

Level 13 (LO Power +13 dBm) 20 to 1000 MHz

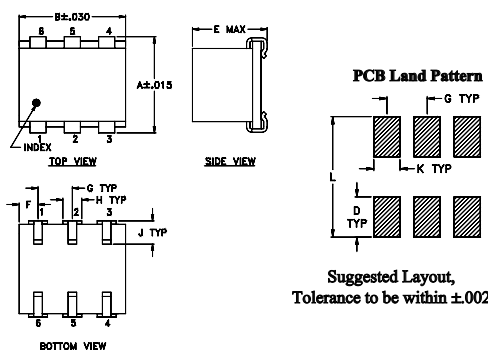
Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power	200mW
IF Current	40mA
Permanent damage may occur if any of these limits are exceeded.	

Pin Connections

LO	6
RF	3
IF	2
GROUND	1,4,5

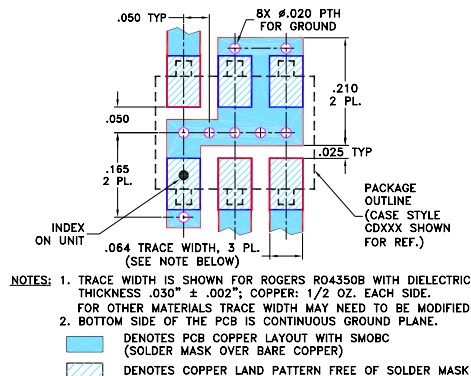
Outline Drawing



Outline Dimensions (inch)

A	B	C	D	E	F	G
.280	.310	--	.100	.225	.055	.100
7.11	7.87	--	2.54	5.72	1.40	2.54

H	J	K	L	wt
.047	.065	.065	.300	grams
1.19	1.65	1.65	7.62	0.45

Demo Board MCL P/N: TB-03
Suggested PCB Layout (PL-052)

Notes

- 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.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- 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

Features

- excellent L-R isolation, up to 63 dB typ.
- miniature surface mount
- J-leads for strain relief and excellent solderability

Applications

- up & down converters for receivers & transmitters
- VHF/UHF
- cellular/ISM/GSM



Generic photo used for illustration purposes only

CASE STYLE: BH292

Electrical Specifications

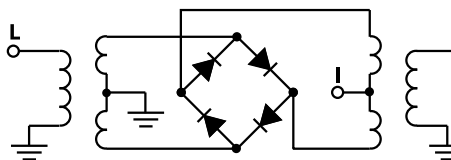
FREQUENCY (MHz)		CONVERSION LOSS (dB)				LO-RF ISOLATION (dB)						LO-IF ISOLATION (dB)						IP3 at center band (dBm)
LO/RF	IF	Mid-Band			Total Range Max.	L	M			U	L	M			U			
		$\bar{X}$	σ	Max.			Typ.	Min.	Typ.			Min.	Typ.	Min.		Typ.	Min.	
		f_L - f_U																
20-1000	DC-1000	7.0	.15	8.4	9.5	63	40	50	28	35	20	56	30	47	22	37	20	22

1 dB COMP.: +9 dBm typ.
Phase detection, positive polarityL = low range [f_L to 10 f_L]
m = mid band [$2f_L$ to $f_U/2$]M = mid range [10 f_L to $f_U/2$]U = upper range [$f_U/2$ to f_U]

Typical Performance Data

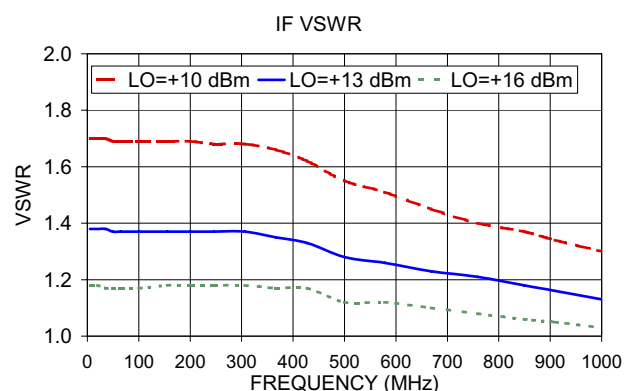
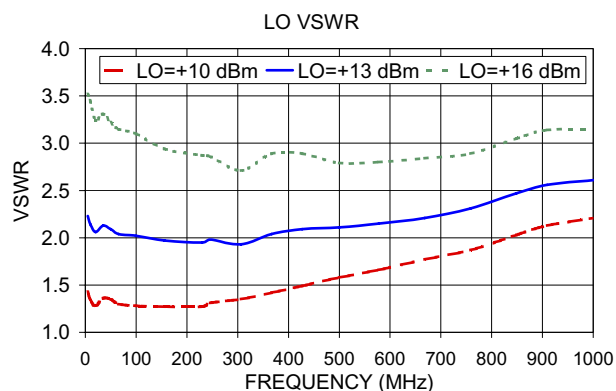
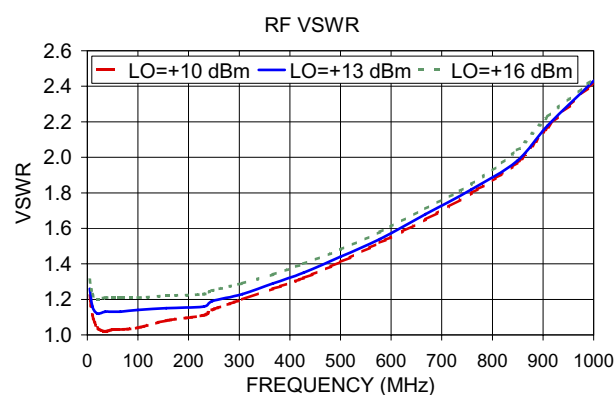
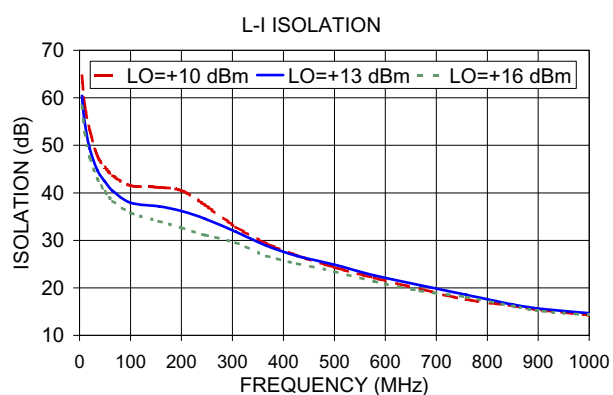
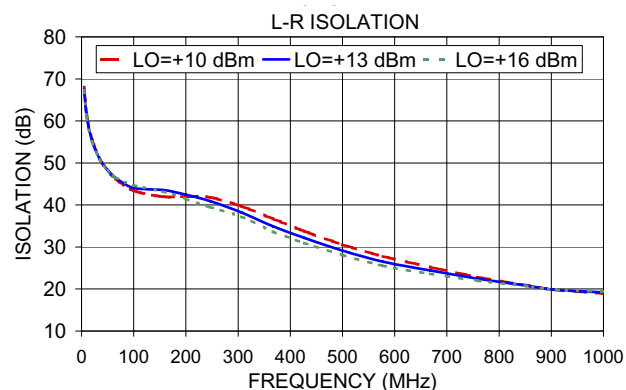
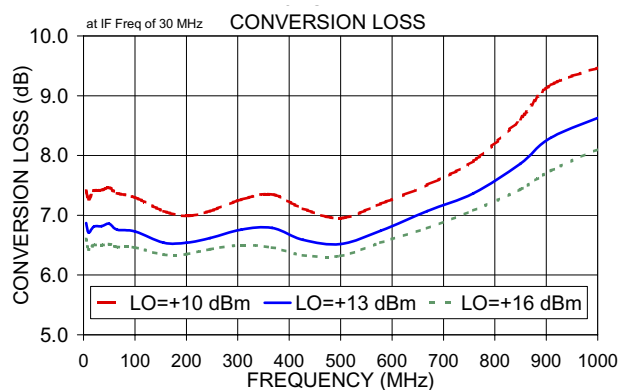
Frequency (MHz)		Conversion Loss (dB)	Isolation L-R (dB)	Isolation L-I (dB)	VSWR RF Port (:1)	VSWR LO Port (:1)
RF	LO	LO +13dBm	LO +13dBm	LO +13dBm	LO +13dBm	LO +13dBm
5.00	35.00	6.87	67.46	60.42	1.26	2.23
10.00	40.00	6.71	61.14	54.89	1.16	2.14
20.00	50.00	6.81	55.36	49.28	1.12	2.06
35.15	65.15	6.82	50.90	44.75	1.13	2.13
50.00	80.00	6.86	48.33	42.38	1.13	2.09
65.30	95.30	6.76	46.42	40.39	1.13	2.04
100.00	70.00	6.73	44.03	37.91	1.14	2.02
155.76	125.76	6.54	43.58	37.14	1.15	1.97
200.00	170.00	6.54	42.48	36.16	1.16	1.95
246.21	216.21	6.62	40.92	34.54	1.19	1.98
306.52	276.52	6.76	38.19	31.82	1.23	1.93
366.82	336.82	6.79	34.91	28.84	1.29	2.04
427.12	397.12	6.59	32.18	26.69	1.35	2.09
500.00	470.00	6.52	29.15	24.87	1.44	2.11
577.88	547.88	6.74	26.48	22.60	1.54	2.15
668.33	638.33	7.07	24.41	20.55	1.68	2.21
758.79	728.79	7.37	22.47	18.54	1.82	2.31
849.24	819.24	7.86	20.85	16.52	1.98	2.47
909.55	879.55	8.30	19.83	15.54	2.18	2.56
1000.00	970.00	8.73	19.01	14.41	2.43	2.61

Electrical Schematic



Performance Charts

JMS-2MH



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