

5.4 TO 5.9 GHz IMAGE REJECTION MIXER/IF AMP

MODELS: IRA5459LR1A, IRA5459LR1B AND IRA5459LR1C

FEATURES

- RF/LO coverage 5.4 to 5.9 GHz
- IF operation 20 to 200 MHz
- LO power range +7 to +10 dBm
- Conversion gain 23 dB typical
- Image rejection 22 dB typical

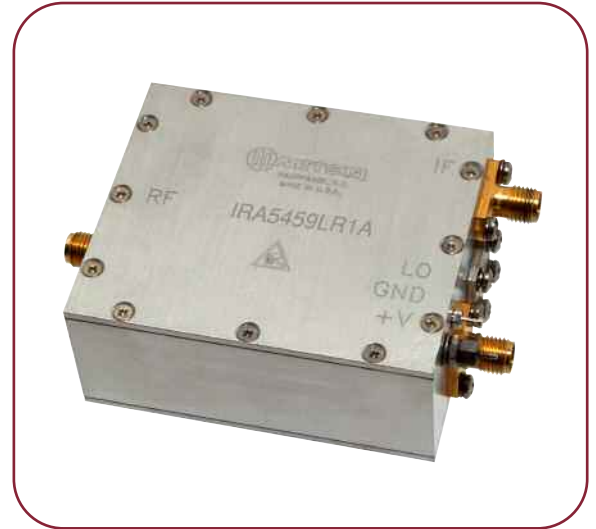
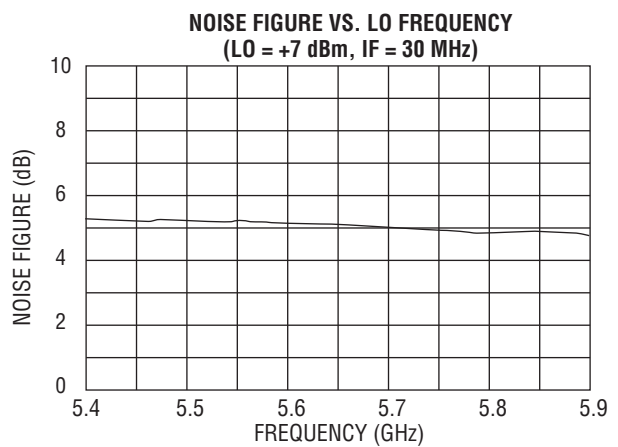
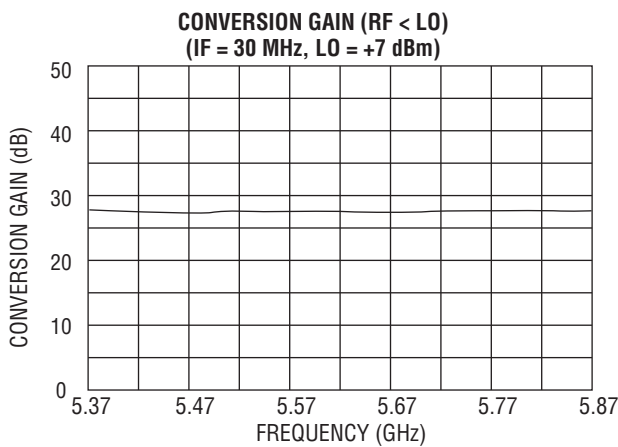
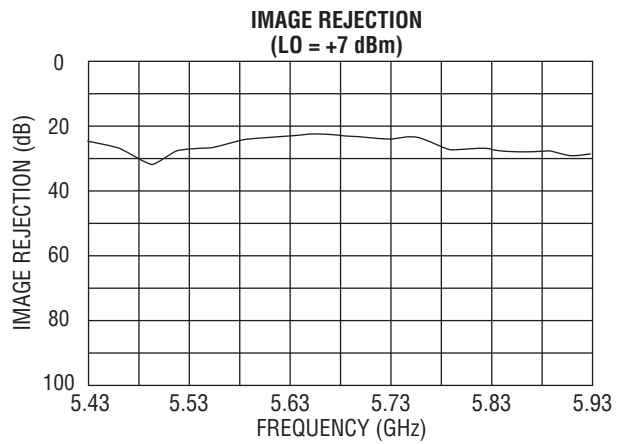
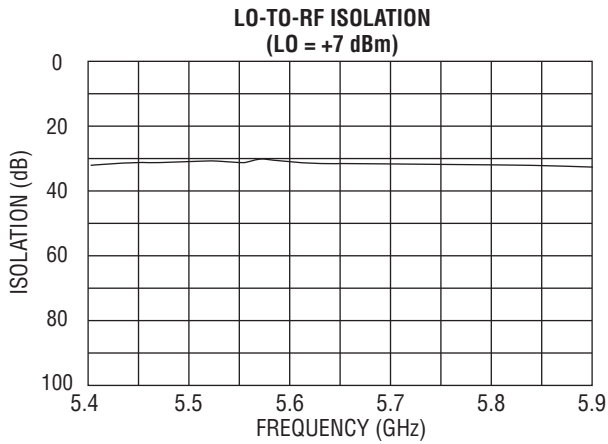


