

# Coaxial High Power Amplifier

## ZVE-3W-83+

50Ω 3W 2000 to 8000 MHz

### Features

- High power, 3 Watt
- Wideband, 2000 to 8000 MHz
- Low noise figure, 5.8 dB typ.
- High IP3, +42 dBm typ.
- High dynamic range
- High gain, 35 dB typ. and good directivity, 35 dB typ.
- Internal voltage regulated for 12 to 18 VDC

### Applications

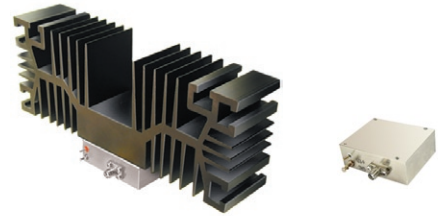
- Satellite communications
- Line-of-sight transmitters
- Signal generators
- Spread-spectrum communication

### Electrical Specifications

Parameter	ZVE-3W-83+			ZVE-3W-83X <sup>▲</sup>			Units
	Min.	Typ.	Max.	Min.	Typ.	Max.	
Frequency Range	2000		8000	2000		8000	MHz
Gain	30		40	30		40	dB
Gain Flatness		±1.15	±2.0		±1.15	±2.0	dB
Output Power at 1dB compression <sup>1</sup>	+31.5	+33		+31.5	+33		dBm
Saturated Output Power at 3dB compression <sup>1</sup>	+33.5	+35		+33.5	+35		dBm
Noise Figure		5.8			5.8		dB
Output third order intercept point		+42			+42		dBm
Input VSWR		1.5			1.5		:1
Output VSWR		1.4			1.4		:1
DC Supply Voltage		15			15		V
Supply Current <sup>2</sup>			1.5			1.5	A

1. At 25°C operating temperature
2. IF Voltage set below 15 VDC, current may go up to 2A/max.

▲ Heat sink not included. Alternative heat sinking and heat removal must be provided by the user to limit maximum base-plate temperature to 85°C, in order to ensure proper performance. For reference, this requires thermal resistance of user's external heat sink to be 2°C/W max.

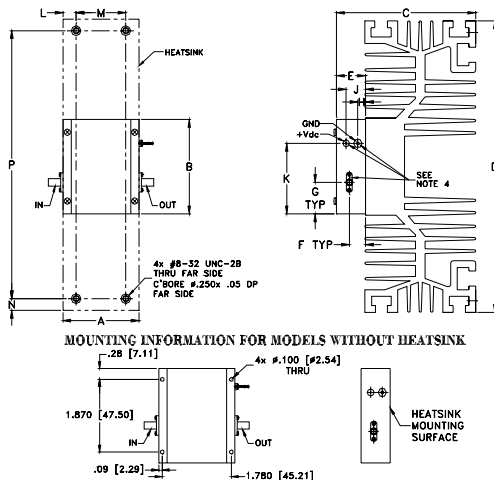


Model No.	ZVE-3W-83-S	ZVE-3W-83X-S <sup>▲</sup>
Case Style	BN1327	
Connectors	SMA	
Price (Qty.)	\$1295.00 ea. (1-9)	\$1220.00 ea. (1-9)

**+ RoHS compliant in accordance with EU Directive (2002/95/EC)**

The +Suffix has been added in order to identify RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications.

### Outline Drawing



### Outline Dimensions (inch)

A	B	C	D	E	F	G	H	J	K	L	M	N	P	wt
1.960	2.430	3.6	7.5	.74	.42	.81	.20	.49	1.81	.34	1.280	.30	6.900	grams*
49.78	61.72	91.44	190.50	18.80	10.67	20.57	5.08	12.45	45.97	8.64	32.51	7.62	175.26	875

\*120 grams without heatsink

### Maximum Ratings

Parameter	Ratings
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 125°C
DC Voltage	+18V
Base Plate Temperature	85°C
Input RF Power <sup>3</sup> (no damage)	+20 dBm

3. With no load derate max. input power by 20 dB. Permanent damage may occur if any of these limits are exceeded.

**Mini-Circuits**  
 ISO 9001 ISO 14001 AS 9100 CERTIFIED  
 The Design Engineers Search Engine Provides ACTUAL Data Instantly at [minicircuits.com](http://minicircuits.com)  
 IFRF MICROWAVE COMPONENTS

