



COAXIAL

# Medium High Power Amplifier

# ZVE-8G+ ZVE-8GX+

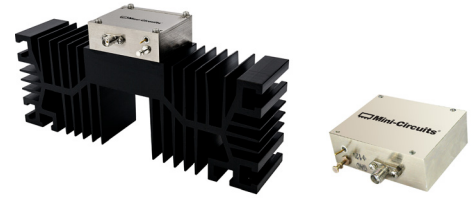
50Ω 2000 to 8000 MHz

## THE BIG DEAL

- Wideband, 2 to 8 GHz
- Low noise, 4 dB typ.
- High IP3, +40 dBm typ.
- High dynamic range
- High gain, 30 dB min

## APPLICATIONS

- Satellite communications
- Line-Of-Sight transmitters
- Signal generators
- Spread-spectrum communications



Generic photo used for illustration purposes only

Model No.	ZVE-8G+	ZVE-8GX+▲
Option	With heatsink	Without heatsink
Case Style	BN333	
Connectors	SMA	

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

## ELECTRICAL SPECIFICATIONS AT 25°C

Parameter	Condition (MHz)	ZVE-8G+ ZVE-8GX+▲			Units
		Min.	Typ.	Max.	
Frequency Range		2000		8000	MHz
Gain	2000 - 8000	30	—	—	dB
Gain Flatness	2000 - 8000	—	—	+2.0	dB
Input VSWR	2000 - 8000	—	—	2.0	:1
Output VSWR	2000 - 8000	—	—	2.0	:1
Output Power at 1dB Compression	2000 - 8000	+30 <sup>1</sup>	—	—	dBm
Output IP3	2000 - 8000	—	+40	—	dBm
Noise Figure	2000 - 8000	—	4	—	dB
Device Operating Voltage		—	12	—	V
Device Operating Current		—	—	1.2	A

1. At 25°C; +30 dBm typ. at 54°C ambient.

▲To order without heat sink, add suffix X to model number. 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 1.3°C/W Max.

## MAXIMUM RATINGS

Parameter	Ratings
Operating Temperature	-55°C to 54°C
Storage Temperature	-65°C to 150°C
DC Voltage	+18V
Maximum Input Power (no damage)	+20 dBm

Permanent damage may occur if any of these limits are exceeded.  
Open load is not recommended and could potentially cause damage.  
With no load derate max input power by 20 dB.

