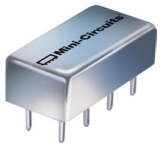
Plug-In

Frequency Mixer

SBL-1MH+

Level 13 (LO Power +13 dBm) 1 to 500 MHz



CASE STYLE: A06

+RoHS Compliant
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power	50mW
IF Current	40mA

Permanent damage may occur if any of these limits are exceeded.

Pin Connections

LO	8
RF	1
IF	3,4^
GROUND	2,5,6,7

^ pins must be connected together externally

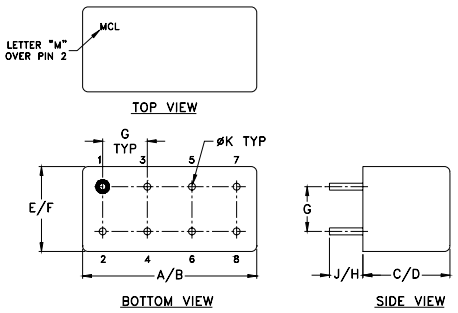
Features

- excellent conversion loss, 5.73 dB typ.
- high L-R isolation, 45 dB typ.; L-I isolation, 40 dB typ.
- rugged welded construction

Applications

- VHF/UHF
- defense & federal communications

Outline Drawing



Outline Dimensions (inch / mm)

A	B	C	D	E	F
.770	.800	.285	.310	.370	.400
19.56	20.32	7.24	7.87	9.40	10.16

G	H	J	K		wt
.200	.20	.14	.031		grams
5.08	5.08	3.56	0.79		5.2

Electrical Specifications

FREQUENCY (MHz)		CONVERSION LOSS (dB)				LO-RF ISOLATION (dB)						LO-IF ISOLATION (dB)					
		Mid-Band m			Total Range	L		M		U		L		M		U	
LO/RF f_L-f_U	IF	$\overline{X}$	σ	Max.	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.
1-500	DC-500	5.73	.08	7.5	8.5	50	35	45	30	35	25	45	30	40	25	30	20

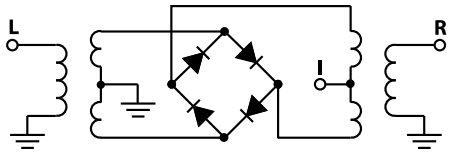
1 dB COMP.: +9 dBm typ.

L = low range [f_L to 10 f_L] M = mid range [10 f_L to f_U/2] U = upper range [f_U/2 to f_U]
m= mid band [2f_L to f_U/2]

Typical Performance Data

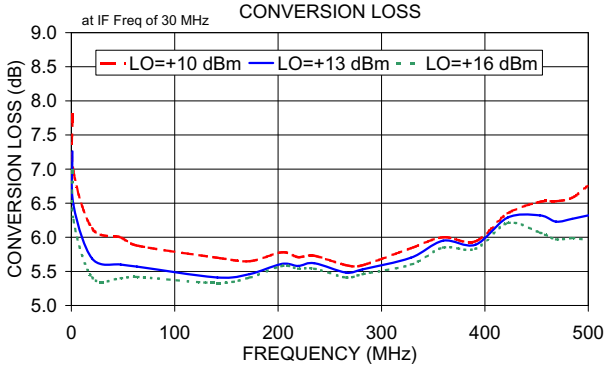
Frequency (MHz)		Conversion Loss (dB)	Isolation L-R (dB)	Isolation L-I (dB)	VSWR RF Port (:1)	VSWR LO Port (:1)
RF	LO	LO +13dBm	LO +13dBm	LO +13dBm	LO +13dBm	LO +13dBm
1.00	31.00	7.26	66.63	59.30	1.29	1.95
2.00	32.00	6.48	65.04	58.69	1.07	1.98
20.00	50.00	5.69	63.01	55.53	1.08	1.89
47.78	77.78	5.60	58.78	50.86	1.08	1.82
63.38	93.38	5.57	56.72	48.94	1.08	1.80
141.35	111.35	5.41	48.96	44.44	1.09	1.79
172.53	142.53	5.46	47.22	43.17	1.09	1.83
203.72	173.72	5.61	45.85	42.14	1.09	1.78
219.32	189.32	5.58	44.34	41.70	1.10	1.85
234.91	204.91	5.62	44.18	40.98	1.10	1.83
266.10	236.10	5.48	44.90	40.38	1.11	1.88
281.69	251.69	5.53	43.24	40.07	1.12	1.91
328.47	298.47	5.70	41.21	38.04	1.15	1.96
359.66	329.66	5.95	41.01	37.04	1.18	2.04
390.85	360.85	5.89	39.17	36.14	1.23	2.06
422.04	392.04	6.29	38.02	34.90	1.32	2.08
453.23	423.23	6.32	37.70	34.14	1.37	2.11
468.82	438.82	6.23	37.66	34.16	1.41	2.19
484.41	454.41	6.27	37.86	34.53	1.45	2.34
500.00	470.00	6.32	38.19	35.22	1.49	2.45

