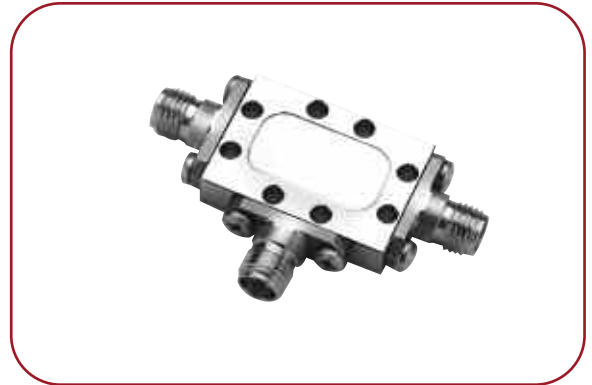


2 TO 26 GHz DOUBLE-BALANCED MIXER

MODEL: DB0226LA1

FEATURES

- RF/LO coverage 2 to 26 GHz
- IF operation DC to 500 MHz
- LO power range +7 to +13 dBm
- Conversion loss..... 6.5 dB typical
- Packaging..... Hermetically sealed

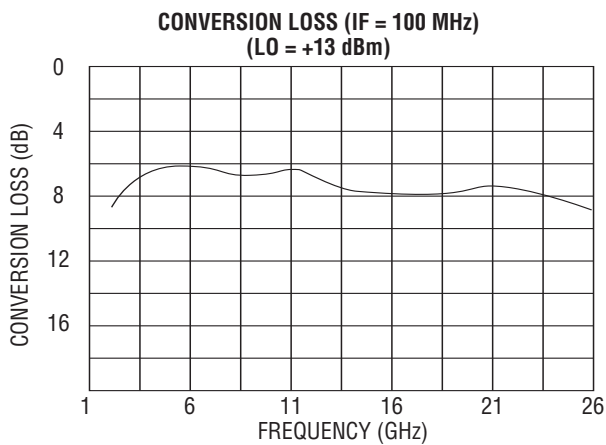
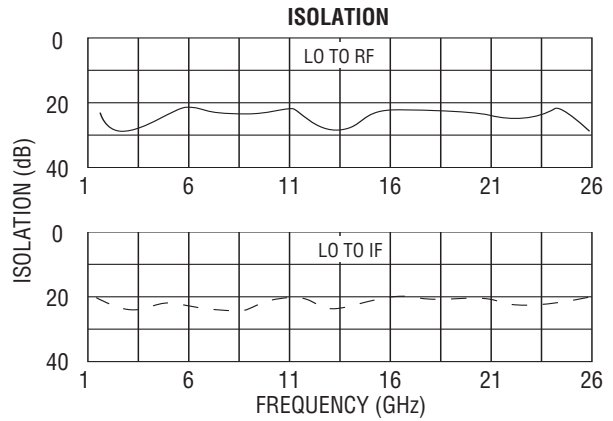
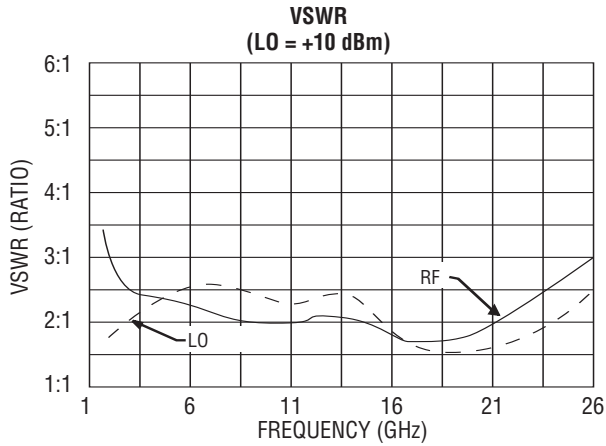


MITEQ's DB0226LA1 mixer is constructed of a balanced diode quad fed by microstrip RF and LO baluns and a DC-coupled IF structure. The construction, coupled with the hermetic packaging, provides for high inherent reliability and performance over an extremely broad frequency range. This device performs as an up- or downconverter covering most EW bands, utility testing and breadboard applications.