REV. G  
ECO-013026  
ZVE-8G+  
221118



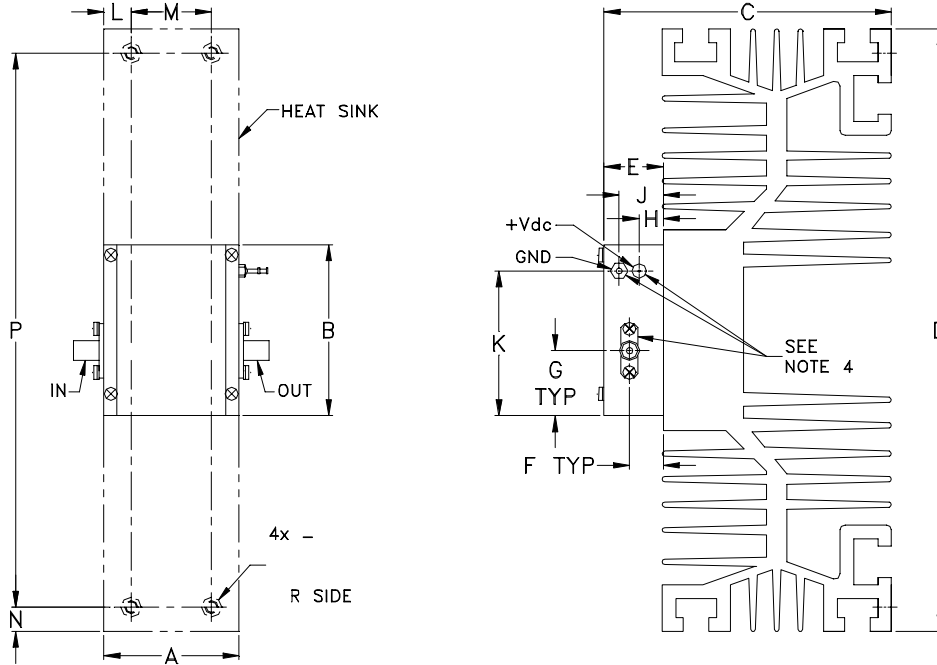


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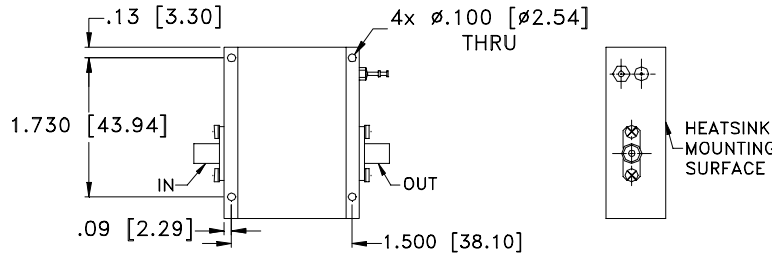
# Medium High Power Amplifier

# ZVE-8G+ ZVE-8GX+

## OUTLINE DRAWING FOR MODELS WITH HEATSINK (ZVE-8G+)



## MOUNTING INFORMATION FOR MODELS WITHOUT HEATSINK (ZVE-8GX+)



## OUTLINE DIMENSIONS (inch/mm)

A	B	C	D	E	F	G	H	J	K	L	M	N	P	wt
1.680	2.130	3.6	7.5	.74	.42	.81	.30	.55	1.80	.34	1.000	.30	6.900	grams*
42.67	54.10	91.44	190.50	18.80	10.67	20.57	7.62	13.97	45.72	8.64	25.40	7.62	175.26	700

\*100 grams without heatsink





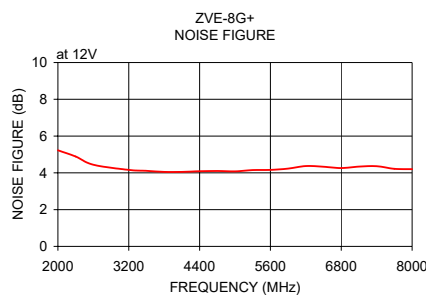
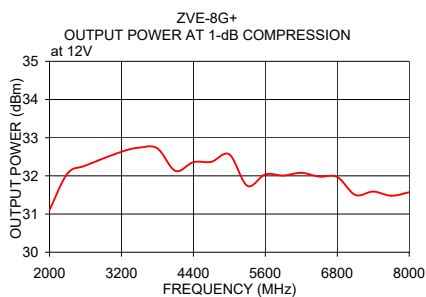
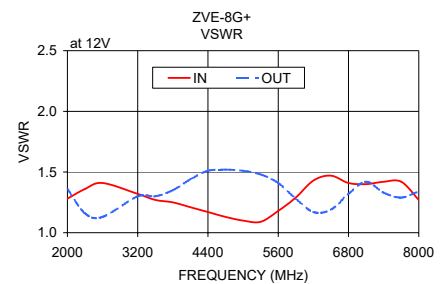
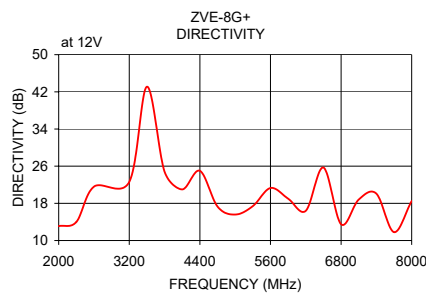
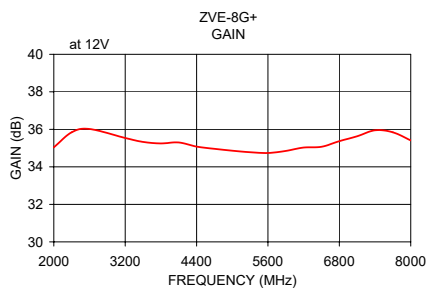
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# Medium High Power Amplifier

