

26 TO 40 GHz IMAGE REJECTION OR I/Q MIXERS

MODELS: IR2640LC2A, IR2640LC2B, IR2640LC2C AND IR2640LC2Q

FEATURES

- **RF/LO Coverage** **26 to 40 GHz**
- **IF Operation** **DC to 0.5 GHz**
- **LO Power Range** **+10 to +13 dBm**
- **Conversion Loss** **10 dB Typical**
- **Image Rejection** **20 dB Typical**

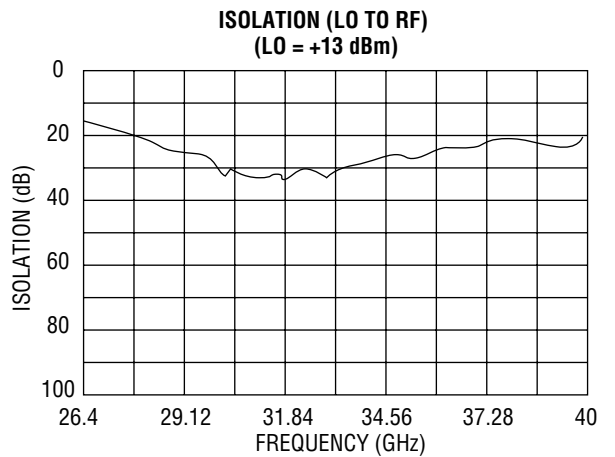
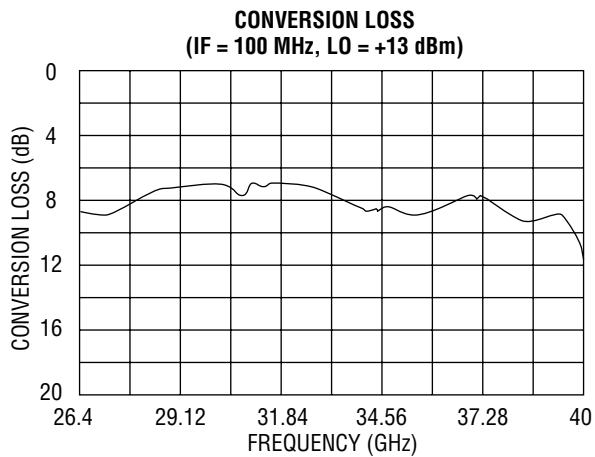
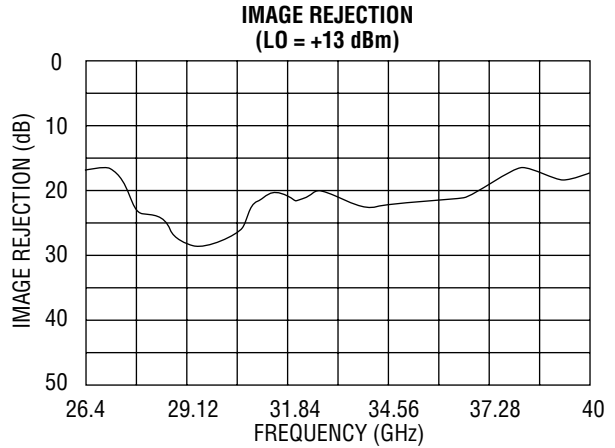
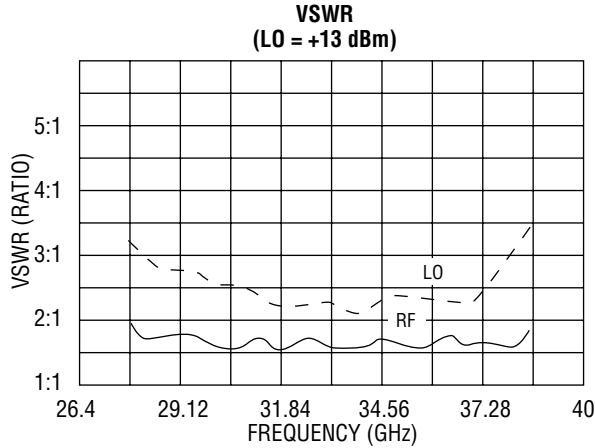


MITEQ's IR series of image rejection mixers is useful for wideband test equipment or in ultra-broadband receivers requiring rejection of an unwanted sideband of signal or noise following a low-noise front-end amplifier. These mixers are also useful as linear single-sideband upconverters by operating in the reverse mode. Higher RF input power versions are available with proportional increases in LO power. Greater image rejection is also available in selected bandwidths, including the IRE series for the 2 to 8 and 6 to 18 GHz bands.

