

26 TO 40 GHz IMAGE REJECTION OR I/Q MIXERS

MODELS: IR2640NI7A, IR2640NI7B, IR2640NI7C AND IR2640NI7Q

FEATURES

- RF/LO coverage 26 to 40 GHz
- IF operation DC to 0.5 GHz
- LO power range +17 to +18 dBm
- Conversion loss 9 dB typical
- Image rejection 25 dB typical



IR2640NI7Q

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.

ELECTRICAL SPECIFICATIONS

INPUT PARAMETERS	CONDITION	UNITS	MIN.	TYP.	MAX.
RF frequency range		GHz	26		40
RF VSWR (RF = -10 dBm, LO = +16 dBm)		Ratio		2:1	
LO frequency range		GHz	26		40
LO power range		dBm	+17		+18
LO VSWR (LO = +16 dBm)		Ratio		2.5:1	
TRANSFER CHARACTERISTICS	CONDITION	UNITS	MIN.	TYP.	MAX.
Conversion loss (Note 1)	RF > LO	dB		9	12
	IR2640NI7Q	dB		12	15
Single-sideband noise figure		dB		9.5	
Image rejection (Note 1)	RF < LO	dB	18	25	
LO-to-RF isolation		dB	20	25	
LO-to-IF isolation		dB		25	
Input power at 1 dB compression	LO = +16 dBm	dBm		+7	
Input two-tone third-order intercept point	LO = +16 dBm	dBm		+17	
Amplitude balance	IR2640NI7Q	dB		±1	±1.5
Phase balance	IR2640NI7Q	Degrees		±10	±15
OUTPUT PARAMETERS	CONDITION	UNITS	MIN.	TYP.	MAX.
IF frequency (image rejection mode)	IR2640NI7A	MHz	20		40
	IR2640NI7B	MHz	40		80
	IR2640NI7C	MHz	100		200
IF frequency (QIFM, I/Q demodulator mode)	IR2640NI7Q	MHz	DC		500
IF VSWR (IF = -10 dBm, LO = +16 dBm)		Ratio		1.5:1	

