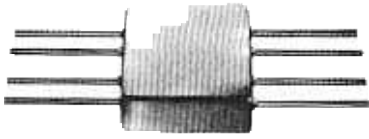


**DBM-183**  
**High Level**  
**Subminiature**  
**Flatpack Double**  
**Balanced Mixer**  
**10-4000 MHz**



MIXERS



**DESCRIPTION**

DBM-183 is a high performance double balanced mixer that offers extremely wide bandwidth while maintaining a high intercept point and isolations. The IF port is typically down only 1 dB at 4 GHz making it an ideal up/down converter in wideband applications. The linearity is virtually constant over the entire bandwidth due to unique transformer design and the use of beam lead Schottky diodes. The subminiature package is sealed, RFI shielded and constructed to withstand severe environment.

Each DBM-183 is individually tested to Vari-L's demanding quality and performance specifications.

**LIMITED WARRANTY**

Vari-L Company, Inc. warrants its products against defects in parts and workmanship for a period of one year.

**GUARANTEED MINIMUM PERFORMANCE DATA**

**TEST CONDITION:**

LO + 13 dBm (High side LO)  
 RF - 10 dBm  
 IF 100 MHz

**NOTE:**

Specifications below, guaranteed with IF from 50 to 400 MHz. For higher IF frequencies, consult IF response curve for typical rolloff.

**OVERALL FREQUENCY RANGE IN MHz:**

L	R	X
10-4000	10-4000	5-4000

**FREQUENCY BANDS IN MHz:**

	10-50	50-1000	1000-2500	2500-4000
Conversion Loss	8.5	8.0	8.5	10.5
L-R Isolation	25	27	25	20
L-X Isolation	15	20	20	20
R-X Isolation	15	20	25	15

**ABSOLUTE MAXIMUM RATINGS:**

Operating Temp. - 54 to +100°C  
 Total Input Power 400 mW @ +25°C  
 Derate linearly to 100 mW @ 100°C

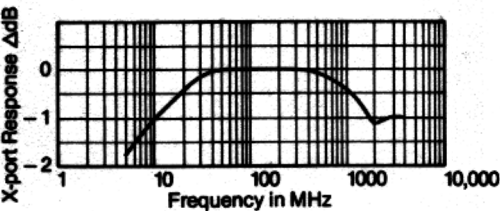
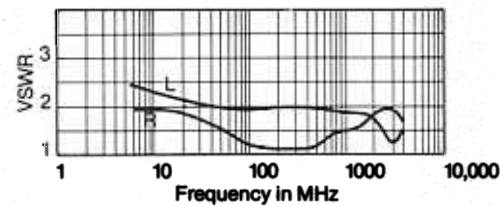
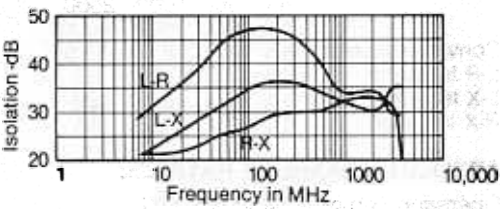
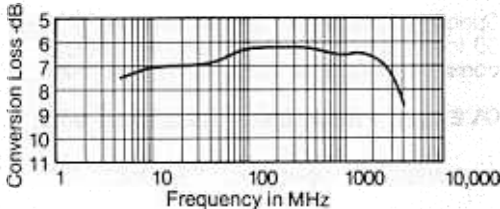
DBM-183  
High Level  
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10-4000 MHz



MIXERS

### TYPICAL PERFORMANCE

Impedance: All ports 50 ohms  
1 dB Compression Point: + 6 dBm  
1 dB Desensitization Point: + 4 dBm  
3rd Order Intercept Point: + 20 dBm  
Noise Figure is within 1 dB of conversion loss  
LO Power Range: + 10 to + 20 dBm



### ENVIRONMENTAL CONDITIONS

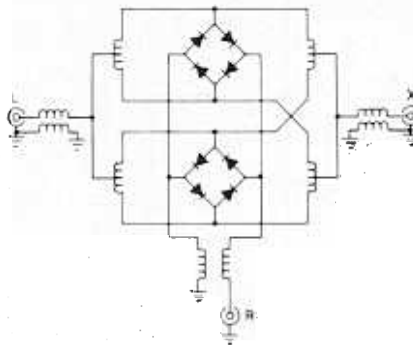
#### GUARANTEED ENVIRONMENTAL PERFORMANCE:

All units are designed to meet their specifications over -54°C to +100°C and after exposure to any or all of the following tests per MIL-STD-202E.

Exposure	Method	Test Condition
Thermal Shock	107D	B
Altitude	105C	G
H.F. Vibration	204C	D
Mechanical Shock	213B	C
Random Vibration	214	IIF
(15 minutes per axis)		
Solderability	208C	
Terminal Strength	211A	C
Resistance to Soldering Heat	210A	B

Sealed units, meet the requirements of Method 106D of MIL-STD-202E when exposed to humidity.

### FUNCTIONAL SCHEMATIC



### PACKAGE

#### CASE MATERIAL:

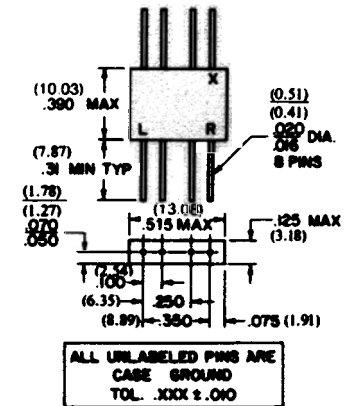
F15 Kovar per ASTM Standard F-15-68, (Chemical Composition per MIL-STD-1276, Type K)

#### FINISH:

Plating, all metal parts: gold per MIL-G-45204, Type I, Grade A, Class 1, over nickel per MIL-C-26074, Class 1

#### LEADS:

Kovar per MIL-STD-1276, Type K



SUNSTAR 商斯达实业集团是集研发、生产、工程、销售、代理经销、技术咨询、信息服务等为一体的高科技企业，是专业高科技电子产品生产厂家，是具有 10 多年历史的专业电子元器件供应商，是中国最早和最大的仓储式连锁规模经营大型综合电子零部件代理分销商之一，是一家专业代理和分销世界各大品牌 IC 芯片和电子元器件的连锁经营综合性国际公司，专业经营进口、国产名厂名牌电子元件，型号、种类齐全。在香港、北京、深圳、上海、西安、成都等全国主要电子市场设有直属分公司和产品展示展销窗口门市部专卖店及代理分销商，已在全国范围内建成强大统一的供货和代理分销网络。我们专业代理经销、开发生产电子元器件、集成电路、传感器、微波光电元器件、工控机/DOC/DOM 电子盘、专用电路、单片机开发、MCU/DSP/ARM/FPGA 软件硬件、二极管、三极管、模块等，是您可靠的一站式现货配套供应商、方案提供商、部件功能模块开发配套商。商斯达实业公司拥有庞大的资料库，有数位毕业于著名高校——有中国电子工业摇篮之称的西安电子科技大学（西军电）并长期从事国防尖端科技研究的高级工程师为您精挑细选、量身订做各种高科技电子元器件，并解决各种技术问题。

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