

2 TO 50 GHz DOUBLE-BALANCED MIXER

MODEL: DB0250LW1V

FEATURES

- RF/LO coverage 2 to 50 GHz
- IF operation DC to 2 GHz
- LO power range +13 to +17 dBm
- Input 1 dB comp. +5 dBm typical
- Packaging Hermetically Sealed

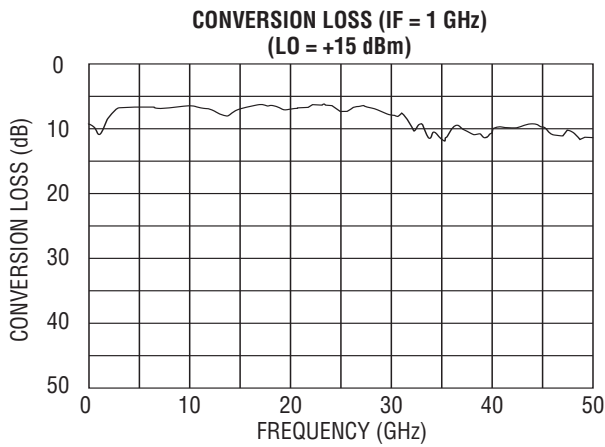
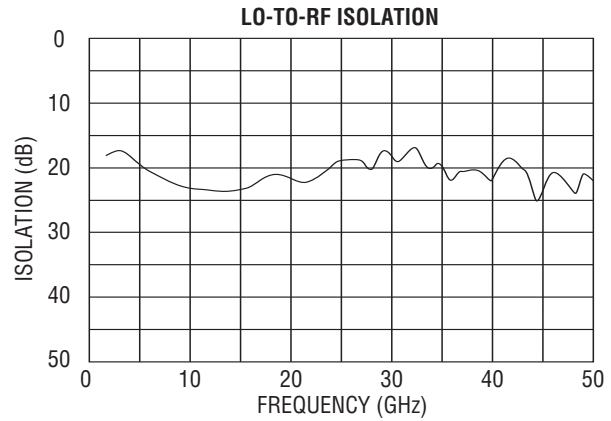
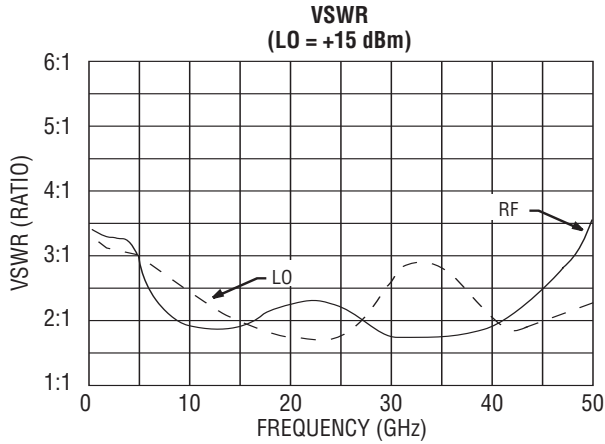


The DB0250LW1V provides a broad frequency span in a single device. Furthermore, from 12 to 50 GHz this mixer can be used in the third harmonic mode with a lower frequency 4 to 16 GHz local oscillator. The conversion loss is typically 10 dB higher in this mode.

ELECTRICAL SPECIFICATIONS

INPUT PARAMETERS	CONDITION	UNITS	MIN.	TYP.	MAX.
RF frequency range		GHz	2		50
RF VSWR (RF = -10 dBm, LO = +15 dBm)	2 to 50 GHz	Ratio		3.5:1	
LO frequency range		GHz	2		50
LO power range		dBm	+13		+17
LO VSWR (LO = +15 dBm)	2 to 50 GHz	Ratio		3.5:1	
TRANSFER CHARACTERISTICS	CONDITION	UNITS	MIN.	TYP.	MAX.
Conversion loss (IF = 1 GHz, LO = +15 dBm)	2 to 50 GHz	dB		10	15
Single sideband noise figure	2 to 50 GHz	dB		15	
LO-to-RF isolation		dB	18	20	
LO-to-IF isolation		dB		20	
RF-to-IF isolation		dB		20	
Input power at 1 dB compression	LO = +13 dBm	dBm		+5	
Input two-tone third order intercept point	LO = +13 dBm	dBm		+15	
OUTPUT PARAMETERS	CONDITION	UNITS	MIN.	TYP.	MAX.
IF frequency range	3 dB bandwidth	GHz	DC		2
IF VSWR (IF = -10 dBm, LO = +15 dBm)		Ratio		2.5:1	

DB0250LW1V TYPICAL TEST DATA



SINGLE-TONE (m) RF x (n) LO RELATIVE SPUR LEVEL (dBc)
(AVERAGE MIDBAND RF, LO, IF FREQUENCIES,
RF = -10 dBm, LO = +15 dBm)

SPUR (m) RF x (n) LO	RF TEST FREQ. (GHz)	LO TEST FREQ. (GHz)	SPUR LEVEL (dBc)
1 x 1	20	20.1	REF
1 x 2	20	10.05	30
1 x 3	20	6.7	10
2 x 1	10	20.1	42
2 x 2	10	10.05	53
2 x 3	10	6.7	41
3 x 1	6.67	20.1	58
3 x 2	6.67	10.05	70
3 x 3	6.67	6.7	56

MAXIMUM RATINGS

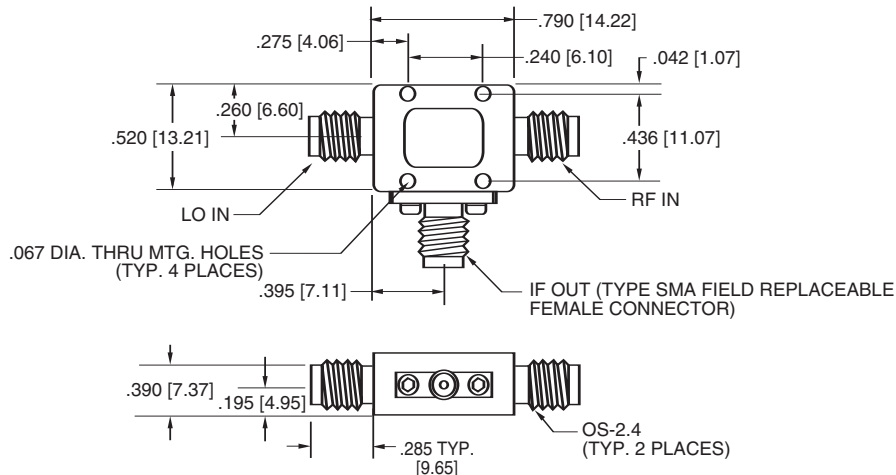
Specification temperature +25°C
 Operating temperature -54 to +85°C
 Storage temperature -65 to +125°C

AVAILABLE OPTIONS

High dynamic range
 H (LO = +17 to +23 dBm), (IP³ = +22 dBm typ.)
 Conversion loss = 16 dB max.

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

OUTLINE DRAWING



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

