

# I/Q Mixer / Modulator

# Model MIQ6xSMD-1

Communications Band

RF 5.5 to 13.5 GHz

## Electrical Specifications:<sup>(1)</sup>

Parameter	Conditions			Specifications		
	RF (GHz)	LO (GHz)	IF (MHz)	Min	Typical	Max
SSB Conversion loss: <sup>(2) (3)</sup>	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 Sideband Suppression: <sup>(4)</sup>	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		20 dB	25 dB	
			LO to RF:	25 dB	35 dB	
			LO to I/Q:	28 dB	40 dB	
			RF to I/Q:			
Input 1 dB Compression Point:	5.5-13.5	5.5-13.5	DC-500		+5 dBm +8 dBm +12 dBm	MIQ64 MIQ66 MIQ67
Input Third Order Intercept Point:	5.5-13.5	5.5-13.5	DC-500		+14 dBm +17 dBm +21 dBm	MIQ64 MIQ66 MIQ67
LO Power: <sup>(5)</sup>	5.5-13.5	5.5-13.5	DC-500		+10 dBm +13 dBm +17 dBm	MIQ64 MIQ66 MIQ67

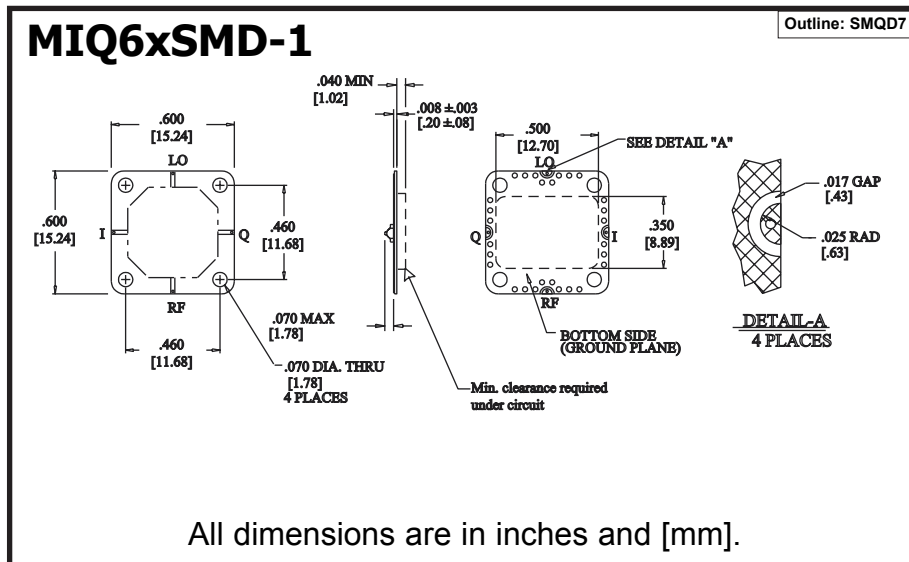
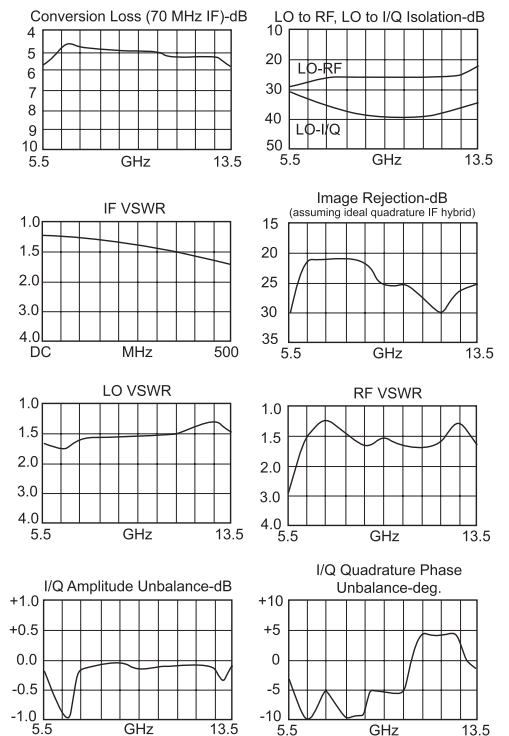
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**LO Power**  
 4 = +10 dBm  
 6 = +13 dBm  
 7 = +17 dBm

### 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



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