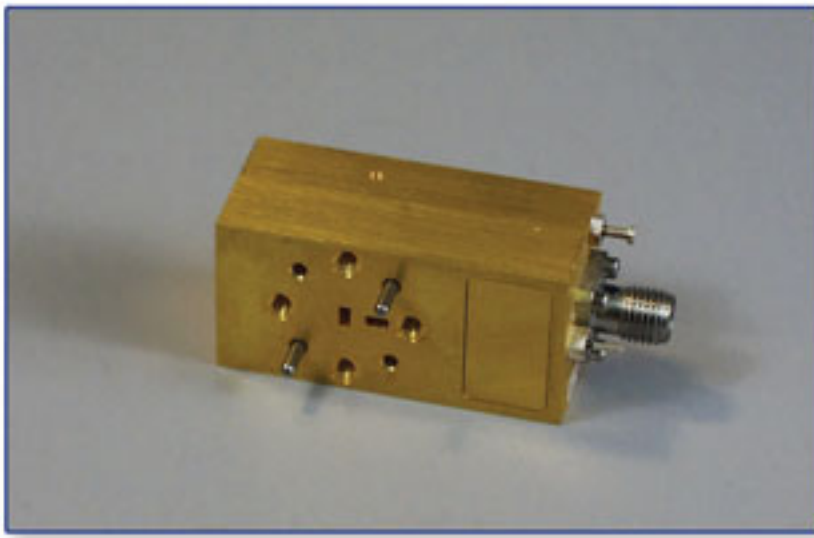


# 960 Series Balanced Mixers



## Features

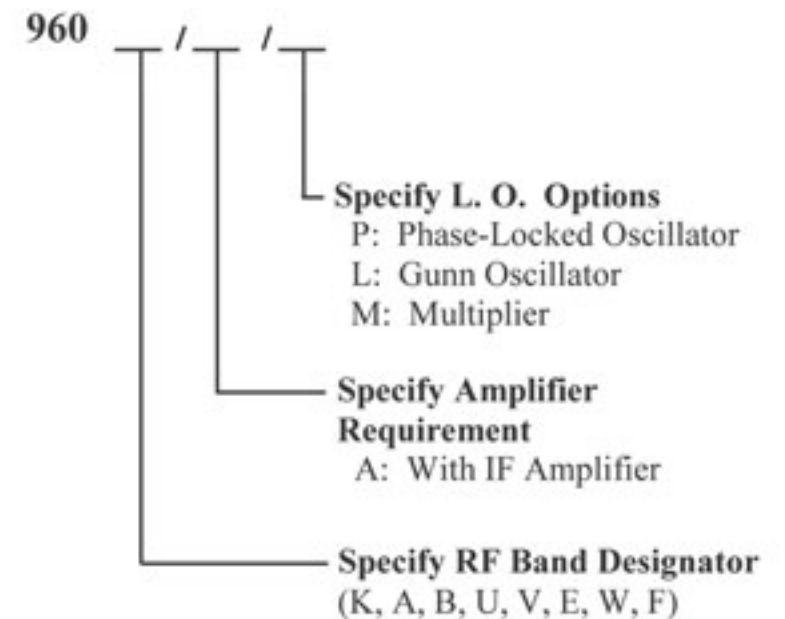
- Low Cost
- Low Noise Figures
- Moderate RF Bandwidths
- With or Without IF Amplifier

## Description

**Mi-Wave** 960 series balanced mixers offers low conversion losses, 7dB nominal at 35 GHz with a 1GHz IF. These units are available with or without IF amplifiers and have low DSB noise figures. Improved performance results from the use of GaAs beam-lead diodes and MIC construction. IF amplifier designs from 1 to 8 GHz use GaAs FETs to ensure low noise figure. Bipolar transistor amplifiers are used between 10 and 1000MHz.

This low cost 960 series design can be used in applications where critical conversion loss or noise figures are not essential. Possible applications include breadboard or feasibility models and in commercial test equipment.

## Ordering Information



Please be sure to specify center RF frequency, LO frequency, and IF output frequency. Optimized performance units are available.

## Technical Specifications

Model Number	960K	960A	960B	960U	960V	960E	960W	960F
Frequency Band (GHz)	18.0-26.5	26.5-40.0	33.0-50.0	40.0-60.0	50.0-75.0	60.0-90.0	75.0-110.0	90.0-140.0
Waveguide	WR-42	WR-28	WR-22	WR-19	WR-15	WR-12	WR-10	WR-8
DSB Noise Figure (dB) Max. <sup>1</sup>	3.5	4.0	4.0	4.5	4.5	5.0	5.0	5.5
Conversion Loss (dB) Max. <sup>2</sup>	5.0	5.5	5.5	6.0	6.0	6.5	6.5	7.0

1. DSB noise figure assumes +7 dBm L. O., IF frequency 10-1000 MHz, and 1.5 dB IF amplifier noise figure. Please note that noise figure and conversion loss both increase with increasing IF bandwidth.
2. Conversion loss SSB (dB) assumes +7 dBm L. O. Please note that noise figure and conversion loss both increase with increasing IF bandwidth. Starved or high LO drive versions available upon request, e. g. 0 dBm > LO > +16 dBm.

## Operating Specifications

LO Bandwidth.....	2 GHz
LO Drive.....	+9 dBm Type <sup>1</sup>
LO/RF Isolation.....	20 dB Typ
VSWR-RFPort.....	2:1Typ
CW RF Burnout Level.....	+20 dBm Max.
Pulsed RF Burnout Level.....	+23 dBm Max.
Operating Temperature.....	-40 KHz PRF -40° C to +70° C
IF Amplifier - Typical Performance for 10 - 1000 MHz	
Gain.....	23 + 1 dB Standard
Output Power.....	0 dBm (1 dB Compressed)
Output Impedance.....	50 Ohm Nom.
Output VSWR.....	1:5:1 Max.
DC Power.....	+15 Vdc @ 80 mA Max.

1. Starved or high LO drive versions available upon request, e. g. 0 dBm > LO > +16 dBm.