

I/Q Mixer / Modulator

Model MIQ6xMS-1

Communications Band

RF 5.5 to 13.5 GHz

Electrical Specifications:⁽¹⁾

Parameter	Conditions			Specifications		
	RF (GHz)	LO (GHz)	IF (MHz)	Min	Typical	Max
SSB Conversion loss: ^{(2) (3)}	7.0-12.7	7.0-12.7	DC-500		5.0 dB	6.5 dB
	5.5-13.5	5.5-13.5	DC-500		5.3 dB	7.0 dB
Image Rejection Side-band Suppression: ⁽⁴⁾	9.5-12.7	9.5-12.7	DC-500	20 dB	28 dB	
	5.5-13.5	5.5-13.5	DC-500	16 dB	25 dB	
Amplitude Match	5.5-13.5	5.5-13.5	DC-500		0.2 dB	
Phase Match	5.5-13.5	5.5-13.5	DC-500		5 deg	
Isolation	5.5-13.5	5.5-13.5	LO to RF:	20 dB	25 dB	
			LO to I/Q:	25 dB	35 dB	
			RF to I/Q:		28 dB	
			I/Q to RF:		40 dB	
Input 1 dB Compression Point:	5.5-13.5	5.5-13.5	DC-500	+5 dBm	MIQ64	
				+8 dBm	MIQ66	
				+12 dBm	MIQ67	
				+15 dBm	MIQ68	
Input Third Order Intercept Point:	5.5-13.5	5.5-13.5	DC-500	+14 dBm	MIQ64	
				+17 dBm	MIQ66	
				+21 dBm	MIQ67	
				+25 dBm	MIQ68	
LO Power: ⁽⁵⁾	5.5-13.5	5.5-13.5	DC-500	+10 dBm	MIQ64	
				+13 dBm	MIQ66	
				+17 dBm	MIQ67	
				+22 dBm	MIQ68	

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LO Power

- 4 = +10 dBm
- 6 = +13 dBm
- 7 = +17 dBm
- 8 = +22 dBm

Notes:

- Specifications are guaranteed when tested as a downconverter in a 50 Ohm system at +25°C with the nominal LO power. Specifications indicated as typical are not guaranteed.
- Noise figure is typically within ±0.5 dB of conversion loss for IF frequencies greater than 10 MHz.
- Conversion loss typically degrades less than 0.5 dB at +100°C and improves less than 0.5 dB at -55°C. Conversion loss is the combined value.
- Measured with an IF quadrature hybrid whose amplitude and phase errors are 0.5 dB and 3 degrees maximum. An IF quadrature hybrid is not included.
- Usable LO drives are up to 2 dB below to 3 dB above nominal.
- See Application notes M112, for aid in selecting the outline and for mounting and installation information.

Typical Performance at 25°C

