Double-Balanced Mixer
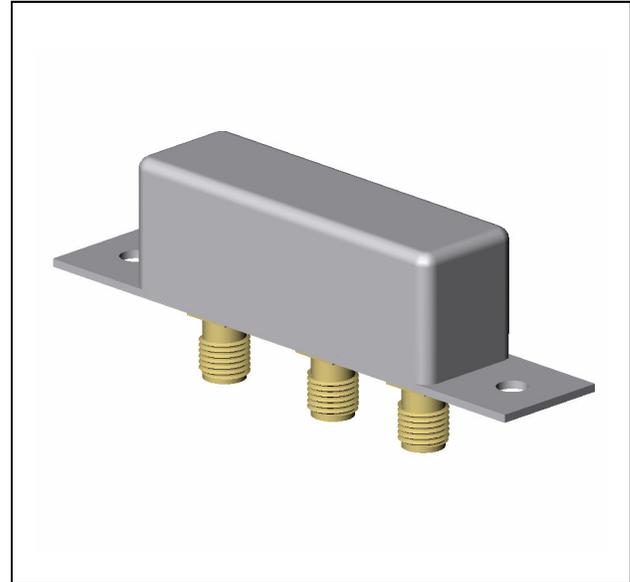
Features

- LO and RF: 1.0 to 4.2 GHz
- IF: DC to 1 GHZ
- LO Drive +7 dBm (nominal)
- High Isolation 40 dB (Typ.)

Guaranteed Specifications[1]

Characteristics	Min	Typ.	Max.	Test Conditions
SSB Conversion Loss And SSB Noise Figure		6.5 dB 7.5 dB	8.5 dB 9.0 dB	fL & fR 1.5 to 4.2 GHz fI 0.01 to 1 GHz fL & fR 1.0 to 1.5 GHz fI 10 to 500 MHz
Isolation fL at R fL at I	30 dB 20 dB	40 dB 30 dB		fL 1.0 to 4.2 GHz

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 $+100^{o}$C
Operating Temperature	-54°C to $+100^{o}$C
Peak RF Input Power	+17 dBm
Peak Input Current at 25°C	50 mA DC

Weight 31 gram (1.1 oz) max.

- **North America** Tel: 800.366.2266 / Fax: 978.366.2266
- **Europe** Tel: 44.1908.574.200 / Fax: 44.1908.574.300
- **Asia/Pacific** Tel: 81.44.844.8296 / Fax: 81.44.844.8298

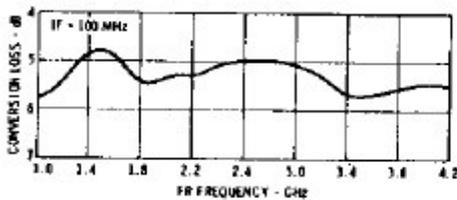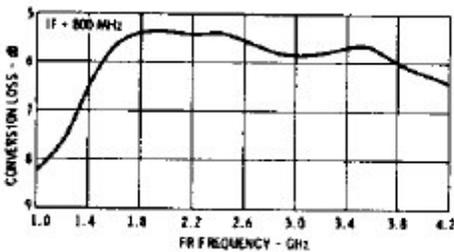Visit www.macom.com for additional data sheets and product information.

Typical Performance Curves at 25°C
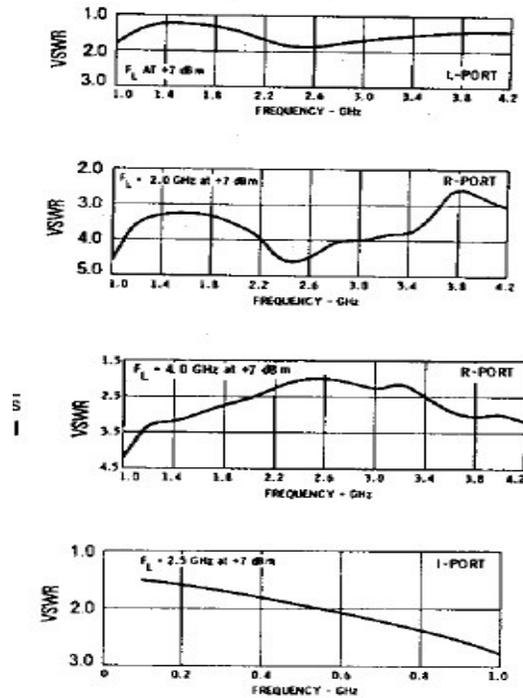
Conversion Loss

VSWR
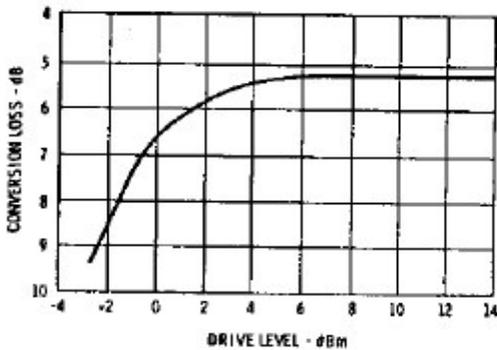
Conversion Loss vs. LO Drive Level:
The minimum recommended drive level is +4 dBm. The maximum recommended drive level is +13 dBm.


Conversion Loss vs. Input Frequency:
Conversion loss of the mixer when used in an SSB system. The frequency ordinate refers to the R-port (f_R) with f_L at 100 MHz and 800 MHz. Data plotted with an f_L level of +7 dBm.

VSWR vs. Frequency: VSWR of the 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. For the best R-port VSWR, the f_L frequency should be greater than the input frequency at the R-port. A plot of I-port VSWR is also shown with f_R at 2 GHz and f_L greater than f_R.

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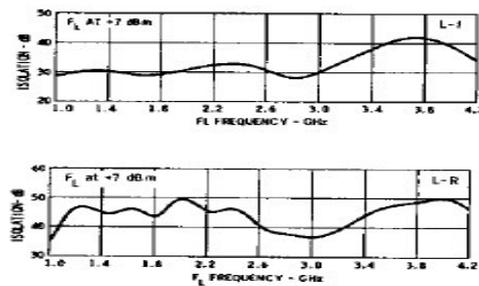
Isolation vs. Frequency: Level of the f_L signal fed through to the R- and I-ports with respect to the level of the f_L signal at the L-port.

Double-Balanced Mixer

Outline Drawing: M1G

DIMENSIONS ARE IN INCHES (MILLIMETERS)
± 015 (.38) UNLESS OTHERWISE SPECIFIED

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