



IHC1850A

1700 MHz – 2000 MHz HYBRID COUPLER, 90 DGREE, 10 W

REV A
March 2014

Key Features



- Wide Band, 1700 MHz ~ 2000 MHz
- Low Insertion Loss, 0.50 dB Typ.
- High Isolation, 18 dB min
- Excellent VSWR 1.22:1 Typ.
- 90 Degree Hybrid, SMA Connector
- Precision Machined Housing
- Single DC Power Supply
- Meet MIL-STD-202g

Applications

- Balance Wide Band Power Amplifier
- PCS, GSM
- RF Bench Tests
- Wireless Applications



Absolute Maximum Ratings

Parameters	Units	Ratings
Input Power(at Port 1) CW	W	10
Storage Temperature	°C	-40 ~ +85
Operating Temperature	°C	-40 ~ +85

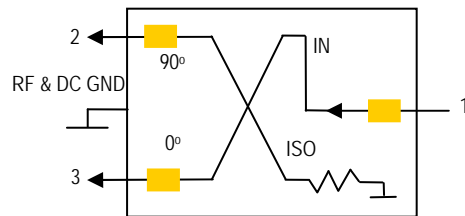
Operation of this device beyond any one of these parameters may cause permanent damage.

Specifications

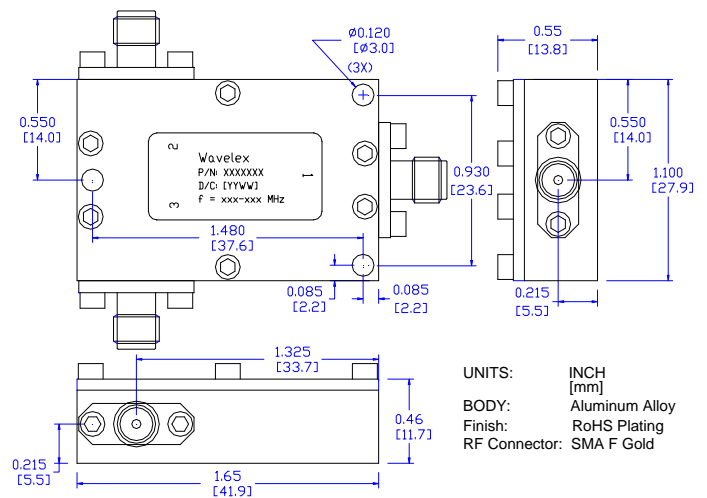
Summary of the key electrical specifications at 25°C

Index	Testing Item	Symbol	Test Constraints	Min	Typ	Max	Unit
1	Frequency Range	BW	50 Ohm Impedance	1700		2000	MHz
2	Insertion Loss	S_{21}	1700 – 2000 MHz, above 3 dB		0.5	1.0	dB
3	VSWR	SWR_i	1700 – 2000 MHz, all Ports		1.22:1	1.5:1	Ratio
4	Isolation	S_{23}	1700 – 2000 MHz, 50 Ohm Load at Port C	18	20		dB
5	Amplitude Unbalance	$S_{21} - S_{31}$	1700 – 2000 MHz		0.4	0.8	dB
6	Phase Offset	$S_{21} - S_{31}$	1700 – 2000 MHz	86	90	94	Deg
7	Power Handling	P_{MAX}	1700 – 2000 MHz, CW			10	W
8	Operating Temperature	T_o		-40		+85	°C

Functional Block Diagram



Outline, IP-1 Housing



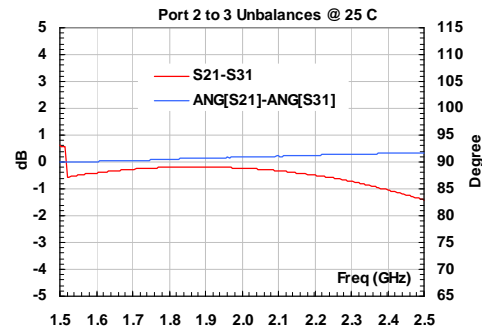
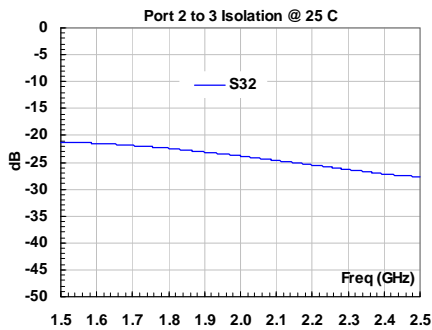
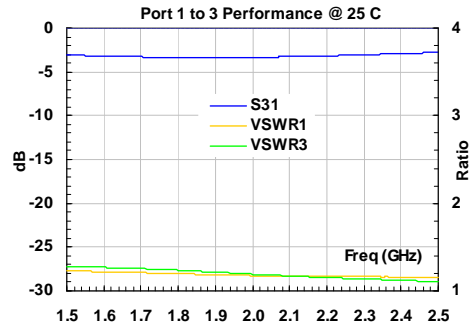
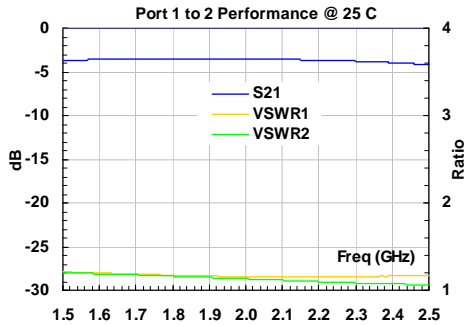
Ordering Information

Model Number	Connectors	
	IN	OUT
IHC1850A	SMA Female	SMA Female

Specifications and information are subject to change without notice.



Typical Data



Application Notes:

A. SMA Torque Wrench Selection

Always use a torque wrench with 5 ~ 6 inch-lb coupling torque setting for mating the SMA cables to the amplifier. Never use torque more than 8 inch-lb wrench for tightening the mating cable to the connector. Otherwise, the permanent damage will occur to the SMA connectors of the amplifier. 8710-1582 (5 inch-lb) is one of the ideal torque wrench choice from Agilent Technology.

B. Mounting the Amplifier

Use three pieces of #2-56 with longer than 9/16" screws for mounting the amplifier on a metal-based chase. Flat and spring washers are needed to prevent the screw loosening during the shock and vibration. Always use the appropriate torque setting of the power screwdriver to mount them.

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