



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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4 TO 40 GHz DOUBLE-BALANCED MIXER

MODELS: DB0440LW1 AND DB0440HW1

FEATURES

- RF/LO coverage 4 to 40 GHz
- IF operation DC to 2 GHz
- LO power range +10 to +15 dBm
- Input 1 dB comp. +5 dBm typical
- Packaging Hermetically sealed

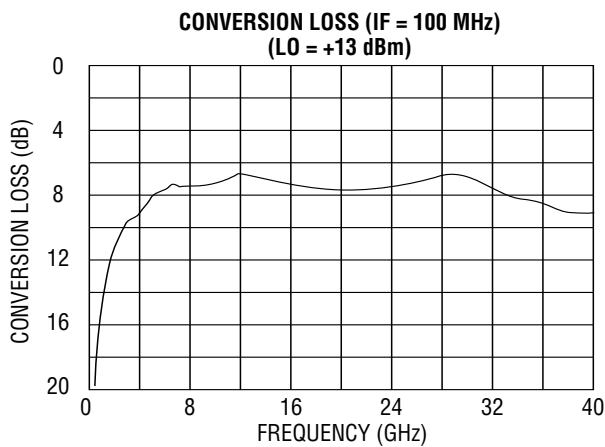
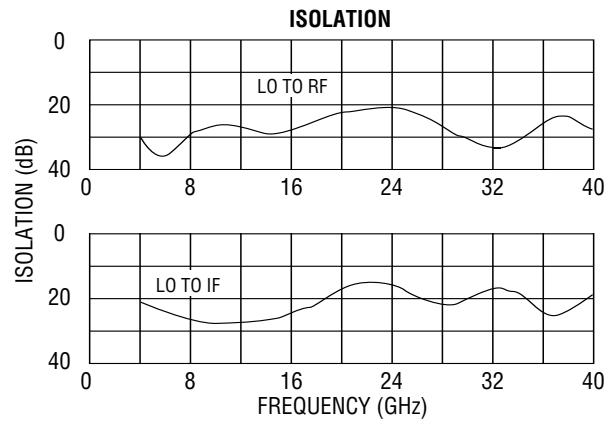
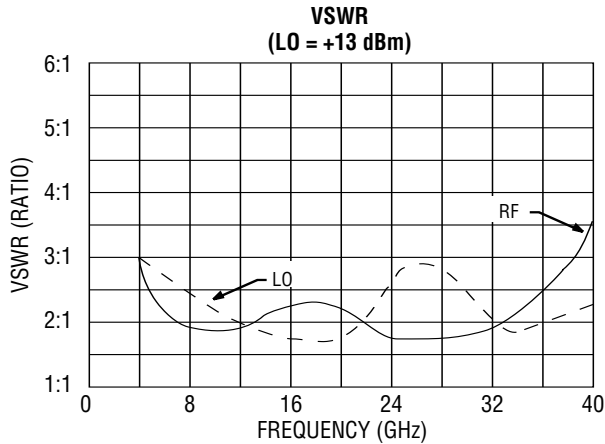


The DB0440 Series provides a broad frequency span in a single device. Furthermore, from 12 to 40 GHz this mixer can be used in the third harmonic mode with a lower frequency 4 to 13 GHz local oscillator. The conversion loss is typically 10 dB higher in this mode. This device performs as an up- or downconverter.

ELECTRICAL SPECIFICATIONS

INPUT PARAMETERS	CONDITION	UNITS	MIN.	TYP.	MAX.
RF frequency range		GHz	4		40
RF VSWR (RF = -10 dBm, LO = +13 dBm)	6 to 30 GHz 4 to 40 GHz	Ratio Ratio		2.5:1 3:1	
LO frequency range		GHz	4		40
LO power range L		dBm	+10	+13	+15
H		dBm	+17	+18.5	+20
LO VSWR (LO = +13 dBm)	6 to 30 GHz 4 to 40 GHz	Ratio Ratio		2.5:1 3:1	
TRANSFER CHARACTERISTICS	CONDITION	UNITS	MIN.	TYP.	MAX.
Conversion loss (IF = 100 MHz, LO = +13 dBm)	4 to 40 GHz	dB		9	10
Single-sideband noise figure	5 to 30 GHz	dB		8.5	
		4 to 40 GHz	dB		9.5
LO-to-RF isolation	4 to 40 GHz	dB	20	25	
LO-to-IF isolation	4 to 40 GHz	dB		20	
RF-to-IF isolation	4 to 40 GHz	dB		30	
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 = +13 dBm)		Ratio		2.5:1	

DB0440LW1 TYPICAL TEST DATA



SINGLE-TONE (m) RF x (n) LO RELATIVE SPUR LEVEL (dBc)
(AVERAGE MIDBAND RF, LO FREQUENCIES,
RF = -10 dBm, LO = +13 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

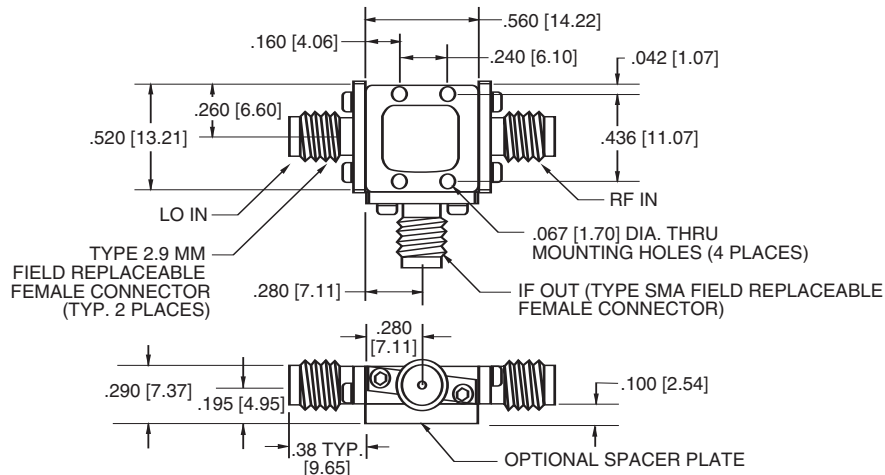
Specification temperature +25°C
 Operating temperature -54 to +85°C
 Storage temperature -65 to +125°C

AVAILABLE OPTION

High dynamic range option
 H (LO = +20 dBm), (IP³ = +20 dBm typ.)
 Conversion loss = 11 dB
 For V connectors, use P/N DB0440LW1V.

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.

