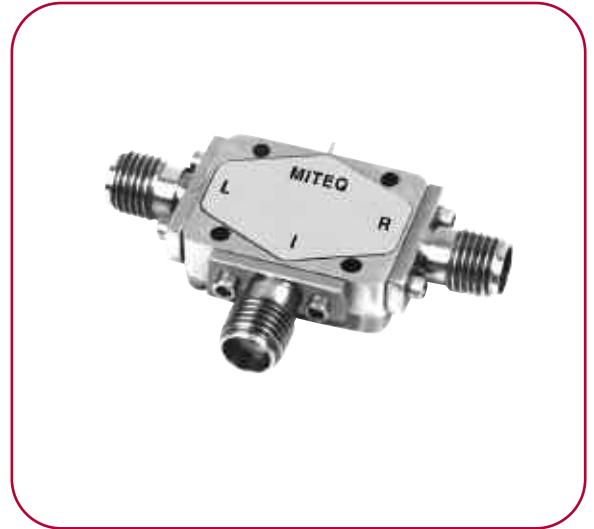


6 TO 18 GHz BIASABLE MESFET MIXER

MODEL: SBF0618LW2

FEATURES

- RF/LO coverage 6 to 18 GHz
- IF operation DC to 3 GHz
- LO power range +10 to +16 dBm
- Input 1 dB comp. +10 dBm minimum
- Packaging Hermetically sealed



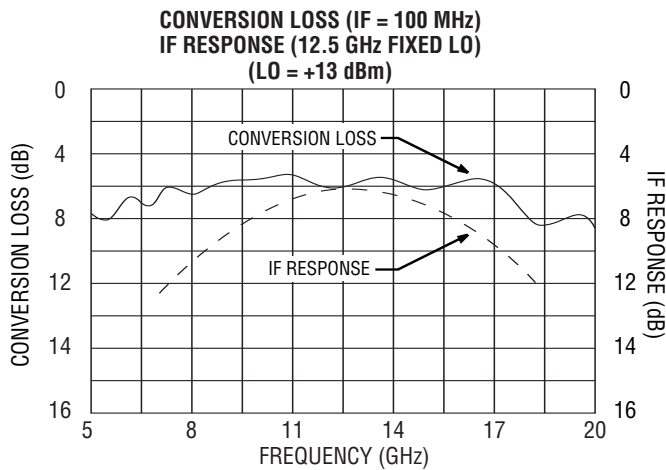
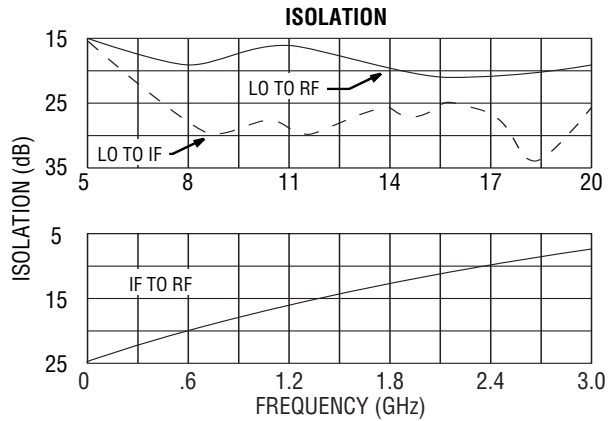
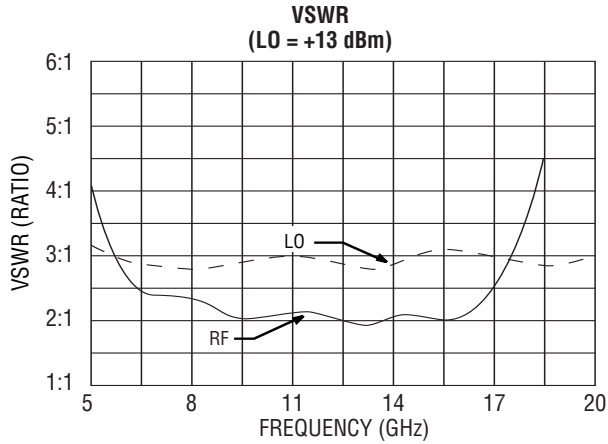
This FET mixer is designed to upgrade the dynamic range of existing systems that use a conventional ring type Schottky diode mixer, without changing the LO source. The input 1 dB compression and third-order intercept powers are typically 6 dB higher than a ring diode mixer of equal LO power. However, the LO-to-RF isolation of this particular FET mixer is approximately 10 dB less than the equivalent ring mixer (for example: MITEQ Model DB0418ME1).

