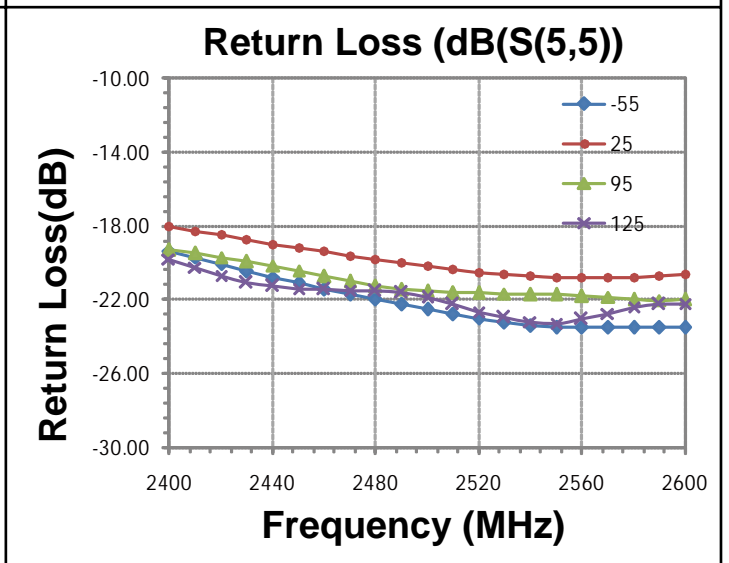
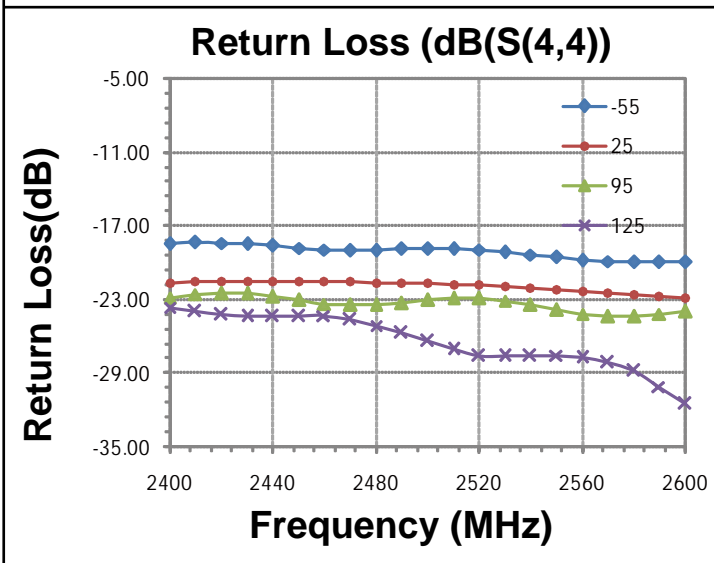
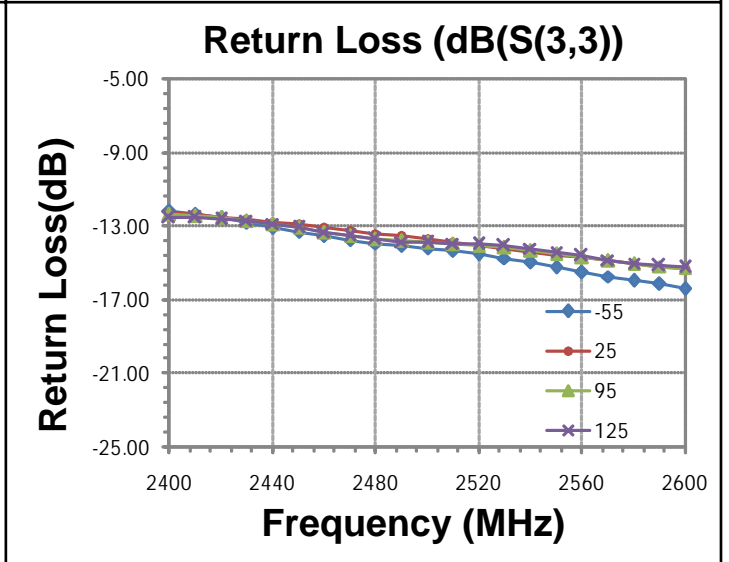
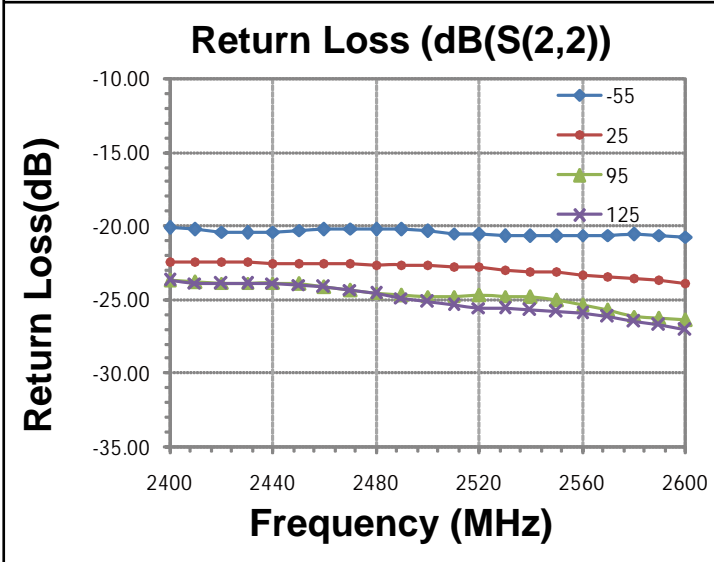