ELECTRICAL SPECIFICATIONS

INPUT PARAMETERS	CONDITION	UNITS	MIN.	TYP.	MAX.
RF frequency range		GHz	2		26
RF VSWR (RF = -10 dBm, LO = +10 dBm)	2 to 18 GHz 2 to 26 GHz	Ratio Ratio		1.5:1 2.5:1	
LO frequency range		GHz	2		26
LO power range		dBm	+7	+10	+13
LO VSWR (LO = +10 dBm)	2 to 18 GHz 2 to 20 GHz	Ratio Ratio		1.5:1 2:1	
TRANSFER CHARACTERISTICS	CONDITION	UNITS	MIN.	TYP.	MAX.
Conversion loss (IF = 100 MHz, LO = +10 dBm)	2 to 18 GHz 2 to 26 GHz	dB dB		6.5 9	10
Single-sideband noise figure	2 to 26 GHz	dB			10
LO-to-RF isolation	2 to 26 GHz	dB	20	30	
LO-to-IF isolation	2 to 18 GHz	dB		20	
RF-to-IF isolation	2 to 18 GHz	dB		20	
Input power at 1 dB compression	LO = +10 dBm	dBm		+5	
Input two-tone third-order intercept point	LO = +10 dBm	dBm		+15	
OUTPUT PARAMETERS	CONDITION	UNITS	MIN.	TYP.	MAX.
IF frequency range	3 dB bandwidth	GHz	DC		0.5
IF VSWR (IF = -10 dBm, LO = +10 dBm)		Ratio		1.5:1	

DB0226LA1 TYPICAL TEST DATA



**SINGLE-TONE (m) RF x (n) LO RELATIVE SPUR LEVEL (dBc)
TO REF (RF = -10 dBm, LO = +10 dBm)**

5	> 85	> 85	> 85	> 85	> 85
4	75	75	80	85	80
3	45	60	55	65	55
2	43	49	50	50	60
1	REF	30	11	33	20
	1	2	3	4	5

LO HARMONIC (n)

MAXIMUM RATINGS

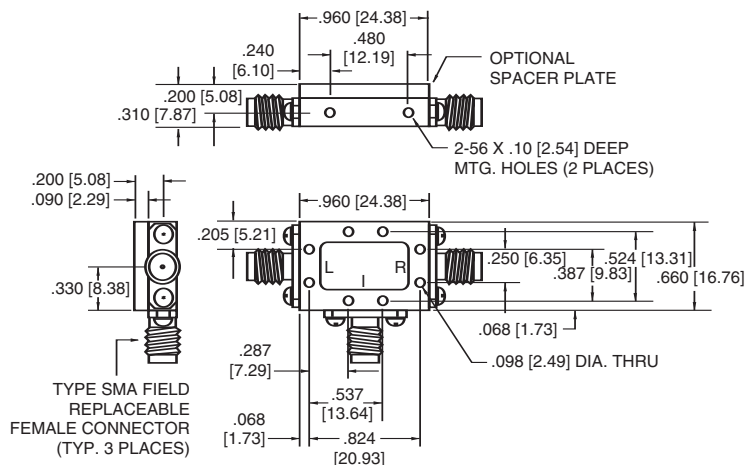
Specification temperature +25°C
 Operating temperature -54 to +85°C
 Storage temperature -65 to +125°C

AVAILABLE OPTION

Medium/high dynamic range options
 M (LO = +13 to +17 dBm, (IP³ = +18 dBm typ.)
 H (LO = +17 to +20 dBm, (IP³ = +22 dBm typ.)
 M, H (Conversion loss = 11 dB)

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.