# ZVE-8G+ ZVE-8GX+

## TYPICAL PERFORMANCE DATA/CURVES

Frequency (MHz)	Gain (dB)	Directivity (dB)	VSWR (:1)		Pout at 1 dB Compr. (dBm)	Noise Figure (dB)
	12V	12V	IN	OUT	12V	12V
2000	35.04	13.10	1.28	1.36	31.11	5.23
2300	35.84	14.00	1.36	1.16	32.06	4.89
2600	36.02	21.60	1.41	1.13	32.27	4.44
3200	35.54	22.60	1.32	1.30	32.63	4.16
3500	35.33	43.10	1.27	1.30	32.74	4.11
3800	35.25	24.80	1.25	1.35	32.72	4.05
4100	35.30	21.00	1.21	1.44	32.13	4.05
4400	35.08	25.00	1.17	1.51	32.36	4.09
4700	34.96	17.30	1.13	1.52	32.37	4.10
5000	34.86	15.60	1.10	1.51	32.56	4.08
5300	34.78	17.40	1.09	1.48	31.74	4.15
5600	34.74	21.30	1.18	1.41	32.04	4.16
5900	34.85	19.00	1.29	1.28	32.01	4.23
6200	35.03	16.40	1.43	1.17	32.08	4.37
6500	35.07	25.70	1.47	1.19	31.98	4.33
6800	35.37	13.50	1.41	1.32	31.97	4.26
7100	35.63	18.80	1.40	1.42	31.50	4.34
7400	35.95	20.10	1.42	1.33	31.59	4.36
7700	35.84	11.80	1.42	1.29	31.48	4.22
8000	35.41	18.50	1.27	1.34	31.57	4.20



- 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.
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# Amplifier

# ZVE-8G+

## Typical Performance Data

FREQUENCY (MHz)	GAIN (dB) 12V	DIRECTIVITY (dB) 12V	VSWR IN (:1) 12V	VSWR OUT (:1) 12V	NOISE FIGURE (dB) 12V	Pout at 1dB Comp. (dBm) 12V
2000.0	35.04	13.08	1.28	1.36	5.23	31.11
2300.0	35.84	13.96	1.36	1.16	4.89	32.06
2600.0	36.02	21.59	1.41	1.13	4.44	32.27
3200.0	35.54	22.58	1.32	1.30	4.16	32.63
3500.0	35.33	43.10	1.27	1.30	4.11	32.74
3800.0	35.25	24.79	1.25	1.35	4.05	32.72
4100.0	35.30	21.03	1.21	1.44	4.05	32.13
4400.0	35.08	25.04	1.17	1.51	4.09	32.36
4700.0	34.96	17.32	1.13	1.52	4.10	32.37
5000.0	34.86	15.64	1.10	1.51	4.08	32.56
5300.0	34.78	17.37	1.09	1.48	4.15	31.74
5600.0	34.74	21.29	1.18	1.41	4.16	32.04
5900.0	34.85	18.96	1.29	1.28	4.23	32.01
6200.0	35.03	16.36	1.43	1.17	4.37	32.08
6500.0	35.07	25.71	1.47	1.19	4.33	31.98
6800.0	35.37	13.49	1.41	1.32	4.26	31.97
7100.0	35.63	18.78	1.40	1.42	4.34	31.50
7400.0	35.95	20.14	1.42	1.33	4.36	31.59
7700.0	35.84	11.80	1.42	1.29	4.22	31.48
8000.0	35.41	18.53	1.27	1.34	4.20	31.57

