

## 2 TO 18 GHz BIASABLE IMAGE REJECTION MIXERS

### MODELS: IRB0218LC1A, IRB0218LC1B AND IRB0218LC1C

#### FEATURES

- RF/LO coverage ..... 2 to 18 GHz
- IF operation ..... 20 to 200 MHz
- LO power range ..... -10 to +13 GHz
- Conversion loss..... 10 dB typical
- Image rejection ..... 20 dB typical

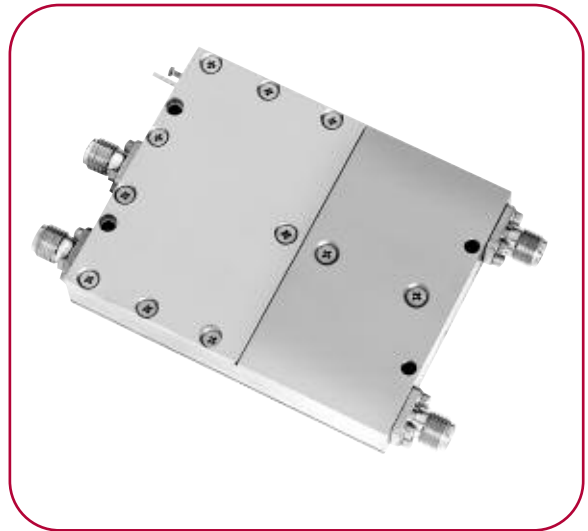


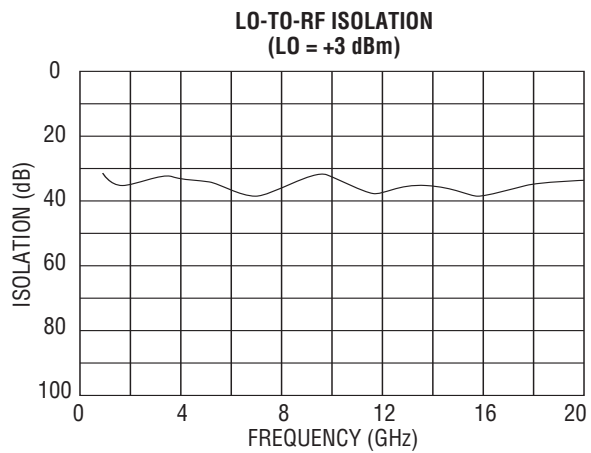
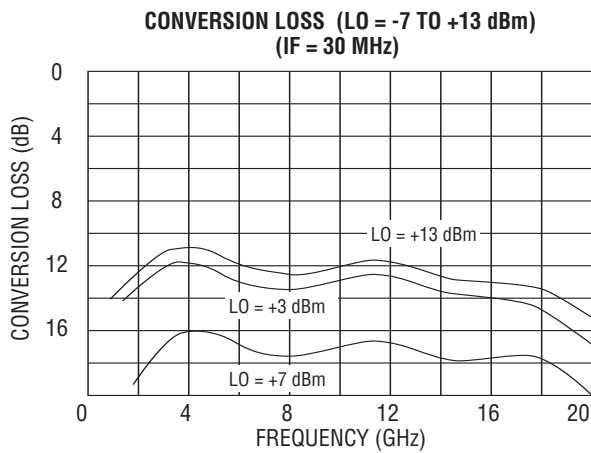
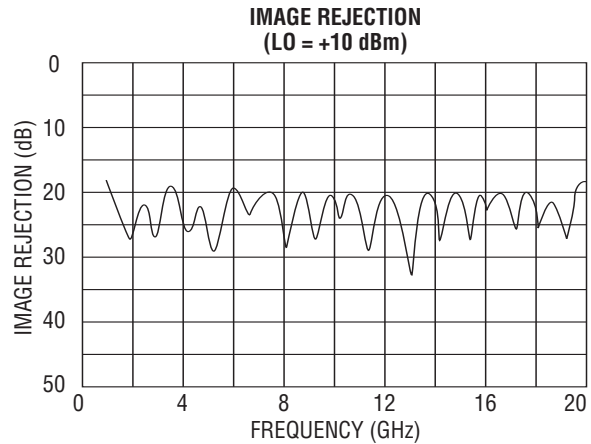
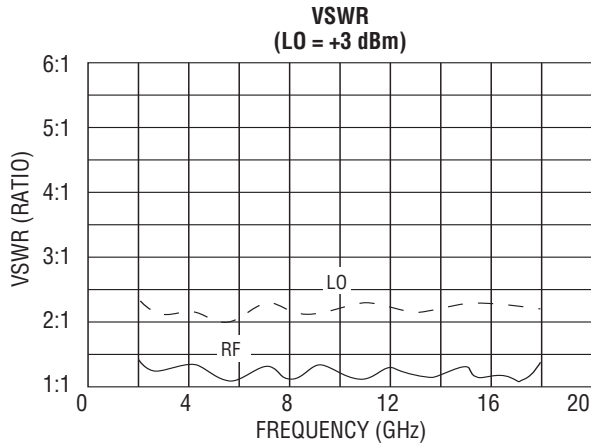
Image rejection mixers are useful for wideband test equipment or in ultra-broadband receivers requiring rejection of an unwanted sideband of signal or noise following a low-noise front-end amplifier. These mixers are also useful as linear single-sideband upconverters by operating in the reverse mode. The MITEQ IRB Series design utilizes two mixers with biasable bridge diode quads, thus allowing operation at very low LO powers. The bias circuit also automatically compensates for any power variations in the swept LO source.

