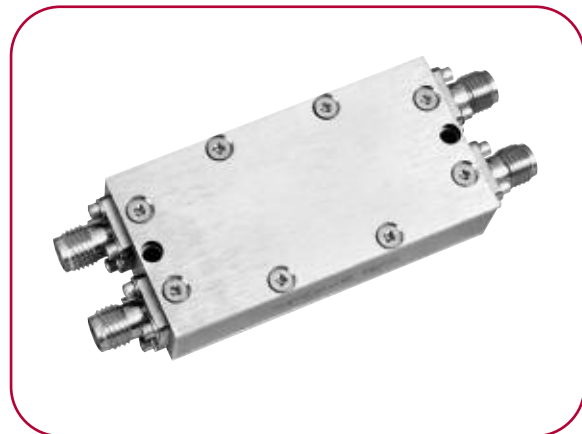


## 8 TO 12 GHz IMAGE REJECTION OR I/Q MIXER

### MODELS: IRM0812LC2A, IRM0812LC2B, IRM0812LC2C AND IRM0812LC2Q

#### FEATURES

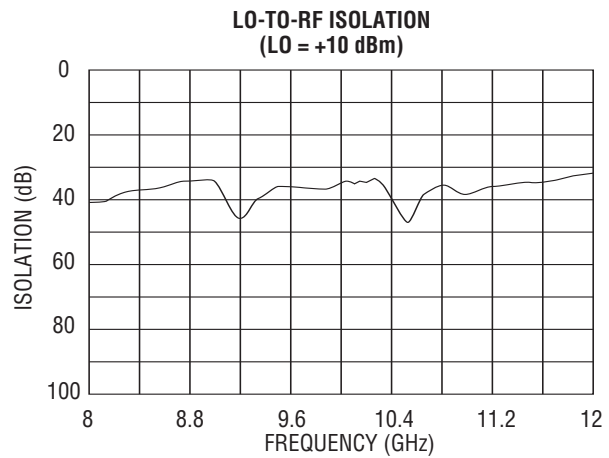
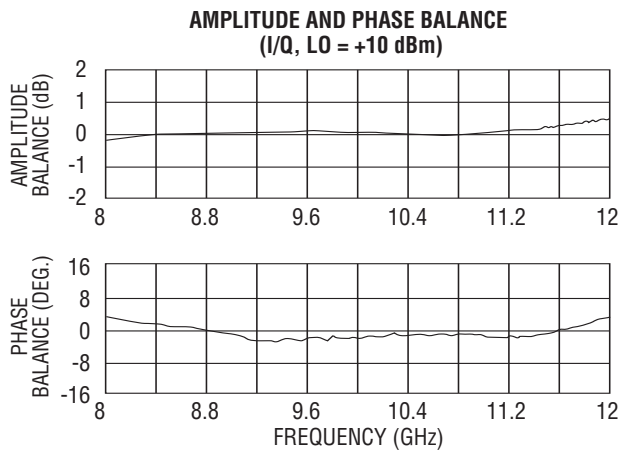
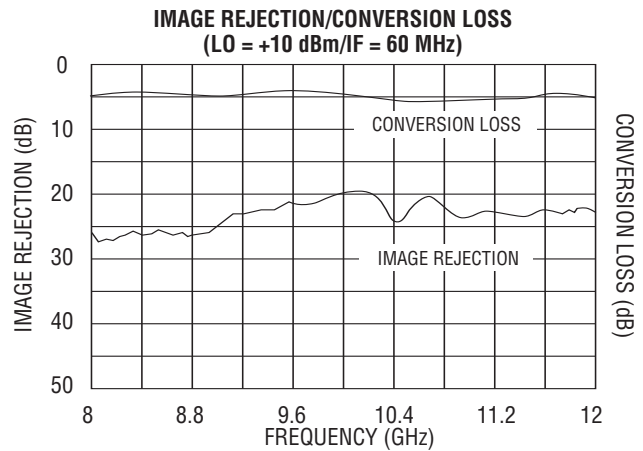
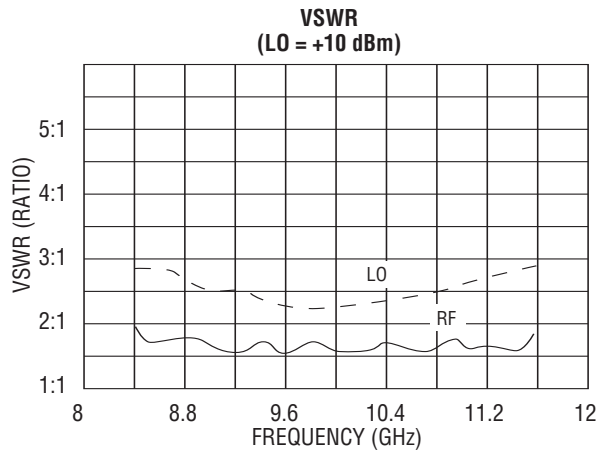
- RF/LO coverage ..... 8 to 12 GHz
- IF operation ..... DC to 0.5 GHz
- Conversion loss ..... 6.5 dB typical
- Image rejection ..... 23 dB typical