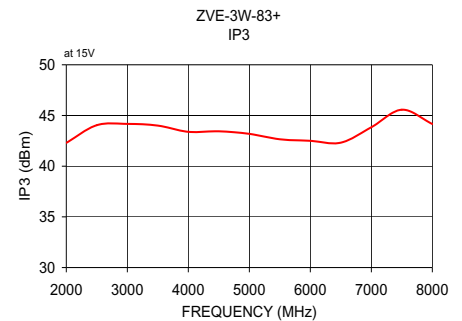
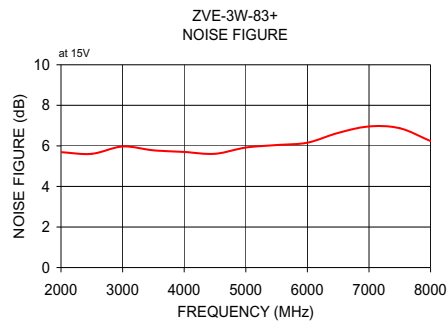
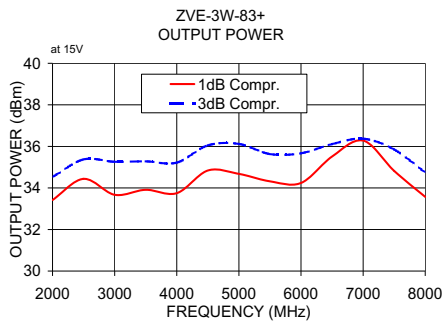
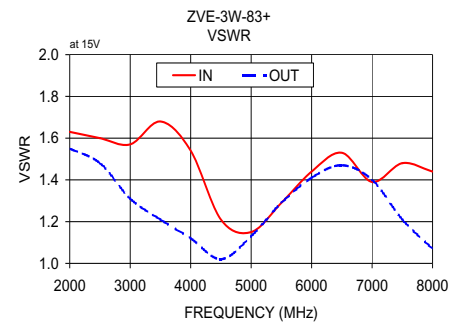
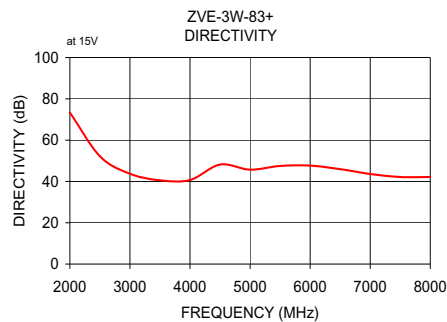
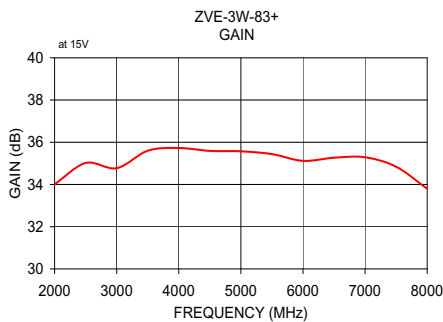
For detailed performance specs & shopping online see web site

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661

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"); 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](http://www.minicircuits.com/MCLStore/terms.jsp).

REV. A  
 M123181  
 ZVE-3W-83+  
 ED-13284/1  
 WZ/CP/AM  
 091027  
 Page 1 of 2

FREQUENCY (MHz)	GAIN (dB)	DIRECTIVITY (dB)	VSWR (:1)		NOISE FIGURE (dB)	POUT (dBm) at 15V		OUTPUT IP3 (dBm)
	15V	15V	IN	OUT		1 dB Compr.	3 dB Compr.	15V
2000.00	34.01	73.37	1.63	1.55	5.69	33.42	34.53	42.30
2500.00	35.02	52.19	1.60	1.48	5.61	34.44	35.37	44.04
3000.00	34.77	43.74	1.57	1.31	5.97	33.67	35.26	44.17
3500.00	35.60	40.56	1.68	1.21	5.78	33.91	35.28	44.00
4000.00	35.73	40.67	1.54	1.12	5.70	33.75	35.22	43.39
4500.00	35.59	48.18	1.21	1.02	5.61	34.84	36.05	43.44
5000.00	35.57	45.70	1.15	1.13	5.92	34.68	36.12	43.19
5500.00	35.44	47.51	1.29	1.29	6.04	34.32	35.63	42.65
6000.00	35.12	47.69	1.44	1.41	6.16	34.24	35.67	42.50
6500.00	35.27	45.95	1.53	1.47	6.64	35.51	36.11	42.32
7000.00	35.29	43.62	1.39	1.40	6.96	36.28	36.37	43.84
7500.00	34.84	42.16	1.48	1.21	6.87	34.82	35.85	45.57
8000.00	33.80	42.17	1.44	1.07	6.24	33.57	34.75	44.16



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)

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"); 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](http://www.minicircuits.com/MCLStore/terms.jsp).