REV. X1  
ZVE-8G+  
060917  
Page 1 of 1



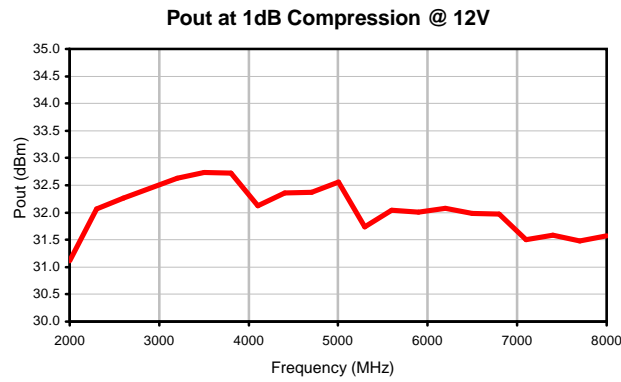
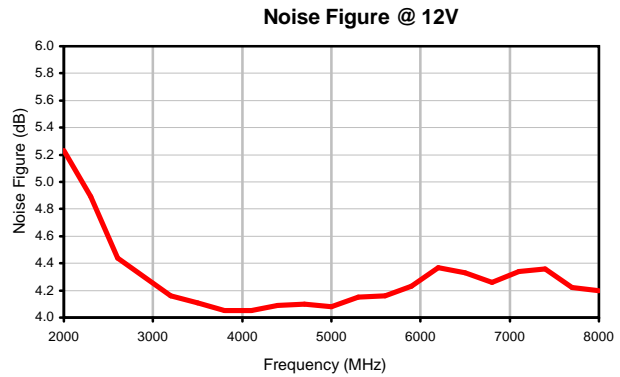
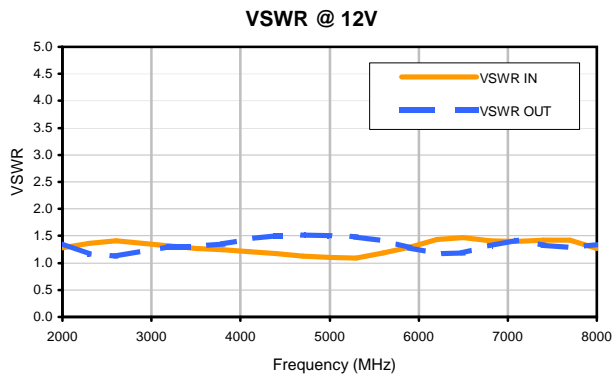
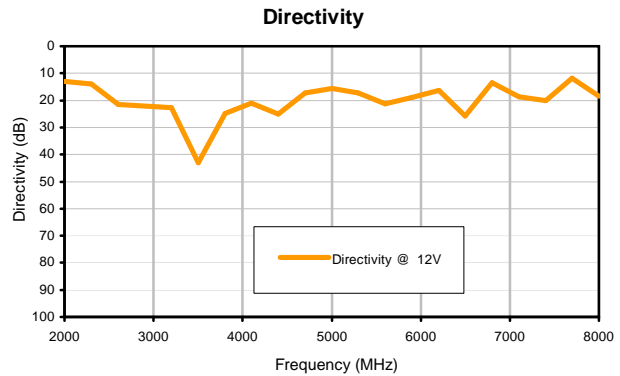
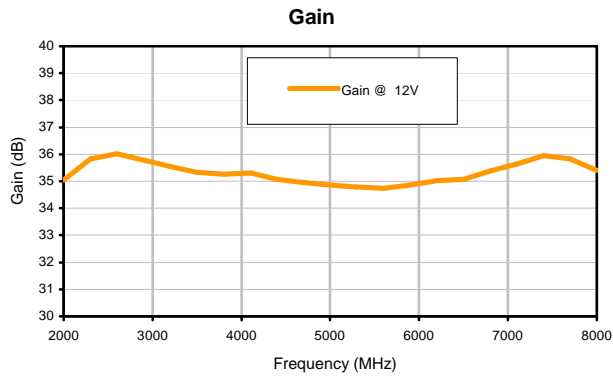
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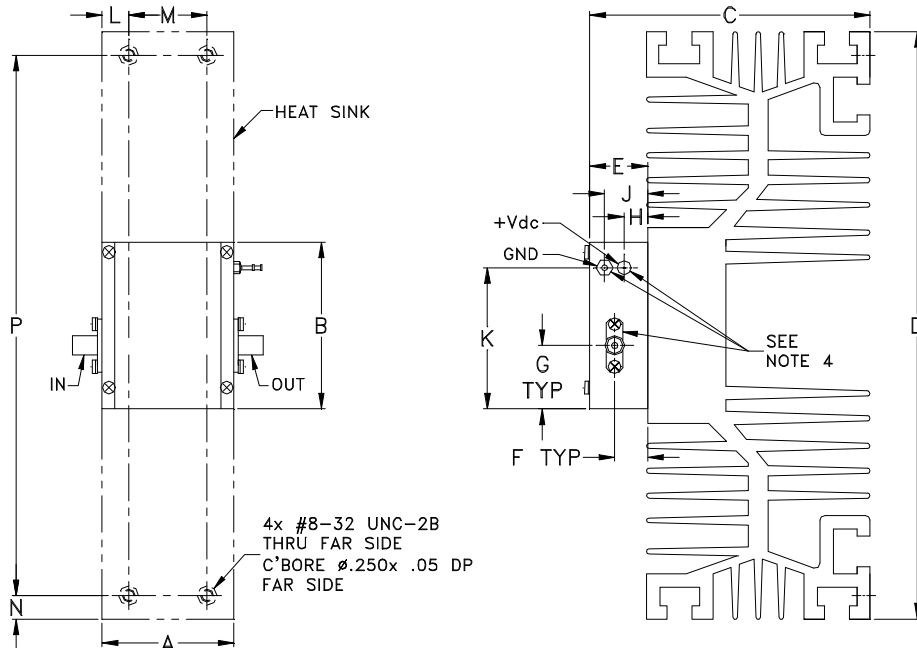
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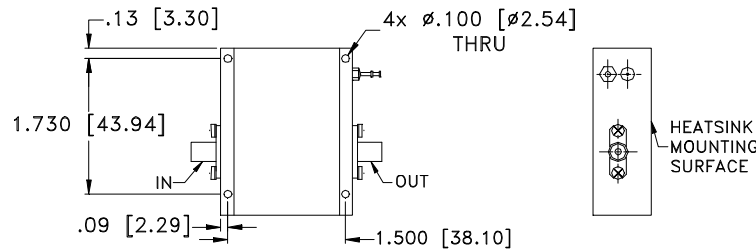
## Typical Performance Curves



