

Double-Balanced Mixer

Rev. V3

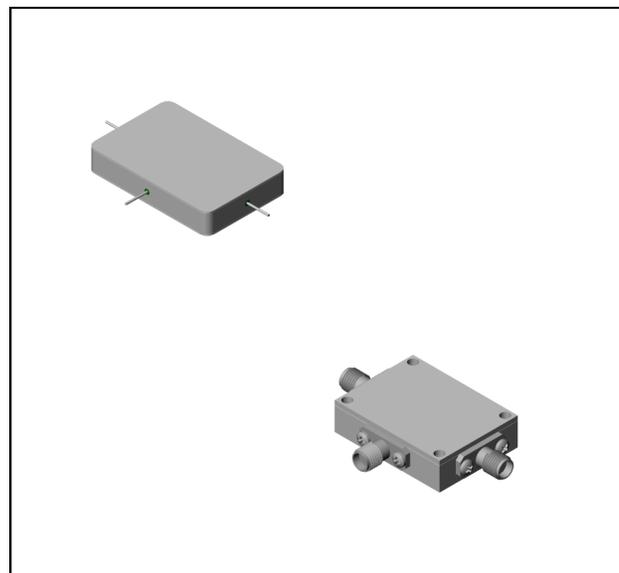
Features

- LO 2.5 TO 7.5 GHz
- RF 2.5 TO 6.5 GHz
- IF DC TO 1.5 GHz
- LO DRIVE: +20 dBm (NOMINAL)
- HIGH THIRD-ORDER IP +22 dBm (TYP.)

Description

The M63H is a double balanced mixer, designed for use in military, commercial and test equipment applications. The design utilizes Schottky ring quad diodes and broadband soft dielectric and ferrite baluns to attain excellent performance. This mixer can also be used as a phase detector and/or bi-phase modulator since the IF port is DC coupled to the diodes. The use of high temperature solder and welded assembly processes used internally makes it ideal for use in manual, semi-automated assembly. Environmental screening available to MIL-STD-883, MIL-STD-202, or MIL-DTL-28837, consult factory.

Product Image



Ordering Information

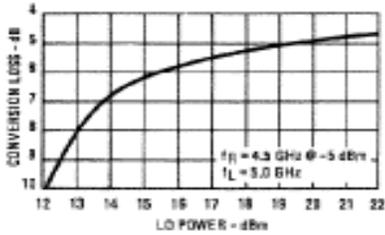
| Part Number | Package |
|-------------|-------------------|
| M63H | Minpac |
| M63HC | SMA Connectorized |

Electrical Specifications: $Z_0 = 50\Omega$ $Lo = +20$ dBm (Downconverter application only)

| Parameter | Test Conditions | Units | Typical | Guaranteed | |
|--|--|-------|---------|------------|---------------|
| | | | | +25°C | -54° to +85°C |
| SSB Conversion Loss (max) & SSB Noise Figure (max) | fR = 3 to 5 GHz, fL = 3 to 5.5 GHz, fl = 0.03 to 0.5 GHz fR = 2.5 to 6.5 GHz, fL = 2.5 to 7.5 GHz, fl = 0.03 to 1.5 GHz | dB | 5.8 | 6.5 | 6.8 |
| | | | 6.0 | 7.5 | 7.8 |
| Isolation, L to R (min) | fL = 2.5 to 6.5 GHz fL = 6.5 to 7.5 GHz | dB | 42 | 30 | 29 |
| | | | 32 | 26 | 25 |
| Isolation, L to I (min) | fL = 3 to 5.5 GHz fL = 5.5 to 7.5GHz fL = 2.5 to 3 GHz | dB | 24 | 19 | 18 |
| | | | 18 | 13 | 12 |
| | | | 21 | 17 | 16 |
| 1 dB Conversion Comp. | fL = +20 dBm | dBm | +14 | | |
| Input IP3 | fR1=4 GHz at 0 dBm, fR2=3.99 GHz at 0 dBm, fL = 5 GHz at = 20 dBm | dBm | +22 | | |

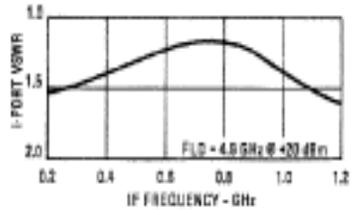
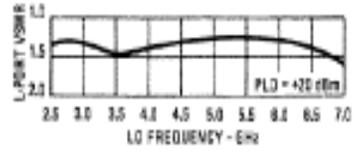
Typical Performance Curves

Drive Level

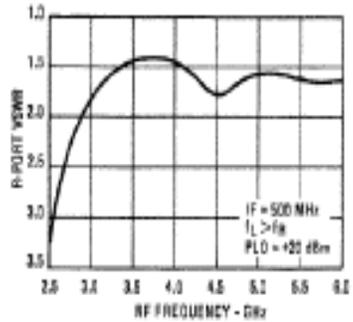
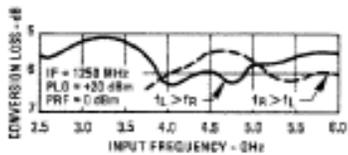
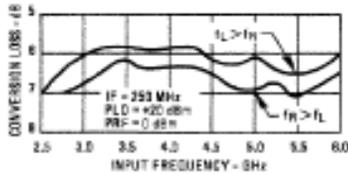


Drive Level: The maximum recommended drive level is +23 dBm.

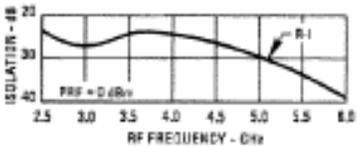
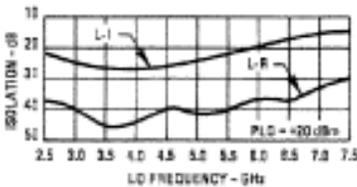
VSWR



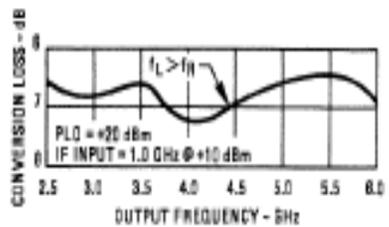
Conversion Loss



Isolation



Conversion Loss (Upconversion)



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