ELECTRICAL SPECIFICATIONS

INPUT PARAMETERS	CONDITION	UNITS	MIN.	TYP.	MAX.
RF frequency range		GHz	6		18
RF VSWR (RF = 0 dBm, LO = +13 dBm)	8 to 12 GHz 6 to 18 GHz	Ratio Ratio		2.5:1 3:1	
LO frequency range		GHz	6		18
LO power range		dBm	+10	+13	+16
LO VSWR (LO = +13 dBm)	8 to 12 GHz	Ratio		2:1	
DC bias -15 V	6 to 18 GHz	Ratio		3:1	
TRANSFER CHARACTERISTICS	CONDITION	UNITS	MIN.	TYP.	MAX.
Conversion loss (IF = 100 MHz, LO = +13 dBm)	8 to 12 GHz	dB		6	
	6 to 18 GHz	dB		7.5	9
Single-sideband noise figure	6 to 18 GHz	dB			9.5
LO-to-RF isolation	6 to 18 GHz	dB	10	15	
LO-to-IF isolation	6 to 18 GHz	dB	18	25	
IF-to-RF isolation	DC to 3 GHz	dB		12	
Input power at 1 dB compression	LO = +16 dBm	dBm	+10		
Input two-tone third-order intercept point	LO = +16 dBm	dBm	+20	+23	
OUTPUT PARAMETERS	CONDITION	UNITS	MIN.	TYP.	MAX.
IF frequency range	3 dB bandwidth	GHz	DC		3
IF VSWR (IF = 0 dBm, LO = +13 dBm)		Ratio		2.5:1	



SBF0618LW2 TYPICAL TEST DATA



SINGLE-TONE (m) RF x (n) LO RELATIVE SPUR LEVEL (dBc)
(AVERAGE MIDBAND RF, LO, IF FREQUENCIES,
RF = -10 dBm, LO = +16 dBm)

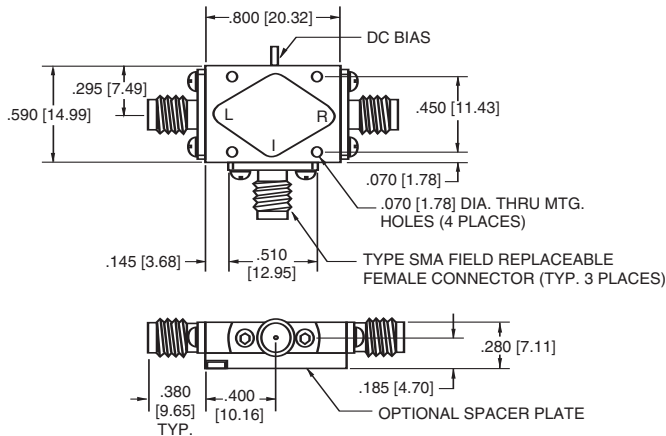
SPUR (m) RF x (n) LO	RF TEST FREQ. (GHz)	LO TEST FREQ. (GHz)	SPUR LEVEL (dBc)
1 x 1	11.2	12.7	0
1 x 2	15.5	8.5	22
1 x 3	18.3	5.6	15
2 x 1	7.5	16.5	63
2 x 2	11.6	12.4	35
2 x 3	14.7	9.3	55
3 x 1	6.3	17.6	73
3 x 2	9.7	14.1	63
3 x 3	11.7	12.2	63

MAXIMUM RATINGS

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

NOTE: Test data supplied at 25°C; conversion loss, LO-to-RF isolation and IP³.

OUTLINE DRAWING



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

