

# Power Detector

# ZX47-40LN+

## Typical Performance Data

Output Voltage vs. Input Power @+25°C						
POWER IN (dBm)	@10MHz (V)	@1000MHz (V)	@2000MHz (V)	@5000MHz (V)	@6000MHz (V)	@8000MHz (V)
-50	2.09	2.10	2.09	2.10	2.11	2.11
-45	2.05	2.06	2.05	2.08	2.09	2.10
-40	1.98	1.98	1.99	2.01	2.04	2.08
-35	1.89	1.88	1.86	1.91	1.96	2.03
-30	1.78	1.76	1.72	1.78	1.86	1.96
-25	1.67	1.64	1.60	1.65	1.73	1.87
-20	1.55	1.52	1.48	1.53	1.61	1.76
-15	1.43	1.40	1.36	1.41	1.49	1.65
-10	1.31	1.27	1.23	1.28	1.37	1.53
-5	1.18	1.15	1.11	1.16	1.25	1.42
0	1.06	1.02	0.98	1.03	1.12	1.31
5	0.93	0.90	0.86	0.91	1.00	1.19
10	0.80	0.77	0.72	0.78	0.88	1.07
15	0.67	0.64	0.60	0.66	0.75	0.94
20	0.57	0.56	0.52	0.55	0.63	0.81

Output Voltage Change Vs Freq						
FREQ (MHz)	@ Input Power -30 dBm			@ Input Power +15dBm		
	-40°C	+25°C	+85°C	-40°C	+25°C	+85°C
10	0.00	0.00	0.00	0.00	0.00	0.00
20	0.20	0.08	0.37	0.18	-0.34	-1.41
50	0.36	0.29	0.57	-0.71	-0.94	-1.76
100	0.20	0.12	0.40	-1.19	-1.52	-2.42
250	0.18	0.13	0.42	-1.20	-1.73	-2.72
500	-0.20	-0.18	0.32	-1.92	-2.77	-3.94
1000	-1.13	-1.24	-0.82	-2.85	-4.29	-5.77
1500	-2.23	-2.36	-1.91	-4.44	-6.81	-8.61
2000	-3.38	-3.58	-3.32	-6.88	-9.85	-12.08
2500	-4.71	-4.96	-4.21	-7.99	-11.85	-14.44
3000	-5.42	-5.74	-5.62	-9.18	-13.95	-17.23
3500	-5.39	-5.76	-5.80	-9.61	-13.89	-17.03
4000	-2.55	-2.74	-2.20	-5.67	-9.31	-11.23
4500	-2.13	-2.79	-2.81	-4.90	-8.33	-10.33
5000	0.28	-0.38	-0.43	0.64	-2.00	-3.26
5500	2.94	2.15	2.01	7.69	6.10	5.41
6000	4.64	3.97	3.95	12.43	11.39	11.11
6500	6.69	5.62	5.02	18.00	17.45	17.60
7000	8.17	6.70	5.99	24.13	24.13	24.83
7500	9.74	8.20	7.52	30.86	31.13	32.49
8000	11.77	10.07	9.20	39.13	40.43	42.86



For detailed performance specs & shopping online see web site

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 The Design Engineers Search Engine Provides ACTUAL Data Instantly at [minicircuits.com](http://minicircuits.com)

IF/RF MICROWAVE COMPONENTS

Notes: 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuit's applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet are subject to Mini-Circuit's standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchase 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-Circuit's website at [www.minicircuits.com/MCISStore/terms.jsp](http://www.minicircuits.com/MCISStore/terms.jsp).

# Power Detector

# ZX47-40LN+

## Typical Performance Data

Sensitivity vs. Input Power @+25°C						
Measured	@10MHz(mV/dB)			@2000MHz(mV/dB)		
	Output Voltage (V)	Ideal	Deviation from idea	Output Voltage (V)	Ideal	Deviation from idea
-50	2.09	-43.56	-6.44	2.09	-44.03	-5.97
-45	2.05	-42.00	-3.00	2.05	-42.34	-2.66
-40	1.98	-39.00	-1.00	1.99	-40.00	0.00
-35	1.89	-35.00	0.00	1.86	-34.94	-0.06
-30	1.78	-30.67	0.67	1.72	-29.52	-0.48
-25	1.67	-25.65	0.65	1.60	-24.68	-0.32
-20	1.55	-20.77	0.77	1.48	-20.00	0.00
-15	1.43	-15.70	0.70	1.36	-15.21	0.21
-10	1.31	-10.59	0.59	1.23	-10.35	0.35
-5	1.18	-5.29	0.29	1.11	-5.51	0.51
0	1.06	0.00	0.00	0.98	-0.67	0.67
5	0.93	5.40	-0.40	0.86	4.32	0.68
10	0.80	10.95	-0.95	0.72	9.52	0.48
15	0.67	16.23	-1.23	0.60	14.21	0.79
20	0.57	20.36	-0.36	0.52	17.49	2.51

