M67 / M67C

Double-Balanced Mixer

Rev. V3

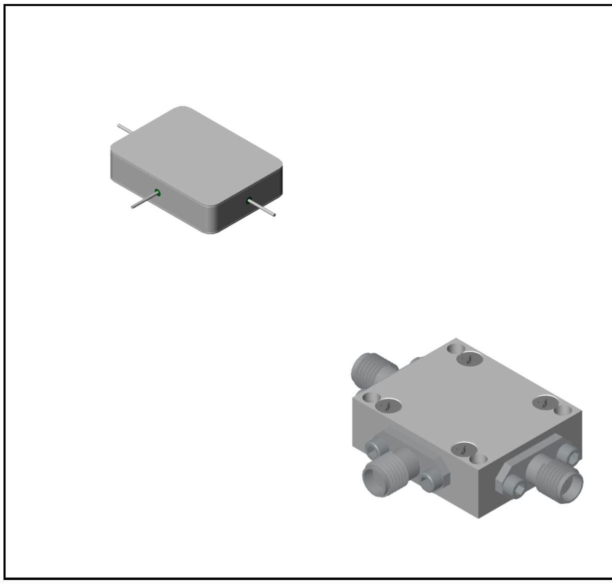
Features

- LO 7 TO 17 GHz
- RF 9 TO 15 GHz
- IF DC TO 2.5 GHz
- LO DRIVE: +10 dBm (NOMINAL)
- LOW NOISE FIGURE: 6.5 dB (TYP.)

Description

The M67 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

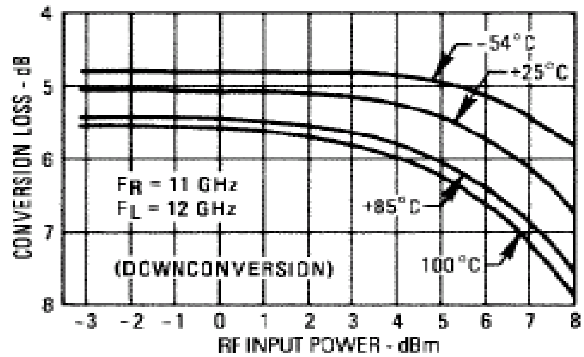
Part Number	Package
M67	Minpac
M67C	SMA Connectorized

Electrical Specifications: Z_0 = 50Ω LO = +10 dBm (Downconverter application only)

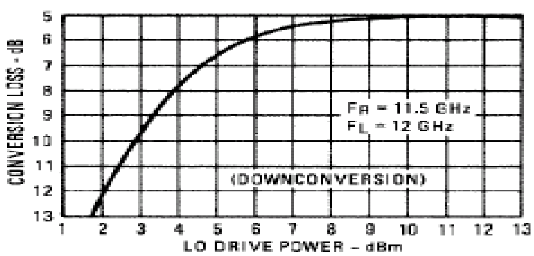
Parameter	Test Conditions	Units	Typical	Guaranteed	
				+25ºC	-54º to +85ºC
SSB Conversion Loss (max) & SSB Noise Figure (max)	fR = 9.5 to 13 GHz, fL = 9 to 13.5 GHz, fI = 30 to 500 GHz fR = 9 to 15 GHz, fL = 8 to 16 GHz, fI = 30 to 1000 GHz fR = 9 to 15 GHz, fL = 7 to 17 GHz, fI = 30 to 2000 GHz fR = 9.5 to 13.5 GHz, fL = 7 to 16 GHz, fI = 30 to 2500 GHz	dB dB dB dB	5.5 6.5 6.5 6.5	7.0 8.5 9.0 9.0	7.5 9.0 9.5 9.5
Isolation, L to R (min)	fL = 7 to 15 GHz fL = 15 to 17 GHz	dB dB	40 30	22 10	20 8
Isolation, L to I (min)	fL = 7 to 17 GHz	dB	25	15	13
1 dB Conversion Comp.	fL = +10 dBm	dBm	+4		
Input IP3	fR1=11.5 GHz at –6 dBm,fR2=11.5GHz at –6 dBm, fL = 12 GHz at = +10 dBm	dBm	+11		

Typical Performance Curves

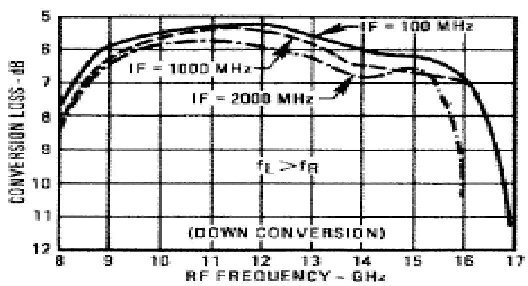
Conversion Loss vs. RF Input Power



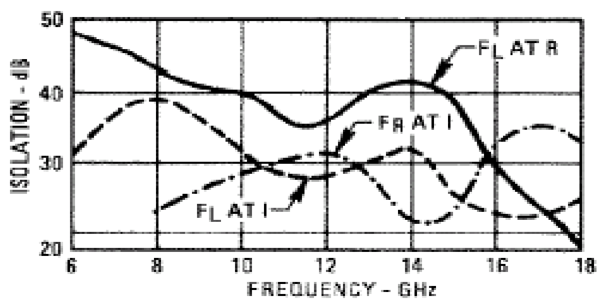
Conversion Loss vs. LO Drive

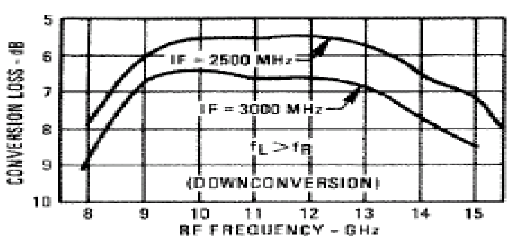


Conversion Loss vs. Frequency



Isolation vs. Frequency





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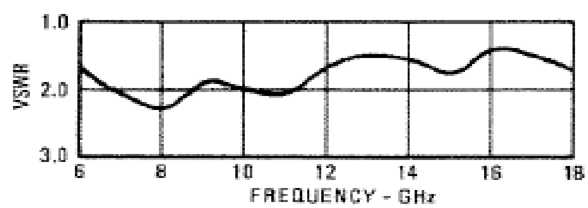
L-Port VSWR vs. Frequency



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Conversion Loss vs. Output Frequency