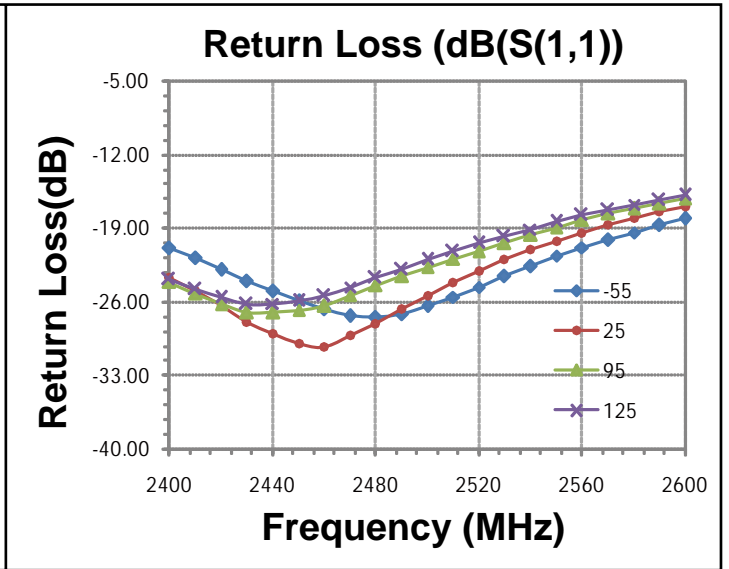
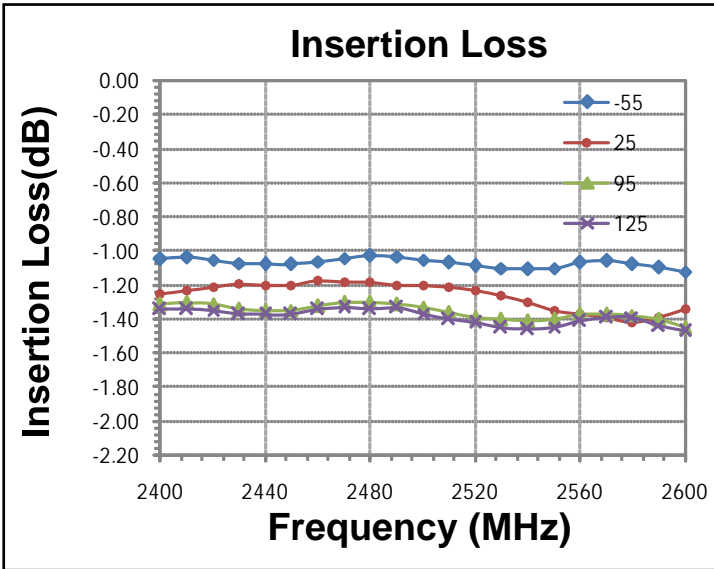
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# Data Sheet

