

# Coaxial High Power Amplifier

## ZVE-3W-83+

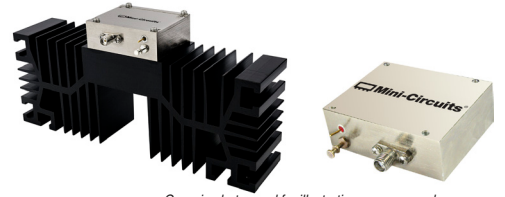
50Ω 3W 2000 to 8000 MHz

### 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 13 to 18 VDC

### Applications

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



Generic photo used for illustration purposes only

Model No.	ZVE-3W-83+	ZVE-3W-83X+
Case Style	BN1327	
Connectors	SMA	

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

### Electrical Specifications

Parameter	ZVE-3W-83+			ZVE-3W-83X+			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.

999 Heat sink and fan 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.

### Maximum Ratings<sup>5</sup>

Parameter	Ratings
Operating Base Plate Temperature <sup>4</sup>	-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

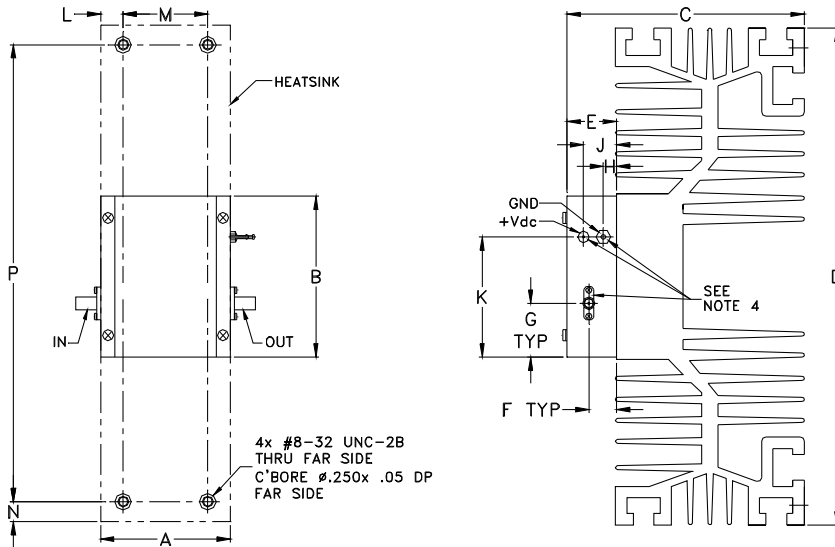
3. With no load derate max. input power by 20 dB.  
4. Base plate is interface of amplifier body to heat sink.  
5. Permanent damage may occur if any of these limits are exceeded.

### Notes

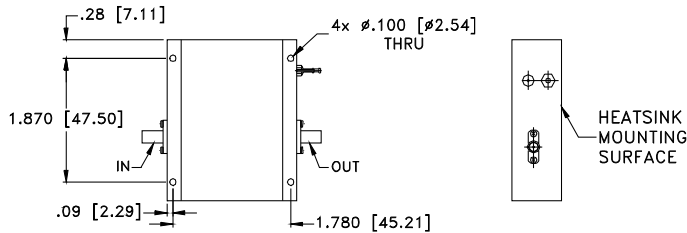
- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.  
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's 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](http://www.minicircuits.com/MCLStore/terms.jsp)



