I/Q Mixer / Modulator — Model MIQ5xSMD-1

Communications Band — RF 5.6 to 9.0 GHz

Electrical Specifications:(1)

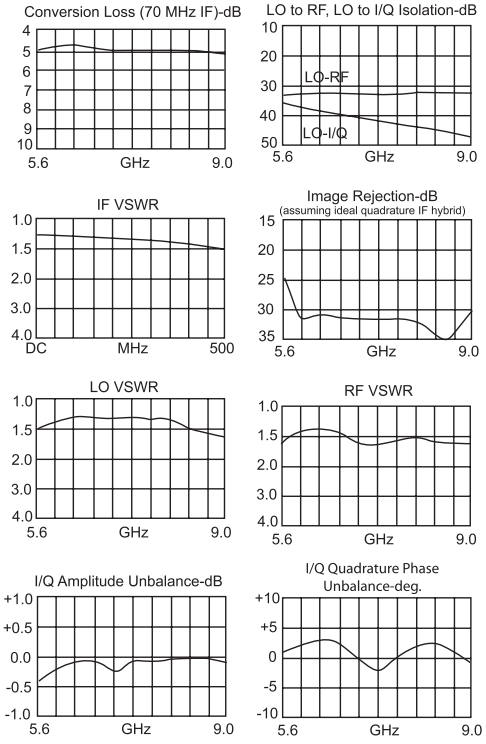
Parameter	Conditions RF (GHz)	LO (GHz)	IF (MHz)	Specifications Min	Typical	Max
SSB Conversion loss: (2) (3)	5.6-9.0	5.6-9.0	DC-500		5.0 dB	6.5 dB
Image Rejection Side-band Suppression: (4)	5.8-8.8 5.6-9.0	5.8-8.8 5.6-9.0	DC-500 DC-500	22 dB 18 dB	33 dB 32 dB	
Amplitude Match	5.6-9.0	5.6-9.0	DC-500		0.2 dB	
Phase Match	5.6-9.0	5.6-9.0	DC-500		3 deg	
Isolation						
LO to RF:		5.6-9.0		25 dB	31 dB	
LO to I/Q:		5.6-9.0		25 dB	40 dB	
RF to I/Q:	5.6-9.0				26 dB	
I/Q to RF:			DC-500		40 dB	
Input 1 dB Compression Point:	5.6-9.0	5.6-9.0	DC-500		+5 dBm +8 dBm +12 dBm	MIQ54 MIQ56 MIQ57
Input Third Order Intercept Point:	5.6-9.0	5.6-9.0	DC-500		+14 dBm +17 dBm +21 dBm	MIQ54 MIQ56 MIQ57
LO Power: (5)	5.6-9.0	5.6-9.0	DC-500		+10 dBm +13 dBm +17 dBm	MIQ54 MIQ56 MIQ57

Model MIQ5xSMD-1

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

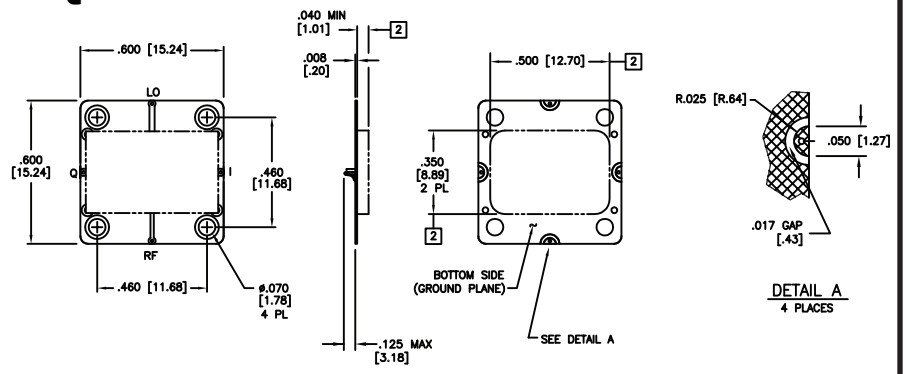
Notes:
1. Specifications are guaranteed when tested as a downconverter in a 50 Ohm system at +25˚C with the nominal LO power. Specifications indicated as typical are not guaranteed.
2. Noise figure is typically within ±0.5 dB of conversion loss for IF frequencies greater than 10 MHz.
3. Conversion loss 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.
4. 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.
5. Usable LO drives are up to 2 dB below to 3 dB above nominal.
6. See Application notes M112, for aid in selecting the outline and for mounting and installation information.

Typical Performance at 25˚C



MIQ5xSMD-1

Outline: SMQD7



2 RELIEF ON MOUNTING SURFACE REQUIRED FOR COMPONENT CLEARANCE AND OPTIMUM PERFORMANCE.

1. TRACES ARE SOLDER-COATED COPPER OR IMMERSION SILVER OVER COPPER SUITABLE FOR SOLDER ATTACH.

NOTES: (UNLESS OTHERWISE SPECIFIED)

TOLERANCE:
INCHES .XX±.02
.XXX±.010
mm .X±.5
.XX±.25

All dimensions are in inches and [mm].

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