## QF2060Q06A 1520MHz-2600 MHz

### Quadrifilar Directional Coupler

### Channel C 2400 MHz-2600 MHz



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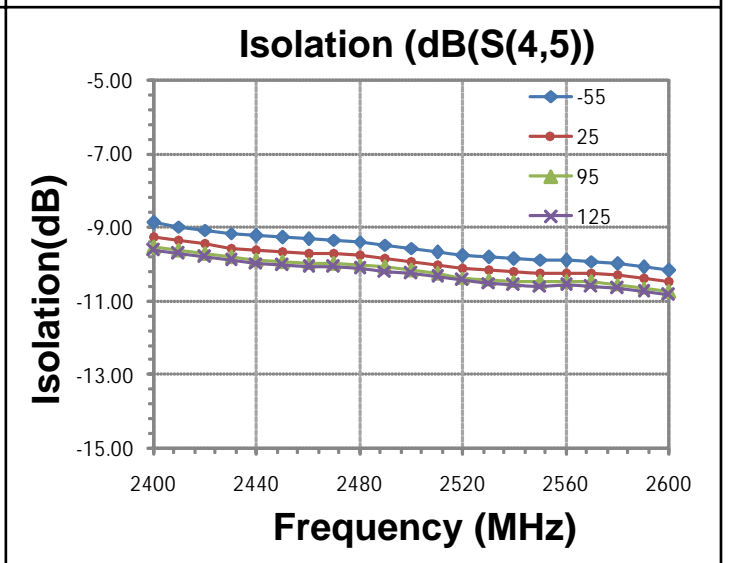
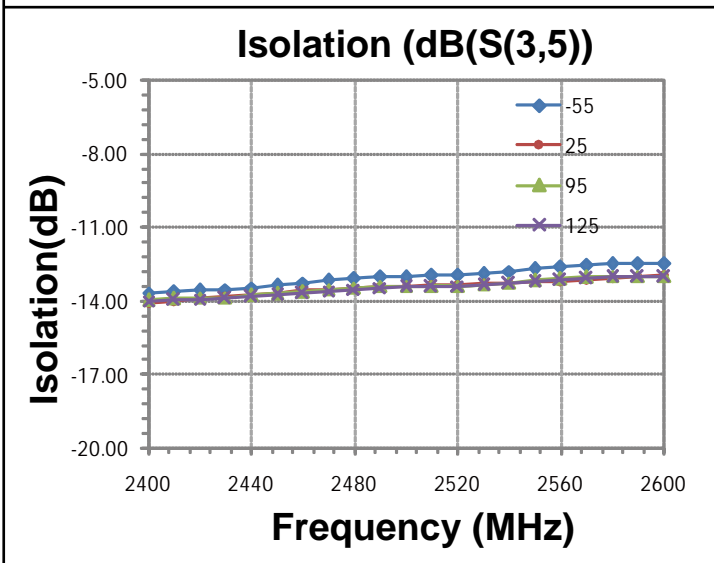
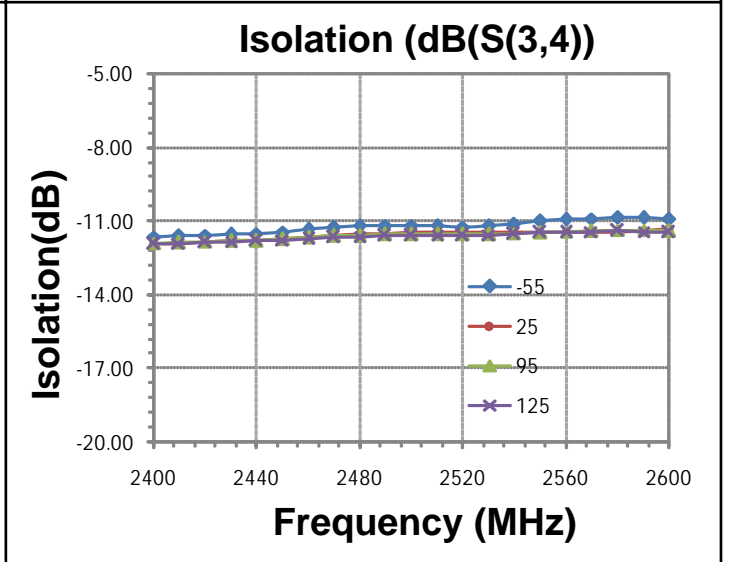
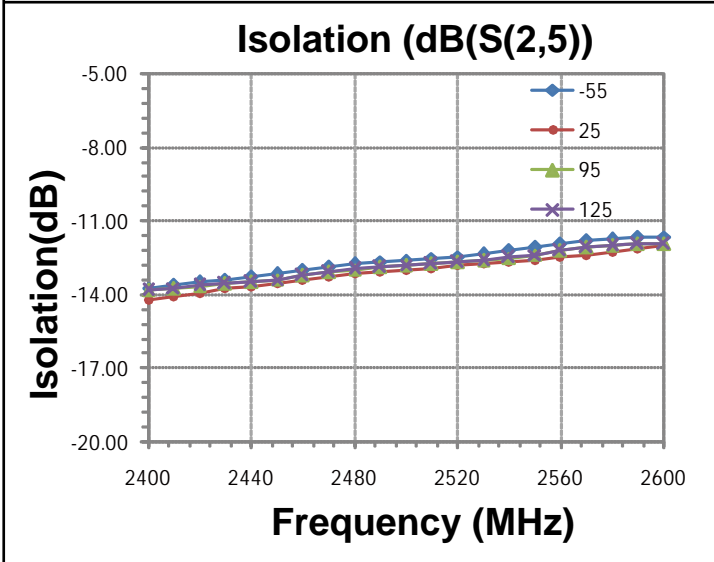
