

April 2013, REV B



- Wide band, 2000 - 4000 MHZ
- Low insertion loss, 0.50 dB typ.
- High isolation, 18 dB min.
- Excellent VSWR, 1.22:1 typ.
- 90 degree Hybrid, SMA Connector
- Built-in DC block capacitors
- Precision machined housing

- Balance wide band power amplifier
- PCS, 3G, ISM, C Bands
- RF bench test
- Wireless applications



Input Power (at port 1)	CW, 10W
Operating Temperature	-40°C to +85°C
Storage Temperature	-40°C to +85°C

Model	Connector
WHC2040A	SMA Female

Item	Symbol	Test Constraints	Min	Typ	Max	Unit
Frequency Range	BW	50 Ohm Impedance	2000		4000	MHz
Insertion Loss	S_{21} , S_{31}	2000 - 4000 MHz, above 3 dB		0.5	1.2	dB
Isolation	S_{23}	2000 - 4000 MHz, 50 Ohm load at port C	18	20		dB
VSWR	SWR_i	2000 - 4000 MHz, all ports		1.22:1	1.5:1	Ratio
Amplitude Unbalance	$S_{21} - S_{31}$	2000 - 4000 MHz			1.3	dB
Phase Offset	$S_{21} - S_{31}$	2000 - 4000 MHz	85	90	95	Deg
Power Handling	P_{MAX}	2000 - 4000 MHz, CW			10	W
Operating Temp	T_o		-40		+85	°C

Port 1 to 2 Performance @ 25 C

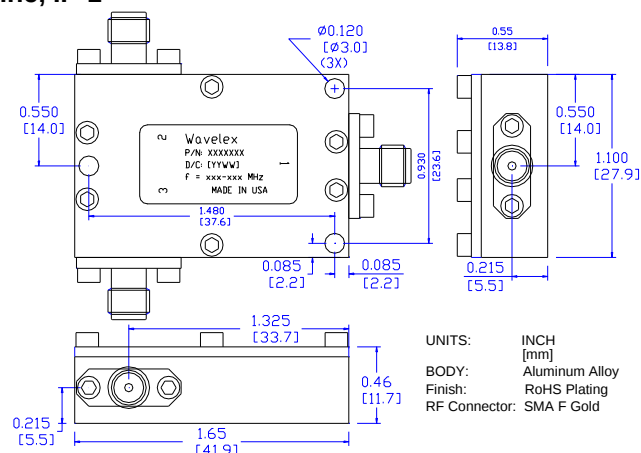
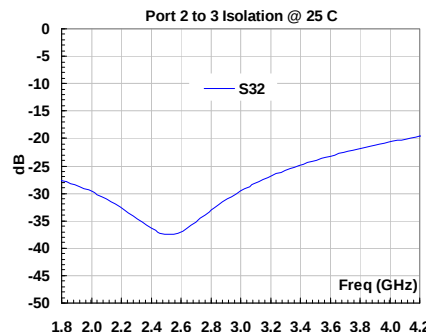
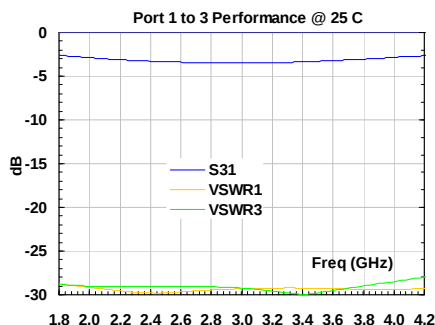
The graph shows the performance of the device across a frequency range from 1.8 GHz to 4.2 GHz. The y-axis represents the magnitude in dB, ranging from -30 to 0. The x-axis represents the frequency in GHz.

Legend:

- S21 (Blue line): Represents the transmission coefficient. It remains relatively flat, starting around -4 dB at 1.8 GHz and ending around -5 dB at 4.2 GHz.
- VSWR1 (Orange line): Represents the Voltage Standing Wave Ratio. It starts around -28 dB at 1.8 GHz, dips to a minimum of approximately -30 dB between 2.2 GHz and 2.6 GHz, and then rises to about -28 dB at 4.2 GHz.
- VSWR2 (Green line): Represents the Voltage Standing Wave Ratio. It starts around -28 dB at 1.8 GHz, dips to a minimum of approximately -30 dB between 2.2 GHz and 2.6 GHz, and then rises to about -28 dB at 4.2 GHz.

Approximate data points extracted from the graph:

Freq (GHz)	S21 (dB)	VSWR1 (dB)	VSWR2 (dB)
1.8	-4.0	-28.0	-28.0
2.0	-4.0	-29.0	-29.0
2.2	-4.0	-30.0	-30.0
2.4	-4.0	-30.0	-30.0
2.6	-4.0	-30.0	-30.0
2.8	-4.0	-29.0	-29.0
3.0	-4.0	-28.0	-28.0
3.2	-4.0	-28.0	-28.0
3.4	-4.0	-28.0	-28.0
3.6	-4.0	-28.0	-28.0
3.8	-4.0	-28.0	-28.0
4.0	-4.0	-28.0	-28.0
4.2	-5.0	-28.0	-28.0



UNITS: INCH
[mm]
BODY: Aluminum Alloy
Finish: RoHS Plating
RF Connector: SMA F Gold