Image rejection mixers are useful for wideband test equipment or ultra-broadband receivers requiring rejection of an unwanted sideband of signal or noise following a low-noise front-end amplifier. The IRA Series of image rejection mixers has an integrated IF amplifier, thus making the overall sensitivity less dependent on the load noise. Now available with sideband selection switch, contact factory.

ELECTRICAL SPECIFICATIONS

| INPUT PARAMETERS | CONDITION | UNITS | MIN. | TYP. | MAX. |
|--|-------------|-------|------|-------|------|
| RF frequency range | | GHz | 5.4 | | 5.9 |
| RF VSWR (RF = -10 dBm) | | Ratio | | 2:1 | |
| LO frequency range | | GHz | 5.4 | | 5.9 |
| LO power range | | dBm | +7 | | +10 |
| LO VSWR | | Ratio | | 2:1 | |
| Bias | +15 Volts | mA | | 150 | |
| TRANSFER CHARACTERISTICS | CONDITION | UNITS | MIN. | TYP. | MAX. |
| Conversion gain | | dB | 25 | 27 | |
| Single-sideband noise figure at 25°C | | dB | | 6 | 7 |
| Image rejection (Note 1) | | dB | 20 | 22 | |
| LO-to-RF isolation | | dB | 20 | 25 | |
| LO-to-IF isolation | | dB | 20 | 22 | |
| Output power at 1 dB compression point | | dBm | 0 | +3 | |
| OUTPUT PARAMETERS | CONDITION | UNITS | MIN. | TYP. | MAX. |
| IF frequency range | IRA5459LR1A | MHz | 20 | | 40 |
| | IRA5459LR1B | MHz | 40 | | 80 |
| | IRA5459LR1C | MHz | 100 | | 200 |
| IF VSWR (IF = -10 dBm) | | Ratio | | 1.5:1 | |

IRA5459LR1A TYPICAL TEST DATA

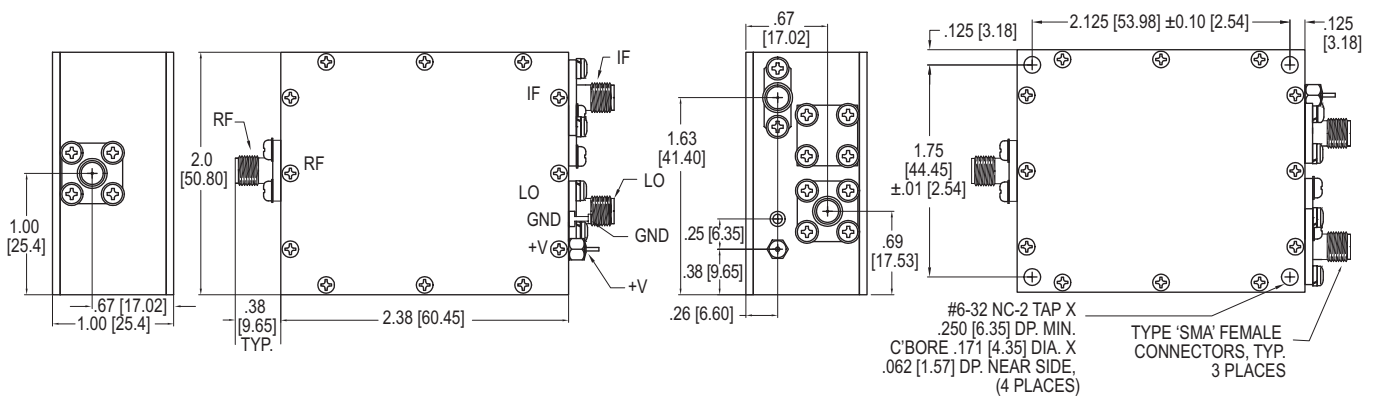


MAXIMUM RATINGS

Specifications taken at +25°C
 Operating temperature -54 to +85°C
 Storage temperature -65 to +125°C

NOTE: Test data supplied at 25°C; conversion gain, noise figure, image rejection, LO-to-RF isolation.

OUTLINE DRAWING



NOTES:

1. Housing: iridite; covers: iridite: prime and black paint.
2. 50 ohm termination. Terminate unused LO input port with supplied termination.
3. All dimensions shown in brackets [] are in millimeters.