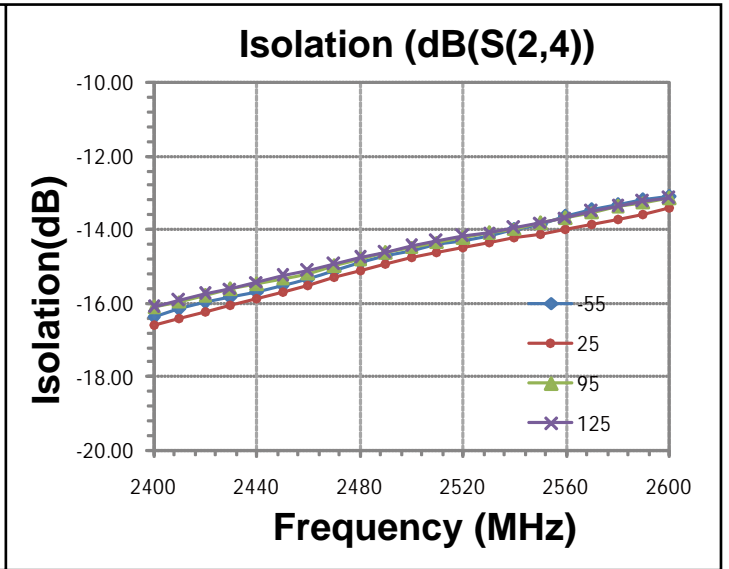
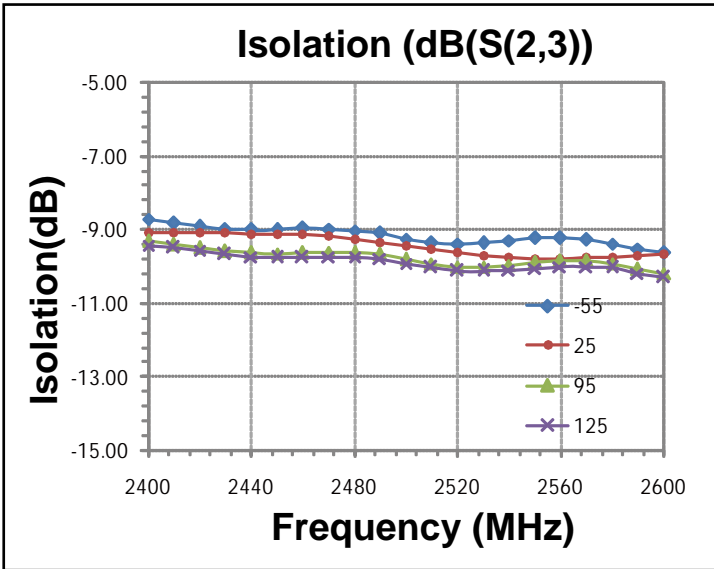
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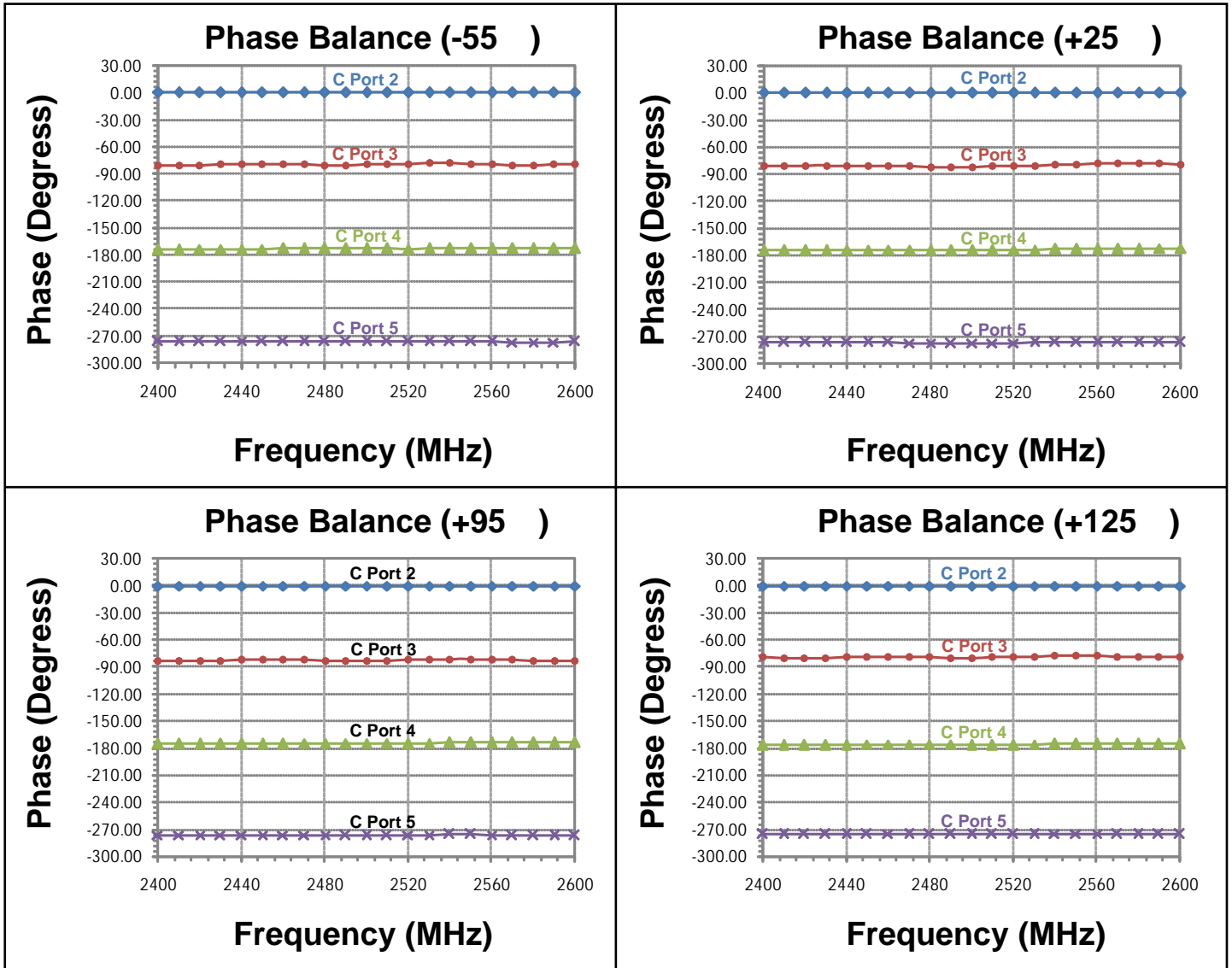


