



IHC890A

820 MHz – 960 MHz HYBRID COUPLER, 90 DGREE, 10 W CW

REV A
March 2014

Key Features



- Wide Band, 820 MHz ~ 960 MHz
- Low Insertion Loss, 0.50 dB Typ.
- High Isolation, 30 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
- Cellular, GSM 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 |

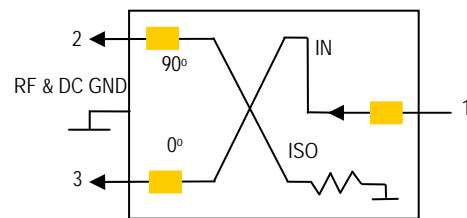
Operation of this device beyond any one of these parameters may cause permanent damage.

Specifications

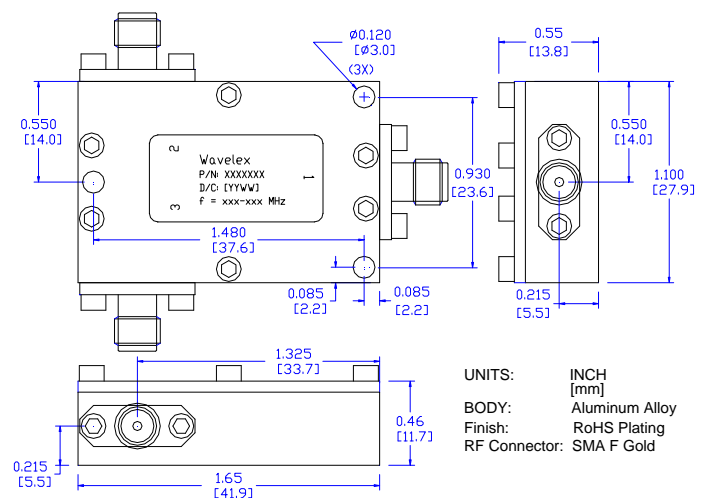
Summary of the key electrical specifications at 25°C

| Index | Testing Item | Symbol | Test Constraints | Min | Typ | Max | Unit |
|-------|-----------------------|-------------------|--------------------------------------|-----|--------|-------|-------|
| 1 | Frequency Range | BW | 50 Ohm Impedance | 820 | | 960 | MHz |
| 2 | Insertion Loss | S_{21} | 820 – 960 MHz, above 3 dB | | 0.2 | 0.5 | dB |
| 3 | VSWR | SWR_i | 820 – 960 MHz, all Ports | | 1.22:1 | 1.5:1 | Ratio |
| 4 | Isolation | S_{23} | 820 – 960 MHz, 50 Ohm Load at Port C | 20 | 30 | | dB |
| 5 | Amplitude Unbalance | $S_{21} - S_{31}$ | 820 – 960 MHz | | 0.2 | 0.5 | dB |
| 6 | Phase Offset | $S_{21} - S_{31}$ | 820 – 960 MHz | 87 | 90 | 93 | Deg |
| 7 | Power Handling | P_{MAX} | 820 – 960 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 |
| IHC890A | SMA Female | SMA Female |

Specifications and information are subject to change without notice.

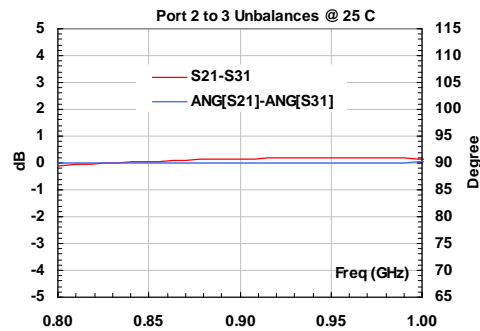
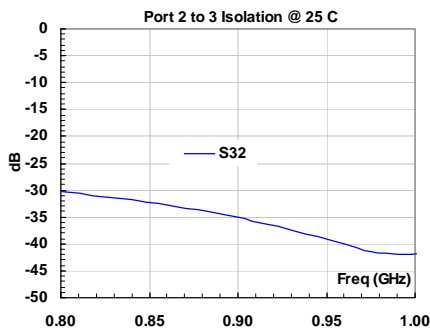
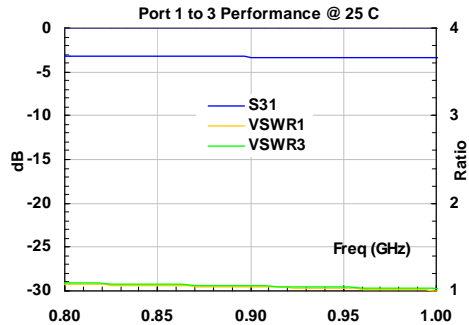
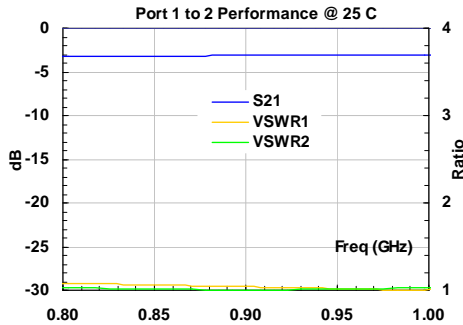


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Typical Data



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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