ELECTRICAL SPECIFICATIONS

INPUT PARAMETERS	CONDITION	UNITS	MIN.	TYP.	MAX.
RF frequency range		GHz	26		40
RF VSWR (RF = -10 dBm, LO = +13 dBm)		Ratio		2:1	
LO frequency range		GHz	26		40
LO power range		dBm	+10		+13
LO VSWR (RF = -10 dBm, LO = +13 dBm)		Ratio		2.5:1	
TRANSFER CHARACTERISTICS	CONDITION	UNITS	MIN.	TYP.	MAX.
Conversion loss (Notes 1 and 2)	RF > LO	dB		10	12.5
Single-sideband noise figure		dB		13.5	
Image rejection (Note 1)	RF < LO	dB	15	20	
LO-to-RF isolation		dB	15	20	
LO-to-IF isolation		dB		15	
Input power at 1 dB compression	LO = +13 dBm	dBm		+4	
Input two-tone third-order intercept point	LO = +13 dBm	dBm		+14	
OUTPUT PARAMETERS	CONDITION	UNITS	MIN.	TYP.	MAX.
IF frequency (image rejection mode)	IR2640LC2A	MHz	20		40
	IR2640LC2B	MHz	40		80
	IR2640LC2C	MHz	100		200
IF frequency (QIFM, I/Q demodulator mode)	IR2640LC2Q	MHz	DC		500
IF VSWR (RF = -10 dBm, LO = +13 dBm)		Ratio		1.5:1	

IR2640LC2C TYPICAL DATA



MAXIMUM RATINGS

Specifications taken at +25°C
 Operating temperature -54 to +85°C
 Storage temperature -65 to +125°C

AVAILABLE OPTIONS

High dynamic range operation
 Integrated IF amplifier available

GENERAL NOTES

- Standard catalog unit aligned and tested for guaranteed RF > LO performance. RF < LO guaranteed performance is available, please contact MITEQ.
- Add 3 dB to conversion loss for Q option (DC to 500 MHz, I/Q outputs).
- Guaranteed at midband RF/LO.

OUTLINE DRAWINGS

IR2640LC2A, B and C

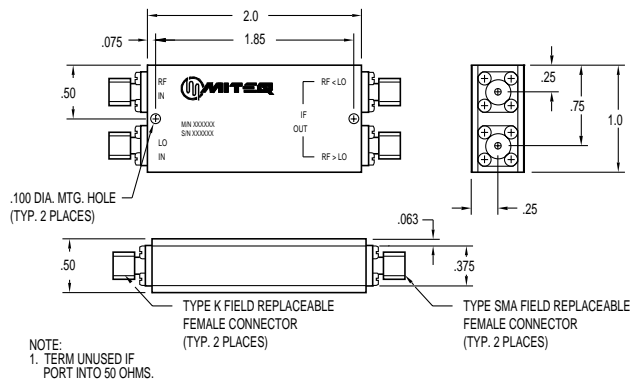
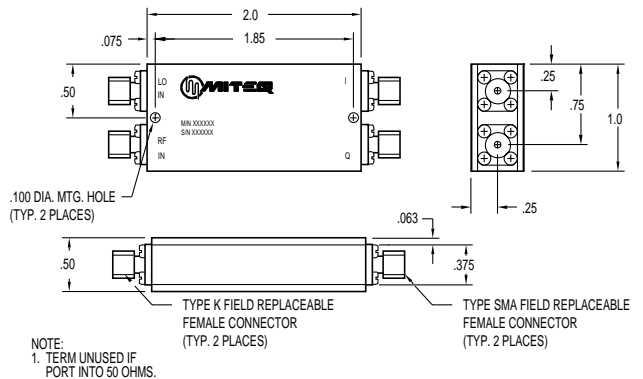


IMAGE REJECTION

IR2640LC2Q



QIFM, I/Q DEMODULATOR