### Outline Dimensions



#### MOUNTING INFORMATION FOR MODELS WITHOUT HEATSINK



CASE #	A	B	C	D	E	F	G	H	J	K	L
BN333	1.680 (42.67)	2.130 (54.10)	3.6 (91.44)	7.5 (190.50)	.74 (18.80)	.42 (10.67)	.81 (20.57)	.30 (7.62)	.55 (13.97)	1.80 (45.72)	.34 (8.64)

CASE #	M	N	P	WT. GRAM	WT. WITHOUT HEATSINK GRAM
BN333	1.000 (25.40)	.30 (7.62)	6.900 (175.26)	700	100

Dimensions are in inches (mm). Tolerances: 1Pl. + .1; 2Pl. + .03; 3 Pl. + .015

#### Notes:

1. Case material: Aluminum alloy.
2. Case finish: Nickel plate.
3. Heat sink finish: Black anodize.
4. Shape of mounting flange may vary.



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All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

Specification	Test/Inspection Condition	Reference/Spec
Operating Temperature	-55° to 54° C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 100° C Ambient Environment	Individual Model Data Sheet
Stabilization Bake	(non-operating) 125°C, 24 hours	- - -
Burn-in at Elevated Temp.	(DC on) 160 hours at 85° C	MIL-STD-202, Method 108
Thermal Shock	-55° to 100°C, 5 cycles	MIL-STD-202, Method 107, Condition A, except 100°C