



IHC450A

380 MHz – 520 MHz HYBRID COUPLER, 90 DGREE, 10 W CW

REV A
March 2014

Key Features



- Wide Band, 380 MHz ~ 520 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
- Land radio
- 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

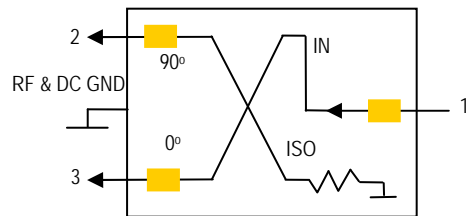
Operation of this device beyond any one of these parameters may cause permanent damage.

Specifications

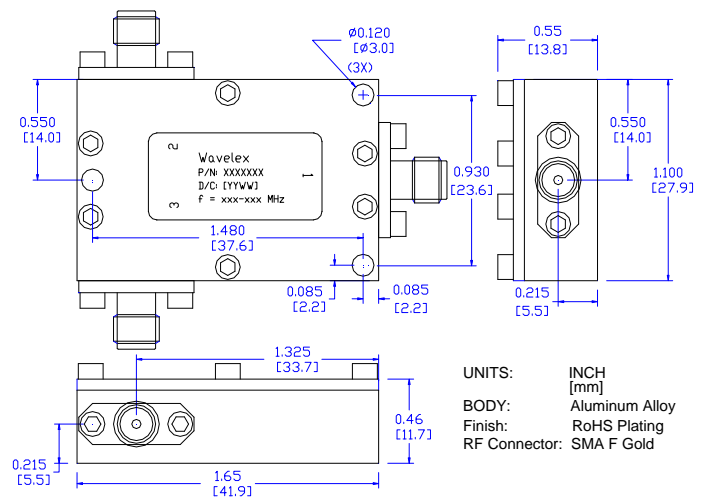
Summary of the key electrical specifications at 25°C

Index	Testing Item	Symbol	Test Constraints	Min	Typ	Max	Unit
1	Frequency Range	BW	50 Ohm Impedance	380		520	MHz
2	Insertion Loss	S ₂₁	380 – 520 MHz, above 3 dB		0.2	0.7	dB
3	VSWR	SWR _i	380 – 520 MHz, all Ports		1.22:1	1.5:1	Ratio
4	Isolation	S ₂₃	380 – 520 MHz, 50 Ohm Load at Port C	18	20		dB
5	Amplitude Unbalance	S ₂₁ – S ₃₁	380 – 520 MHz		0.2	0.8	dB
6	Phase Offset	S ₂₁ – S ₃₁	380 – 520 MHz	85	90	95	Deg
7	Power Handling	P _{MAX}	380 – 520 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
IHC450A	SMA Female	SMA Female

Specifications and information are subject to change without notice.

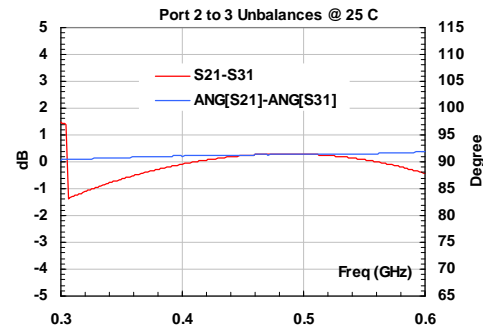
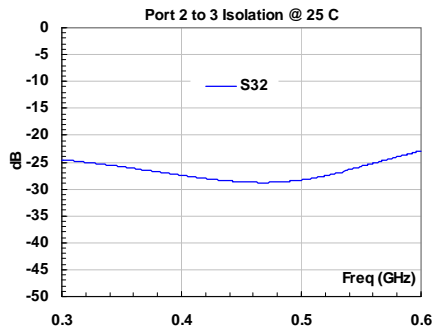
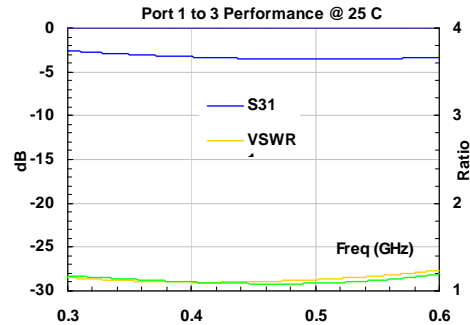
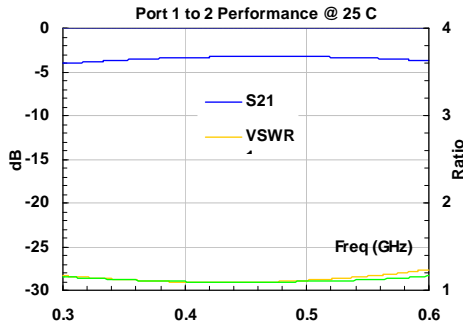


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Typical Data



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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