Sensitivity vs. Input Power @+25°C						
Measured	@6000MHz(mV/dB)			@8000MHz(mV/dB)		
	Output Voltage (V)	Ideal	Deviation from idea	Output Voltage (V)	Ideal	Deviation from idea
-50	2.11	-41.01	-8.99	2.11	-36.79	-13.42
-45	2.09	-40.34	-4.66	2.10	-36.47	-8.73
-40	2.04	-38.29	-1.71	2.08	-35.22	-4.95
-35	1.96	-35.00	0.00	2.03	-33.26	-1.84
-30	1.86	-30.41	0.41	1.96	-30.00	0.00
-25	1.73	-25.33	0.33	1.87	-25.53	0.67
-20	1.61	-20.19	0.19	1.76	-20.57	0.87
-15	1.49	-15.00	0.00	1.65	-15.31	0.78
-10	1.37	-9.73	-0.27	1.53	-10.00	0.64
-5	1.25	-4.63	-0.37	1.42	-4.83	0.64
0	1.12	0.51	-0.51	1.31	0.34	0.63
5	1.00	5.80	-0.80	1.19	5.67	0.47
10	0.88	10.97	-0.97	1.07	11.32	0.00
15	0.75	16.41	-1.41	0.94	17.25	-0.74
20	0.63	21.53	-1.53	0.81	23.40	-1.70



For detailed performance specs & shopping online see web site

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4666 The Design Engineers Search Engine Provides ACTUAL Data Instantly at [minicircuits.com](http://minicircuits.com)

IF/RF MICROWAVE COMPONENTS

Notes: 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuit's applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet are subject to Mini-Circuit's 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-Circuit's website at [www.minicircuits.com/MCStore/terms.jsp](http://www.minicircuits.com/MCStore/terms.jsp).

# Power Detector

# ZX47-40LN+

## Typical Performance Data

POWER IN (dBm)	Slope Vs Input Power Over Temperature								
	Range @ Freq 10MHz			Range @ Freq 5000MHz			Range @ Freq 8000MHz		
	-40°C	+25°C	+85°C	-40°C	+25°C	+85°C	-40°C	+25°C	+85°C
-50	-9.08	-7.42	-2.62	-5.82	-4.74	-3.26	-1.54	-1.38	0.06
-45	-15.94	-14.24	-10.16	-14.90	-13.32	-7.08	-4.36	-5.44	-1.58
-40	-20.56	-19.00	-17.10	-23.16	-21.46	-19.06	-9.68	-8.44	-7.08
-35	-21.66	-20.58	-20.94	-25.76	-25.48	-24.62	-15.54	-14.12	-12.32
-30	-23.38	-23.82	-22.54	-25.20	-25.06	-24.78	-20.36	-19.34	-17.30
-25	-23.32	-23.16	-22.58	-24.54	-24.72	-24.46	-22.28	-21.46	-20.06
-20	-23.80	-24.10	-24.32	-24.98	-24.70	-24.28	-23.78	-22.74	-21.06
-15	-24.80	-24.24	-24.78	-24.76	-25.04	-25.10	-23.86	-22.96	-21.56
-10	-24.70	-25.20	-25.08	-24.76	-24.92	-24.62	-23.08	-22.34	-21.32
-5	-24.68	-25.10	-25.02	-24.34	-24.34	-24.42	-22.90	-22.36	-21.62
0	-25.72	-25.64	-25.74	-24.58	-25.06	-25.06	-23.56	-23.08	-22.64
5	-26.14	-26.36	-26.22	-25.06	-25.06	-24.92	-24.24	-24.42	-24.30
10	-23.68	-25.06	-24.64	-22.12	-25.10	-26.20	-25.22	-25.64	-25.56
15	-15.82	-19.60	-20.96	-17.32	-20.88	-23.02	-23.32	-26.62	-29.00