Electrical Schematic

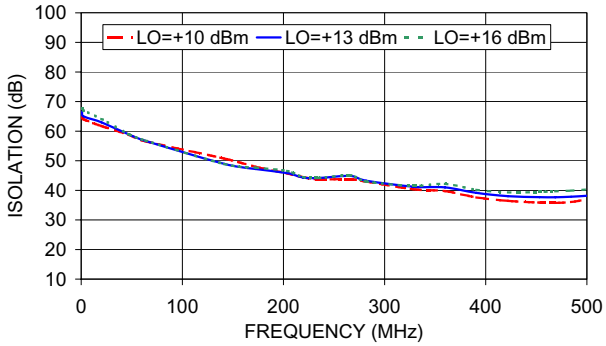


Notes
A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp

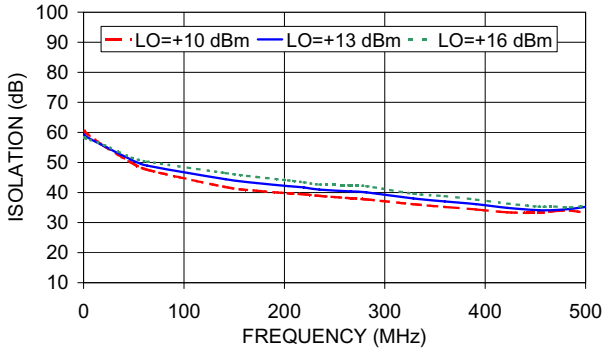
SBL-1MH+
CONVERSION LOSS
at IF Freq of 30 MHz



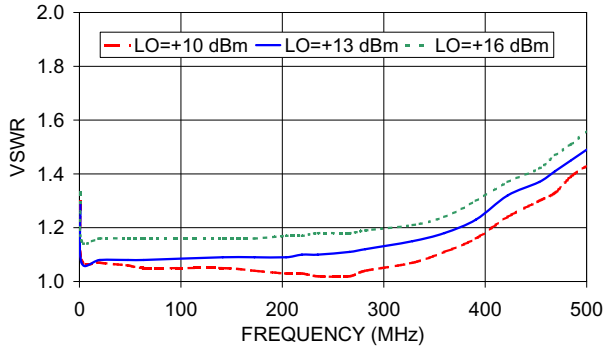
SBL-1MH+
L-R ISOLATION



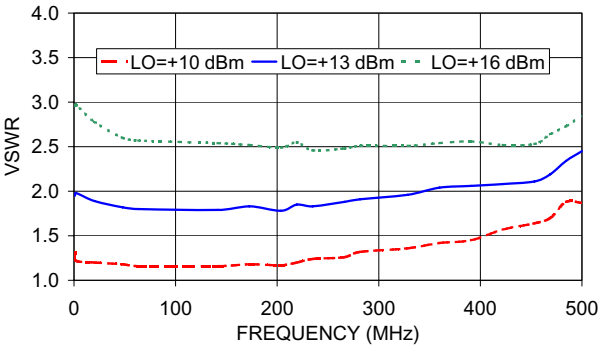
SBL-1MH+
L-I ISOLATION



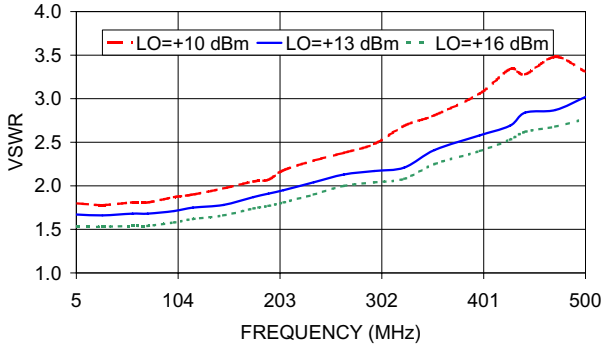
SBL-1MH+
RF VSWR



SBL-1MH+
LO VSWR



SBL-1MH+
IF VSWR



Notes
A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp