

Level 7 (LO Power + 7dBm) 5 to 1900 MHz

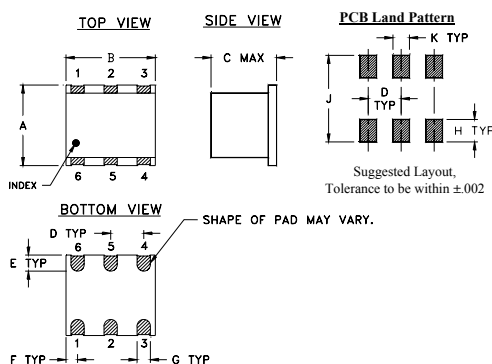
Maximum Ratings

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

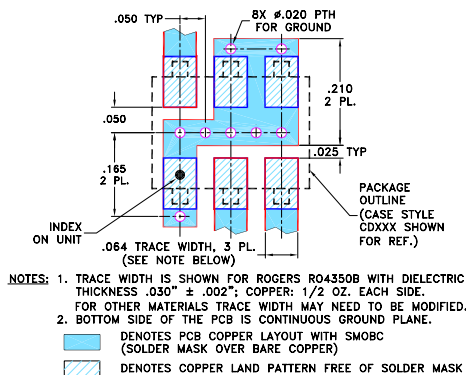
LO	1
RF	5
IF	4
GROUND	2,3,6

Outline Drawing



Outline Dimensions (inch/mm)

A	B	C	D	E	F
.250	.31	.20	.100	.050	.055
6.35	7.87	5.08	2.54	1.27	1.40
G	H	J	K	wt	
.040	.070	.270	.050	grams	
1.02	1.78	6.86	1.27	0.50	

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

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

Features

- excellent L-R isolation, 35 dB typ.
- conversion loss, 7.1 dB typ.
- small size, 0.25"x0.31"x0.2"

Applications

- PCN
- satellite distribution
- GPS

Electrical Specifications

FREQUENCY (MHz)	CONVERSION LOSS (dB)	LO-RF ISOLATION (dB)			LO-IF ISOLATION (dB)			IP3 at center band (dBm)
		L	M	U	L	M	U	
$f_L - f_U$	$\bar{X}$ σ Max.	Typ. Min.	Typ. Min.	Typ. Min.	Typ. Min.	Typ. Min.	Typ. Min.	Typ.
5-1900 5-1000	7.1 .10 8.2 9.8	58 45	35 20	27 18	56 45	37 20	27 20	10

1 dB COMP.: +1 dBm typ.
For phase detection, DC output positive with in-phase RF & LO.

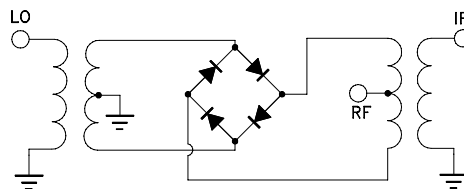
L = low range [f_L to $10 f_L$]
m = mid band [$2 f_L$ to $f_U/2$]