**Data Sheet**  
**QF2060Q06A 1520MHz-2600 MHz**  
**Quadrifilar Directional Coupler**  
**Channel C 2400 MHz-2600 MHz**



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**Quadrifilar Directional Coupler**  
**Channel C 2400 MHz-2600 MHz**



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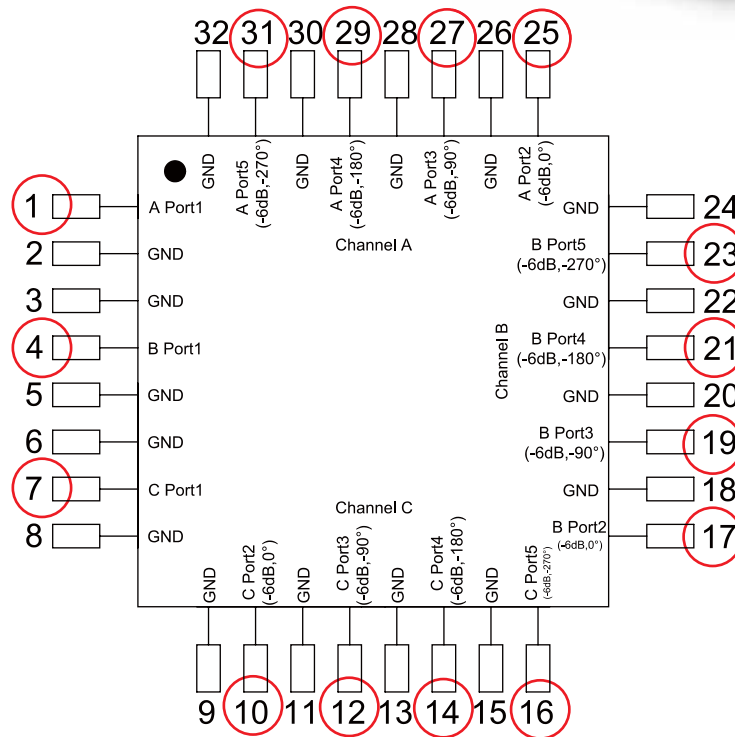
## QF2060Q06A

Quadrifilar Directional Coupler  
1520 MHz-2600 MHz



### Special Attenuation before Quadrifilar IC Soldering

#### Package



**TOP VIEW**

A Port 1	A Port 2	A Port 3	A Port 4	A Port 5
Input	Output1 -6dB, 0°	Output2 -6dB, -90°	Output3 -6dB, -180°	Output4 -6dB, -270°
B Port 1	B Port 2	B Port 3	B Port 4	B Port 5
Input	Output1 -6dB, 0°	Output2 -6dB, -90°	Output3 -6dB, -180°	Output4 -6dB, -270°
C Port 1	C Port 2	C Port 3	C Port 4	C Port 5
Input	Output1 -6dB, 0°	Output2 -6dB, -90°	Output3 -6dB, -180°	Output4 -6dB, -270°

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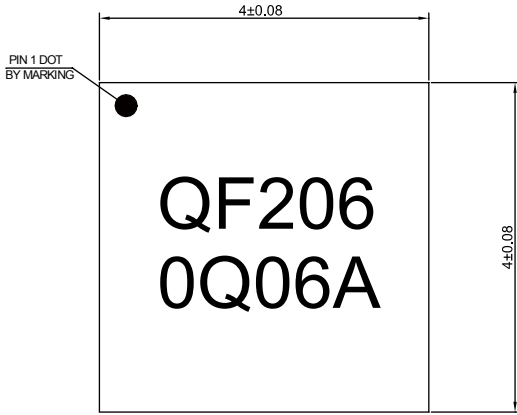
## QF2060Q06A

