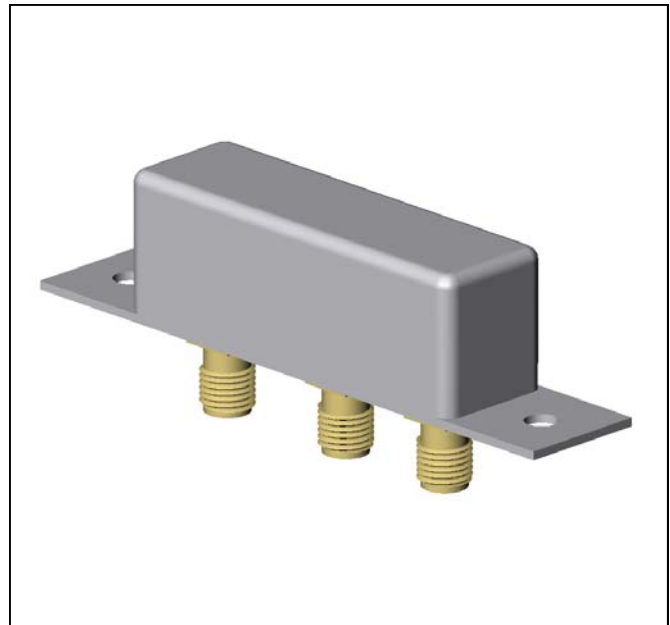


Double-Balanced Mixer

Rev. V2

Features

- LO and RF: 1.8 to 6.2 GHz
- IF: DC to 2 GHz
- LO Drive +7 dBm (nominal)
- High Isolation 35 dB (Typ.)



Guaranteed Specifications¹

| Characteristics | Min | Typ. | Max. | Test Conditions |
|---|-------|--------|---------|--|
| SSB Conversion Loss And SSB Noise Figure | | 7.0 dB | 8.5 dB | fL & fR 1.8 to 4.2 GHz fI 0.01 to 1 GHz |
| | | 8.5 dB | 9.5 dB | fL & fR 1.8 to 4.2 GHz fI 0.01 to 2 GHz |
| | | 9.0 dB | 10.0 dB | fL & fR 1.8 to 6.2 GHz fI 0.01 to 2 GHz |
| Isolation fL at R fL at I fL at R fL at I | 25 dB | 40 dB | | fL 1.8 to 4.2 GHz |
| | 15 dB | 25 dB | | |
| | 18 dB | 25 dB | | fL 4.2 to 6.2 GHz |
| | 15 dB | 20 dB | | |
| Conversion Compression | | 1.0 dB | | fR = 0 dBm fL at +7 dB, |

Notes:

1. Measure in a 50-Ohm system with nominal LO drive and downconverter application only, unless otherwise specified. The I-Port frequency range extends to DC for phase detection, pulse modulation, or attenuator applications, I-Port VSWR degrades from a 50-Ohm system at low IF frequencies.

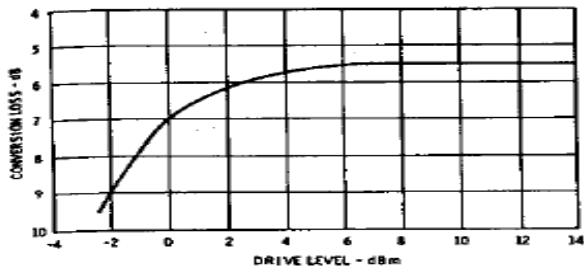
Absolute Maximum Ratings

| | |
|----------------------------|-----------------|
| Storage Temperature | -65°C to +100°C |
| Operating Temperature | -54°C to +100°C |
| Peak RF Input Power | +17 dBm |
| Peak Input Current at 25°C | 50 mA DC |

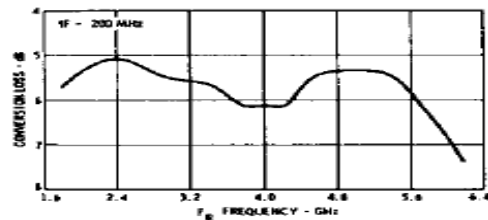
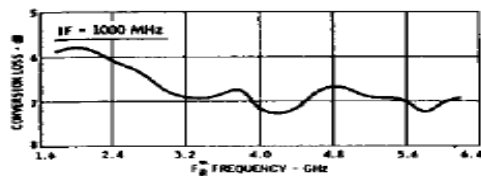
Weight 31 gram (1.1 oz) max.

Typical Performance Curves at 25°C

Conversion Loss

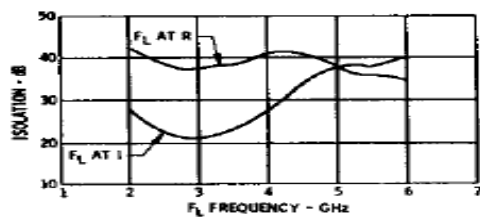


Conversion Loss vs. Drive Level: Conversion loss in an SSB system is a function of drive level (f_L with f_R at approximately 3 GHz and f_R level at -6 dBm.



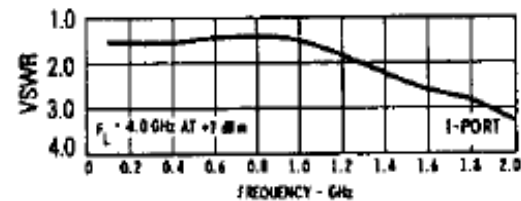
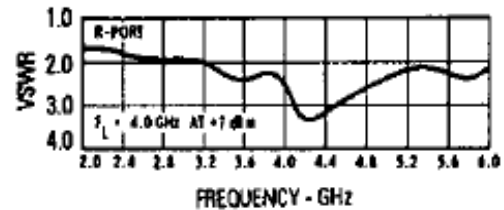
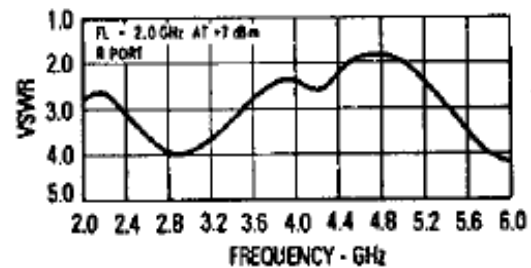
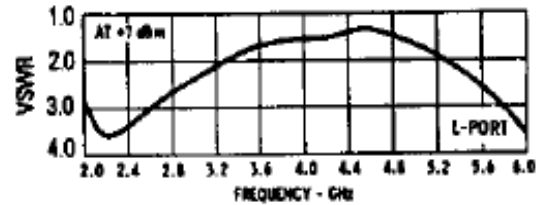
Conversion Loss vs. Input Frequency: The frequency ordinate refers to the report (f_R) with f_L at 200 MHz and 1000 MHz, data plotted with f_L at $+7$ dBm.

Isolation



Isolation vs. Frequency: Level of the f_L signal fed through to the R- and I-ports with respect to the level of the f_L signal at the L-port.

VSWR



VSWR vs. Frequency: VSWR of the L-, I- and R-ports in a 50-ohm system. Some variation in the R-port VSWR will occur as a function of the L-port frequency as shown above. Curves for R-port VSWR are plotted for L-port frequencies of 2 GHz and 4 GHz. A plot of I-port VSWR is also shown with f_L at 4 GHz.

Outline Drawing: M1H