## Outline Drawing



### MOUNTING INFORMATION FOR MODELS WITHOUT HEATSINK



### Outline Dimensions (inch/mm)

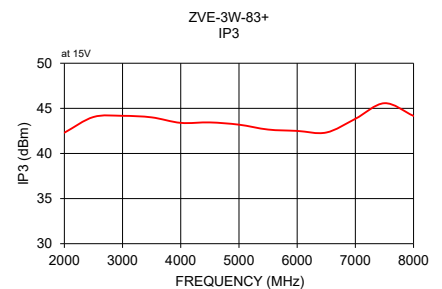
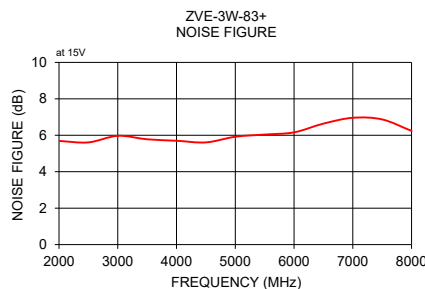
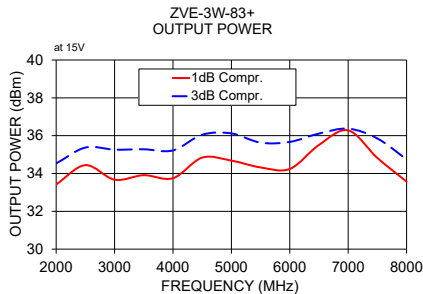
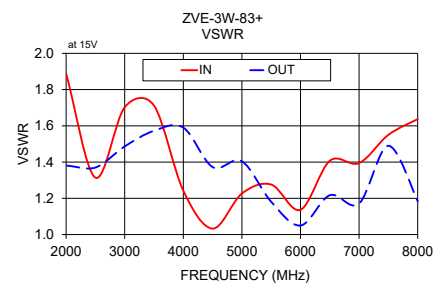
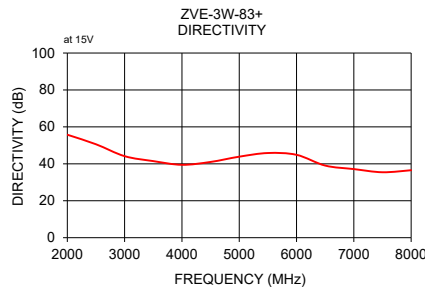
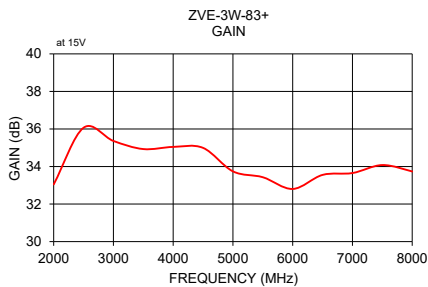
A	B	C	D	E	F	G	H	J	K	L	M	N	P	wt
1.960	2.430	3.6	7.5	.74	.42	.81	.20	.49	1.81	0.355	1.250	.30	6.900	grams
49.78	61.72	91.44	190.50	18.80	10.67	20.57	5.08	12.45	45.97	9.02	31.75	7.62	175.26	875

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



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	33.04	55.76	1.89	1.38	5.69	33.42	34.53	42.30
2500.00	36.07	50.59	1.31	1.37	5.61	34.44	35.37	44.04
3000.00	35.36	44.15	1.70	1.49	5.97	33.67	35.26	44.17
3500.00	34.93	41.47	1.71	1.57	5.78	33.91	35.28	44.00
4000.00	35.04	39.47	1.24	1.59	5.70	33.75	35.22	43.39
4500.00	34.99	41.02	1.03	1.37	5.61	34.84	36.05	43.44
5000.00	33.74	43.87	1.23	1.40	5.92	34.68	36.12	43.19
5500.00	33.43	45.85	1.28	1.18	6.04	34.32	35.63	42.65
6000.00	32.80	44.87	1.14	1.05	6.16	34.24	35.67	42.50
6500.00	33.55	39.05	1.41	1.22	6.64	35.51	36.11	42.32
7000.00	33.65	37.15	1.39	1.17	6.96	36.28	36.37	43.84
7500.00	34.08	35.44	1.55	1.49	6.87	34.82	35.85	45.57
8000.00	33.74	36.53	1.64	1.18	6.24	33.57	34.75	44.16



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

