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 18 GHz DOUBLE-BALANCED MIXER

MODELS: DB0418LW1 AND DB0418HW1

FEATURES

- **RF/LO coverage..... 4 to 18 GHz**
- **IF operation..... DC to 2 GHz**
- **LO power range**
  - **L..... +7 to +13 dBm**
  - **M..... +13 to +16 dBm**
  - **H ..... +17 to +23 dBm**
- **Input 1 dB compression**
  - **L..... 0 dBm**
  - **M..... +5 dBm**
  - **H ..... +10 dBm**
- **Packaging ..... Hermetically sealed**

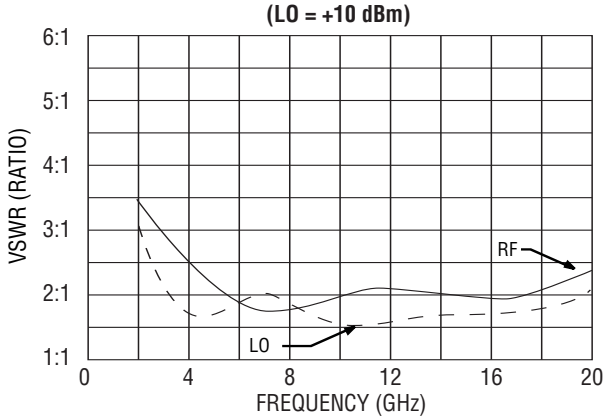
MITEQ's double-balanced DB0418 Series provides multioctave RF and LO coverage with high IF frequency operation. The miniature coaxial package is ideal for dense integration or drop-in interface. This device performs as an up- or downconverter.

ELECTRICAL SPECIFICATIONS

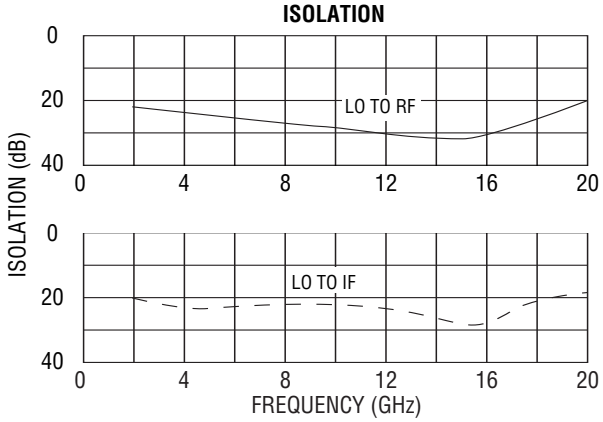
INPUT PARAMETERS	CONDITION	UNITS	MIN.	TYP.	MAX.
RF frequency range		GHz	4		18
RF VSWR (RF = -10 dBm, LO = +10 dBm)	4 to 18 GHz	Ratio		2.75:1	
LO frequency range		GHz	4		18
LO power range L H		dBm dBm	+7 +17	+10 +20	+13 +23
LO VSWR (LO = +10 dBm)	4 to 18 GHz	Ratio		2.75:1	
TRANSFER CHARACTERISTICS	**CONDITION**	**UNITS**	**MIN.**	**TYP.**	**MAX.**
Conversion loss L (IF = 100 MHz, LO = +10 dBm) H (IF = 100 MHz, LO = +20 dBm)	4 to 18 GHz 4 to 18 GHz	dB dB		6.5 7.5	8.5 9.5
Single-sideband noise figure L H	4 to 18 GHz 4 to 18 GHz	dB dB			9.5 10.5
LO-to-RF isolation	4 to 18 GHz	dB	20	25	
LO-to-IF isolation	4 to 18 GHz	dB		20	
RF-to-IF isolation	4 to 18 GHz	dB		20	
Input two-tone third-order intercept point L H	LO = +10 dBm LO = +20 dBm	dBm dBm		+10 +20	
OUTPUT PARAMETERS	**CONDITION**	**UNITS**	**MIN.**	**TYP.**	**MAX.**
IF frequency range	3 dB bandwidth	GHz	DC		2
IF VSWR (IF = -10 dBm, LO = +10 dBm)		Ratio		2.5:1	

DB0418LW1 TYPICAL TEST DATA

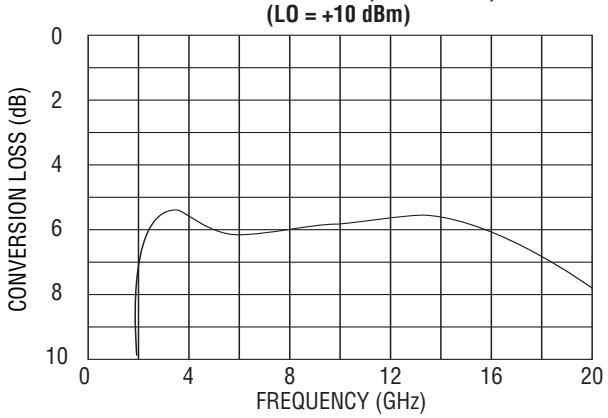
VSWR
(LO = +10 dBm)



ISOLATION



CONVERSION LOSS (IF= 100 MHz)
(LO = +10 dBm)



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

SPUR (m) RF x (n) LO	RF TEST FREQ. (GHz)	LO TEST FREQ. (GHz)	SPUR LEVEL (dBc)
1 x 1	18	17.9	0
1 x 2	18	8.95	30
1 x 3	18	5.97	10
2 x 1	9	17.9	43
2 x 2	9	8.95	54
2 x 3	9	5.97	43
3 x 1	6	17.9	59
3 x 2	6	8.95	72
3 x 3	6	5.97	57

MAXIMUM RATINGS

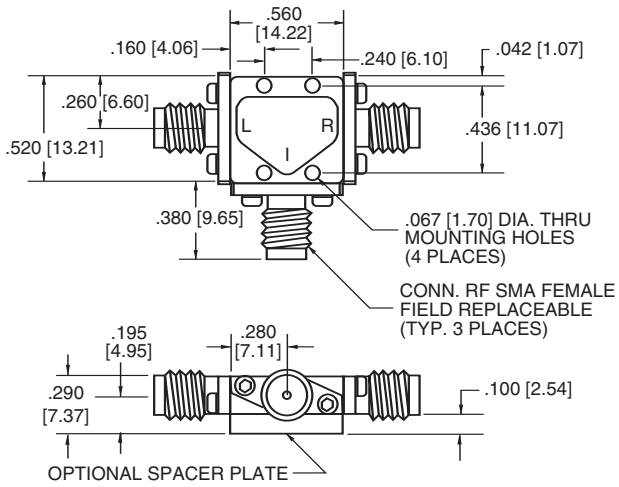
Specification temperature ..... +25°C
Operating temperature ..... -54 to +85°C
Storage temperature ..... -65 to +125°C

AVAILABLE OPTION

Medium dynamic range option
M (LO = +13 to +16 dBm), (IP^3 = +15 dBm typ.)
Conversion loss = 9.5 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.

MIXER PRODUCTS