#### ELECTRICAL SPECIFICATIONS

INPUT PARAMETERS	CONDITION	UNITS	MIN.	TYP.	MAX.
RF frequency range		GHz	2		18
RF VSWR (RF = -10 dBm, LO = 0 dBm)		Ratio		2:1	
LO frequency range		GHz	2		18
LO power range		dBm	-10	0	+13
LO VSWR (LO = 0 dBm)		Ratio		2.5:1	
DC power	+15 VDC	mA		25	
TRANSFER CHARACTERISTICS	CONDITION	UNITS	MIN.	TYP.	MAX.
Conversion loss (Note 1) (RF = -10 dBm, LO = 0 dBm)	RF > LO	dB		10	12.5
Single-sideband noise figure		dB		10	
Image rejection (Note 1)	RF < LO	dB	18	20	
LO-to-RF isolation		dB	15	18	
LO-to-IF isolation		dB		20	
Input power at 1 dB compression	LO = 0 dBm	dBm		-10	
Input two-tone third-order intercept point	LO = 0 dBm	dBm		0	
OUTPUT PARAMETERS	CONDITION	UNITS	MIN.	TYP.	MAX.
IF frequency range	IRB0218LC1A	MHz	20		40
	IRB0218LC1B	MHz	40		80
	IRB0218LC1C	MHz	100		200
IF VSWR (IF = -10 dBm, LO = 0 dBm)		Ratio		1.5:1	



# IRB0218LC1A TYPICAL TEST DATA



**MAXIMUM RATINGS**

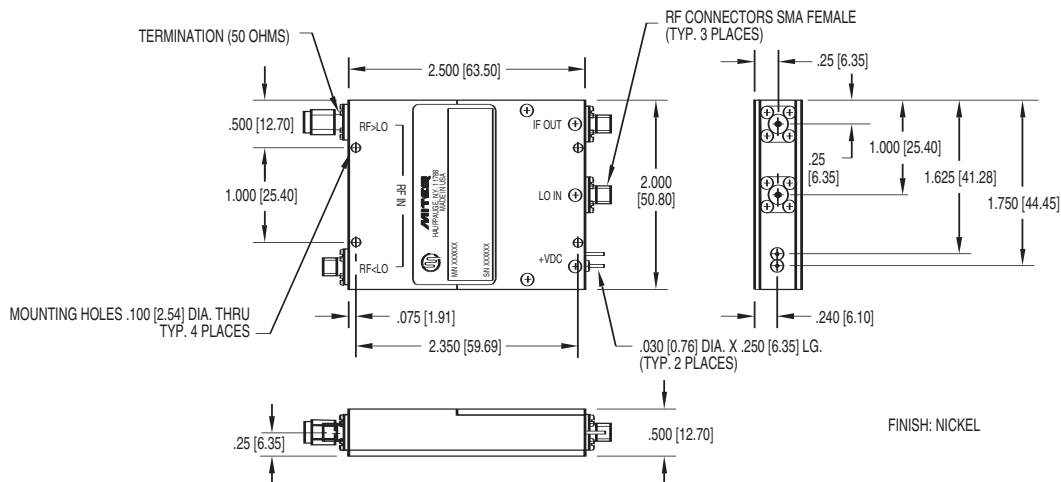
Specification temperature ..... +25°C  
 Operating temperature..... -54 to +85°C  
 Storage temperature ..... -65 to +125°C

**GENERAL NOTE**

1. Standard catalog unit aligned and tested for guaranteed RF > LO performance. RF < LO guaranteed performance is available, please contact MITEQ.

NOTE: Test data supplied at 25°C; conversion loss, LO-to-RF isolation and image rejection.

## OUTLINE DRAWING



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

