# I/Q Mixer / Modulator

## **Model MIQ2xSMD-2**

### **Communications Band**

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

#### RF 1.9 to 4.2 GHz

	Conditions			Specifications		
Parameter	RF (GHz)	LO (GHz)	IF (MHz)	Min	Typical	Max
SSB Conversion	2.0-4.2	2.0-4.2	DC-500		5.5 dB	7.0 dB
loss: <sup>(2)(3)</sup>	1.9-4.2	1.9-4.2	DC-500		6.0 dB	7.5 dB
Image Rejection Side-	1.9-2.0	1.9-2.0	DC-500	18 dB	26 dB	
band Suppression: (4)	2.0-4.2	2.0-4.2	DC-500	20 dB	32 dB	
Amplitude Match	1.9-4.2	1.9-4.2	DC-500		0.2 dB	
Phase Match	1.9-4.2	1.9-4.2	DC-500		2 deg	
Isolation						
LO to RF:		1.9-4.2		34 dB	42 dB	
LO to I/Q:		1.9-4.2			30 dB	
RF to I/Q:	1.9-4.2				24 dB	
I/Q to RF:			DC-500		40 dB	
Input 1 dB	1.9-4.2	1.9-4.2	DC-500		+6 dBm	MIQ24
Compression Point:					+9 dBm	MIQ26
					+13 dBm	MIQ27
Input Third Order	1.9-4.2	1.9-4.2	DC-500		+14 dBm	MIQ24
Intercept Point:					+17 dBm	MIQ26
					+21 dBm	MIQ27
LO Power: <sup>(5)</sup>	1.9-4.2	1.9-4.2	DC-500		+10 dBm	MIQ24
					+13 dBm	MIQ26
					+17 dBm	MIQ27

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7 = +17 dBm

Notes: 1.

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.

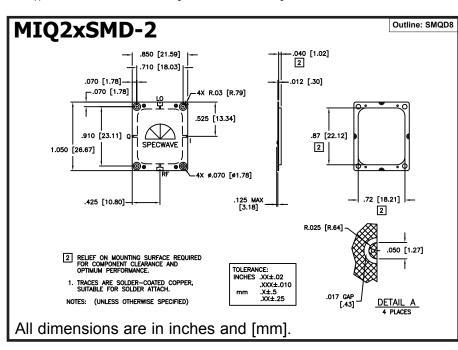
Noise figure is typically within ±0.5 dB of conversion loss for IF frequencies greater than 10 MHz. 2.

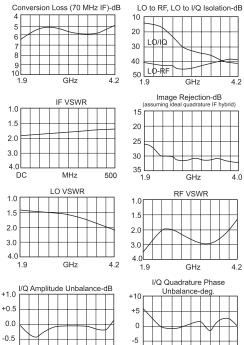
3. Conversion loss typically degrades less than 0.5 dB at +100°C and improves less than 0.5 dB at -55°C. Conversion loss is the combined value

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. 4.

Usable LO drives are up to 2 dB below to 3 dB above nominal. 5.

6. See Application notes M112, for aid in selecting the outline and for mounting and installation information.





-10

1.9

GHz

4.0



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-1.0

1.9

GHz

#### Typical Performance at 25°C

4 2

+

4.0

4.2

4.0

Rev.