#### ELECTRICAL SPECIFICATIONS

INPUT PARAMETERS	CONDITION	UNITS	MIN.	TYP.	MAX.
RF frequency range		GHz	8		12
RF VSWR (RF = -10 dBm)		Ratio		2:1	
LO frequency range		GHz	8		12
LO power range	IRM0812LC2	dBm	+10	+12	+13
	IRM0812MC2	dBm	+13	+15	+16
	IRM0812HC2	dBm	+17	+18	+20
LO VSWR		Ratio		2.5:1	
TRANSFER CHARACTERISTICS	CONDITION	UNITS	MIN.	TYP.	MAX.
Conversion loss (Note 1)	RF > LO	dBm		6.5	8
	IRM0812LC2Q	dB		9.5	11
Single-sideband noise figure		dB		8.5	
Image rejection (Note 1)	RF < LO	dB	18	23	
LO-to-RF isolation		dB	20	30	
LO-to-IF isolation		dB		20	
Input power at 1 dB compression	IRM0812LC2	dBm		+6	
	IRM0812MC2	dBm		+10	
	IRM0812HC2	dBm		+15	
Input two-tone third-order intercept point	IRM0812LC2	dBm		+16	
	IRM0812MC2	dBm		+20	
	IRM0812HC2	dBm		+25	
Amplitude balance	IRM0812LC2Q	dB			±1
Phase balance	IRM0812LC2Q	Degrees			±7.5
Truth table	IRM0812LC2Q		PORT	RF < LO	RF > LO
			I	0	-90
		Q	-90	0	
OUTPUT PARAMETERS	CONDITION	UNITS	MIN.	TYP.	MAX.
IF frequency (image rejection mode)	IRM0812LC2A	MHz	20		40
	IRM0812LC2B	MHz	40		80
	IRM0812LC2C	MHz	100		200
IF frequency (QIFM, I/Q demodulator mode)	IRM0812LC2Q	MHz	DC		500
IF VSWR (IF = -10 dBm)		Ratio		1.5:1	

# IRM0812LC2B TYPICAL TEST DATA



**MAXIMUM RATINGS**

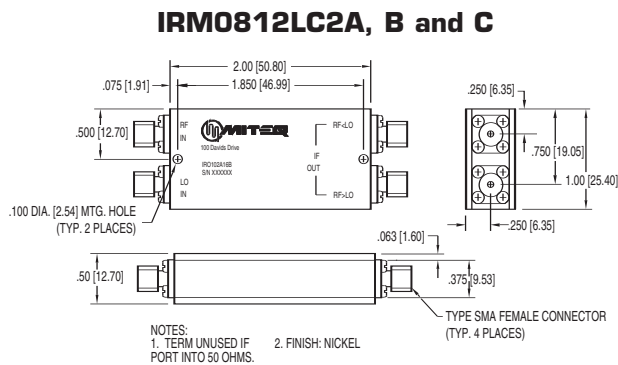
Specification temperature..... +25°C  
 Operating temperature ..... -54 to +85°C  
 Storage temperature ..... -65 to +125°C

**GENERAL NOTES**

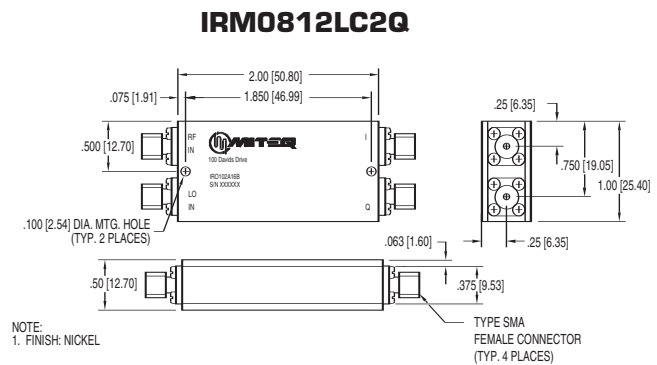
1. Standard catalog unit aligned and tested for guaranteed RF > LO performance. RF < LO guaranteed performance is available, please contact MITEQ.
2. For upconverter applications, please order Model Number SSM0812 Series. See Modulator section of catalog.

NOTE: Test data supplied at 25°C; conversion loss, LO-to-RF isolation, image rejection (IF Options A, B and C), phase and amplitude balance (IF Option Q).

## OUTLINE DRAWINGS



**IMAGE REJECTION**



**QIFM, I/Q DEMODULATOR**

NOTE: All dimensions shown in brackets [ ] are in millimeters.

