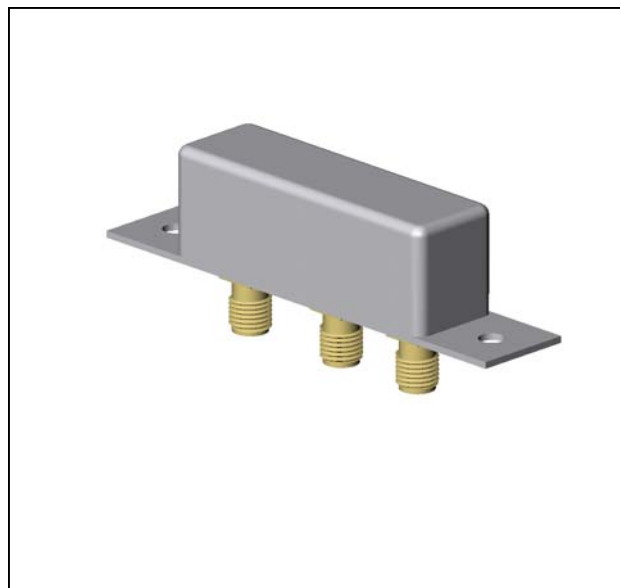


Double-Balanced Mixer

Rev. V2

Features

- LO and RF: 1.0 to 4.0 GHz
- IF: DC to 1000 MHz
- LO Drive +20 dBm (nominal)
- High Intercept Point: +28 dBm (Typ.)



Guaranteed Specifications¹

Characteristics	Min	Typ.	Max.	Test Conditions
SSB Conversion Loss And SSB Noise Figure			9.0 dB 11.0 dB	fL 1.2 to 4.0 GHz fR 1.2 to 3.5 GHz fI 10 to 500 MHz fL & fR 1.0 to 4.0 GHz fI 10 to 1000 MHz
Isolation fL at R fL at I	20 dB 10 dB 15 dB	31 dB 19 dB 25 dB		fL 1.0 to 4.0 GHz fL 1.0 to 2.0 GHz fL 2.0 to 4.0 GHz
Conversion Compression		1.0 dB		fL = +20 dBm fR = +13 dBm

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

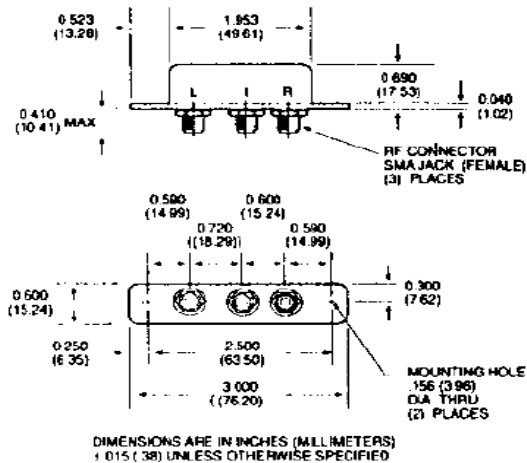
Storage Temperature	-65°C to +100°C
Operating Temperature Without Specification Degradation With dB Noise Figure Degradation	-54°C to +85°C -54°C to +100°C
Peak RF Input Power	+26 dBm, at +25°C

Weight 33 gram (1.164 oz) max.

Double-Balanced Mixer

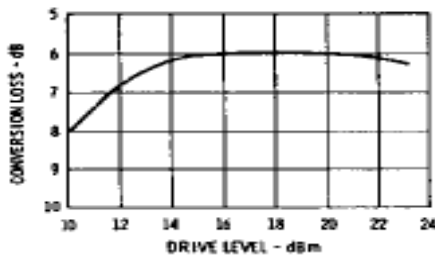
Rev. V2

Outline Drawing: M1K

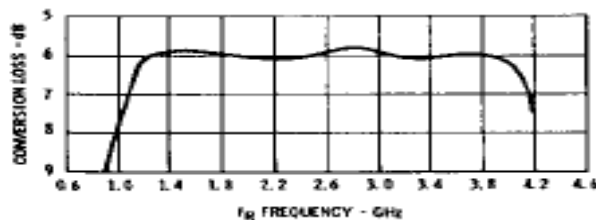


Typical Performance Curves at 25°C

Conversion Loss

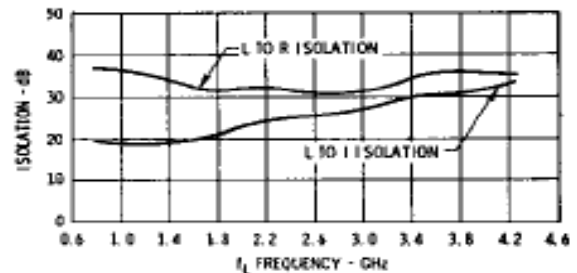


Conversion Loss vs. LO Drive Power:
The minimum recommended drive level is +14 dBm. The maximum recommended drive level is +23 dBm.



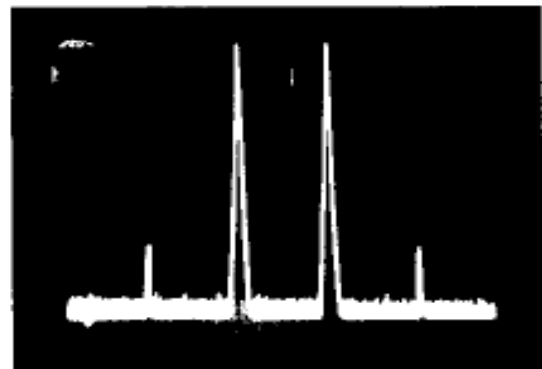
Conversion Loss vs. Input Frequency:
Conversion loss of the mixer when used in an SSB system. The frequency ordinate refers to the R-port (f_R) with f_L at 500 MHz and f_L greater than f_R . Data plotted with an f_L level of +20 dBm.

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.

Two-Tone Intermodulation



Typical Two-Tone Intermodulation Performance: $f_L = 500$ MHz, $f_R = 2.5$ GHz ± 1 MHz, $f_L > f_R$, $f_L = 3.0$ GHz at +20 dBm, f_R at -10 dBm vertical scale 10 dB/cm.