### Quadrifilar Directional Coupler

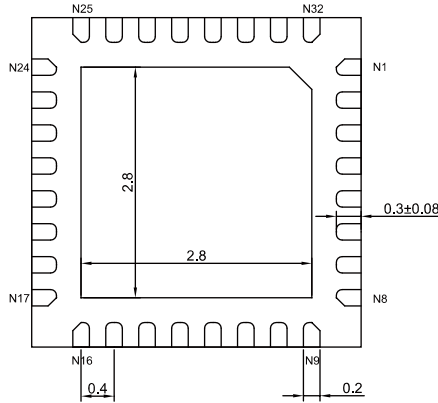
### 1520 MHz-2600 MHz



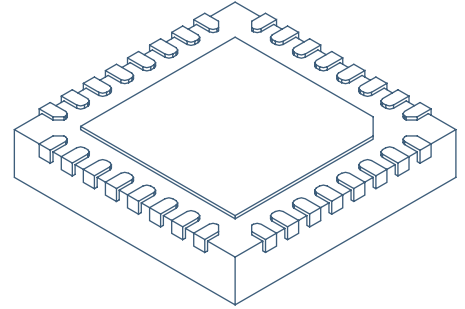
## Outline Drawing



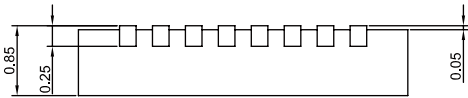
TOP VIEW



BOTTOM VIEW

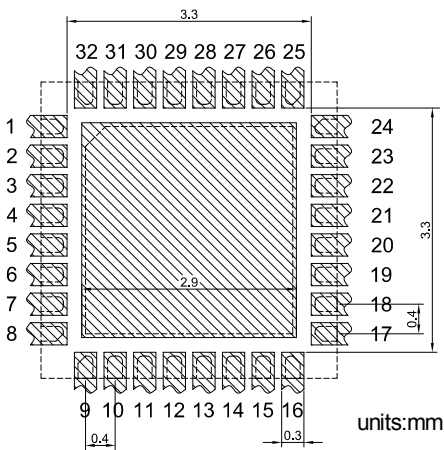


TFR-ISO VIEW



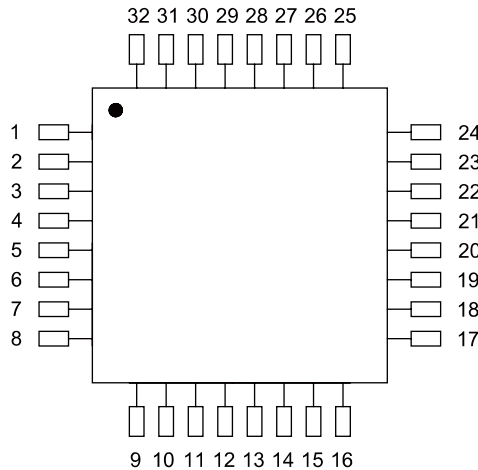
SIDE VIEW

## Land Pattern



Recommended Land Pattern  
Top View

## Pin Out



TOP VIEW

Pin #	Connection
1	A Port1
2	GND
3	GND
4	B Port1
5	GND
6	GND
7	C Port1
8	GND
9	GND
10	C Port2 (-6dB,0°)
11	GND
12	C Port3 (-6dB,-90°)
13	GND
14	C Port4 (-6dB,-180°)
15	GND
16	C Port5 (-6dB,-270°)
17	B Port2 (-6dB,0°)
18	GND
19	B Port3 (-6dB,-90°)
20	GND
21	B Port4 (-6dB,-180°)
22	GND
23	B Port5 (-6dB,-270°)
24	GND
25	A Port2 (-6dB,0°)
26	GND
27	A Port3 (-6dB,-90°)
28	GND
29	A Port4 (-6dB,-180°)
30	GND
31	A Port5 (-6dB,-270°)
32	GND
Center Pad	GND

Notes: All dimensions show in millimeters

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