FREQ (MHz)	Slope Vs Freq Over Temperature Range								
	@ Input Power -40dBm			@ Input Power -25dBm			@ Input Power 0dBm		
	-40°C	+25°C	+85°C	-40°C	+25°C	+85°C	-40°C	+25°C	+85°C
10	-20.56	-19.00	-17.10	-23.32	-23.16	-22.58	-25.72	-25.64	-25.74
250	-21.18	-19.62	-17.28	-24.16	-24.60	-23.76	-25.54	-25.52	-25.58
500	-21.90	-20.90	-17.72	-24.20	-24.30	-24.64	-25.52	-25.50	-25.52
1000	-22.62	-20.94	-18.78	-23.82	-24.10	-24.32	-25.18	-25.28	-25.44
1500	-23.94	-22.20	-19.78	-24.12	-24.22	-24.44	-25.42	-25.02	-25.08
2000	-24.38	-25.82	-21.70	-23.74	-23.90	-23.98	-25.90	-25.50	-25.38
2500	-24.28	-23.38	-23.72	-23.64	-24.04	-22.66	-25.72	-25.46	-25.50
3000	-23.54	-23.30	-23.22	-23.88	-24.12	-24.20	-25.84	-25.48	-25.46
3500	-27.02	-27.94	-27.32	-23.96	-23.82	-23.60	-25.78	-25.42	-25.44
4000	-21.30	-19.74	-18.82	-24.60	-25.34	-25.82	-24.86	-25.14	-25.40
4500	-23.66	-23.14	-21.70	-24.84	-24.70	-24.48	-24.68	-25.00	-25.22
5000	-23.16	-21.46	-19.06	-24.54	-24.72	-24.46	-24.58	-25.06	-25.06
5500	-20.22	-17.90	-15.60	-24.08	-23.84	-23.46	-24.94	-25.04	-24.62
6000	-17.98	-15.56	-13.06	-24.38	-24.32	-24.14	-25.00	-25.06	-24.46
6500	-15.68	-13.76	-11.70	-24.72	-24.38	-23.54	-24.68	-24.48	-23.78
7000	-13.66	-12.44	-10.44	-23.84	-23.10	-22.16	-24.32	-23.80	-23.00
7500	-12.14	-10.80	-8.90	-23.00	-22.30	-21.22	-23.96	-23.68	-23.26
8000	-9.68	-8.44	-7.08	-22.28	-21.46	-20.06	-23.56	-23.08	-22.64



For detailed performance specs & shopping online see web site

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 The Design Engineers Search Engine Provides ACTUAL Data Instantly at [minicircuits.com](http://minicircuits.com)

IF/RF MICROWAVE COMPONENTS

Notes: 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuit's applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchases 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/MCIStore/terms.jsp](http://www.minicircuits.com/MCIStore/terms.jsp).

# Power Detector

# ZX47-40LN+

## Typical Performance Data

Output Voltage Change Vs Input Power		
POWER IN (dBm)	Output Voltage Deviation @-40°C relative to +25°C	Output Voltage Deviation @+85°C relative to +25°C
-50	19.40	-45.30
-45	7.40	-28.20
-40	-30.50	-29.10
-35	-23.30	-8.50
-30	-6.10	5.30
-25	-3.80	5.10
-20	-3.00	4.70
-15	-1.70	4.00
-10	0.00	3.50
-5	0.90	2.60
0	2.70	1.90
5	0.70	2.50
10	5.00	2.60
15	22.20	-6.50
20	47.50	-19.80

VSWR Vs Freq			
FREQ (MHz)	-40dBm	+25dBm	+85dBm
10	1.01	1.01	1.00
20	1.02	1.01	1.01
50	1.02	1.01	1.01
100	1.03	1.01	1.01
250	1.03	1.01	1.01
500	1.02	1.01	1.02
1000	1.03	1.03	1.03
1500	1.04	1.04	1.03
2000	1.05	1.05	1.05
2500	1.07	1.06	1.06
3000	1.08	1.08	1.08
3500	1.11	1.11	1.11
4000	1.15	1.15	1.13
5000	1.23	1.21	1.21
5500	1.25	1.23	1.23
6000	1.25	1.25	1.26
6500	1.27	1.27	1.27
7000	1.29	1.30	1.28
7500	1.31	1.32	1.30
8000	1.38	1.37	1.34

Temperature Sensor Voltage Vs Ambient	
Temp (°C)	Voltage @ 8000MHz
-55	0.44
-45	0.46
-35	0.48
-25	0.51
-15	0.53
0	0.56
10	0.58
20	0.60
27	0.62
35	0.63
45	0.65
55	0.67
65	0.69
75	0.72
85	0.74
100	0.77



P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 [www.minicircuits.com](http://www.minicircuits.com) Provides ACTUAL Data Instantly at [minicircuits.com](http://minicircuits.com)

IF/RF MICROWAVE COMPONENTS

For detailed performance specs & shopping online see web site

Notes: 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuit's applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchase 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/MC/Store/terms.jsp](http://www.minicircuits.com/MC/Store/terms.jsp).