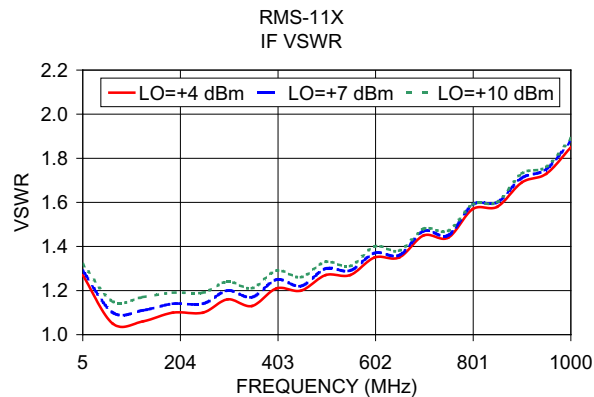
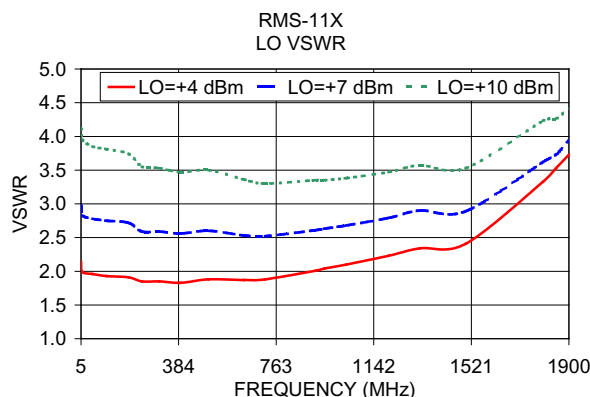
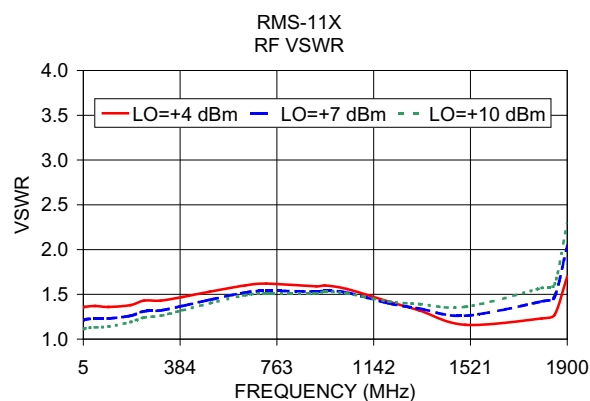
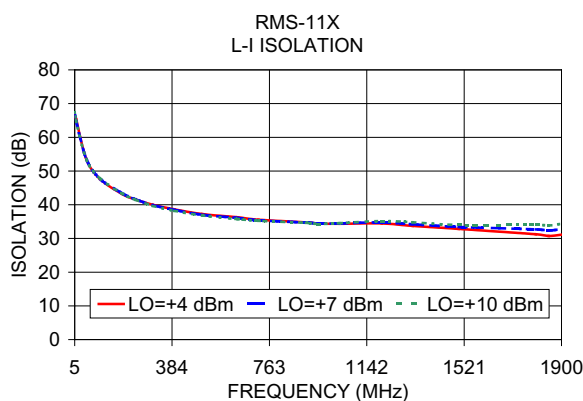
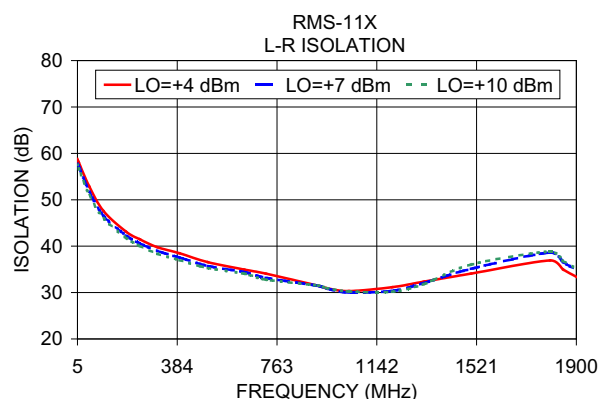
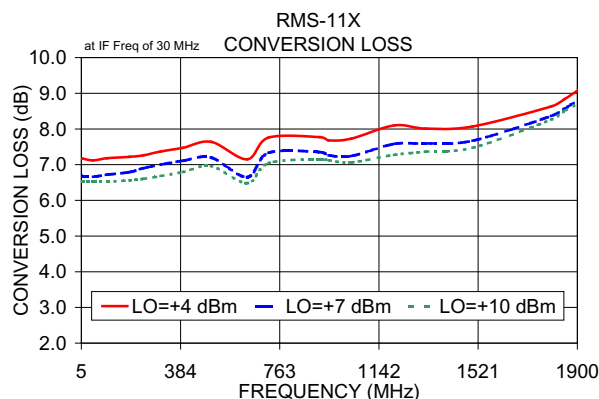
M = mid range [$10 f_L$ to $f_U/2$]
U = upper range [$f_U/2$ to f_U]

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 +7 dBm	LO +7 dBm	LO +7 dBm	LO +7 dBm	LO +7 dBm
5.00	35.00	6.69	57.72	66.80	1.21	2.98
10.01	40.01	6.67	57.22	64.98	1.22	2.83
50.04	80.04	6.66	51.74	53.60	1.23	2.78
103.56	73.56	6.72	46.56	47.68	1.23	2.75
189.86	159.86	6.79	42.32	43.39	1.26	2.72
241.95	211.95	6.90	40.60	41.62	1.31	2.59
308.34	278.34	7.00	38.96	39.89	1.32	2.59
392.94	362.94	7.11	37.54	38.49	1.37	2.56
500.75	470.75	7.20	35.72	37.03	1.44	2.60
638.14	608.14	6.65	34.40	36.08	1.52	2.53
720.38	690.38	7.33	33.17	35.36	1.54	2.52
918.04	888.04	7.35	31.46	34.64	1.53	2.61
950.00	920.00	7.26	30.90	34.39	1.54	2.63
1036.36	1006.36	7.24	30.00	34.46	1.52	2.68
1200.00	1170.00	7.58	30.35	34.77	1.40	2.79
1320.71	1290.71	7.59	32.03	34.21	1.34	2.90
1500.00	1470.00	7.67	35.10	33.40	1.26	2.89
1800.00	1770.00	8.36	38.63	32.68	1.42	3.62
1850.00	1820.00	8.56	36.54	32.31	1.47	3.73
1900.00	1870.00	8.80	34.84	32.78	2.04	3.94

Electrical Schematic





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