



COAXIAL

High Power Amplifier

ZVE-3W-83+ ZVE-3W-83X+

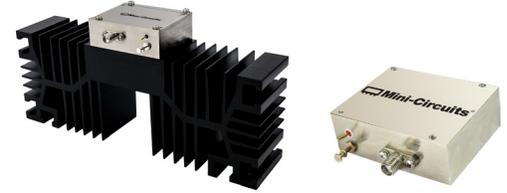
50Ω 3 W 2000 to 8000 MHz SMA Female

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 Communications



Generic photo used for illustration purposes only

Model No.	ZVE-3W-83+	ZVE-3W-83X+▲
Option	With Heatsink	Without Heatsink
Case Style	BN1327	
Connectors	SMA female	

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

ELECTRICAL SPECIFICATIONS

Parameter	Condition (MHz)	ZVE-3W-83+ ZVE-3W-83X+▲			Units
		Min.	Typ.	Max.	
Frequency Range		2000		8000	MHz
Gain	2000-8000	30		40	dB
Gain Flatness	2000-8000		±1.15	±2.0	dB
Output Power at 1 dB Compression ¹	2000-8000	+31.5	+33		dBm
Output Power at 3 dB Compression ¹	2000-8000	+33.5	+35		dBm
Output IP3	2000-8000		+42		dBm
Input VSWR	2000-8000		1.5		:1
Output VSWR	2000-8000		1.4		:1
Noise Figure	2000-8000		5.8		dB
DC Supply Voltage			+15		V
Supply Current ²				1.5	A

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

▲Heatsink 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 heatsink to be 2 °C/W max.

ABSOLUTE MAXIMUM RATINGS³

Parameter	Ratings
Operating Temperature (Baseplate) ⁴	-40 °C to +85 °C
Storage Temperature	-55 °C to +125 °C
Baseplate Temperature	+85 °C
DC Voltage	+18 V
Input RF Power ⁵ (No Damage)	+20 dBm

3. Permanent damage may occur if any of these limits are exceeded.
 4. Baseplate is interface of amplifier body to heatsink.
 5. With no load, derate maximum input power by +20 dBm.





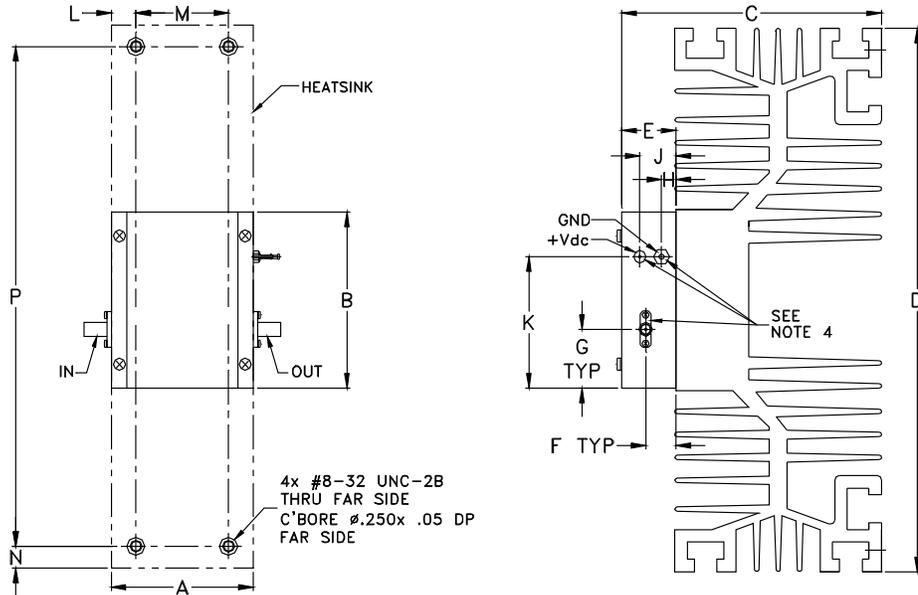
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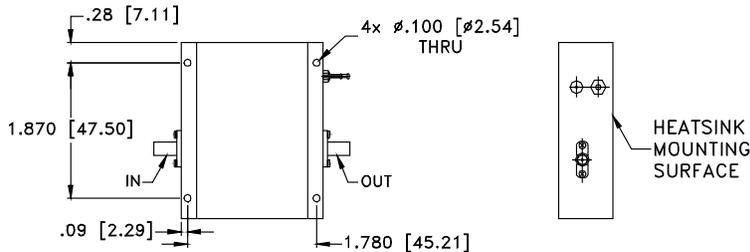
ZVE-3W-83+ ZVE-3W-83X+

50Ω 3 W 2000 to 8000 MHz SMA Female

OUTLINE DRAWING FOR MODELS WITH HEATSINK (ZVE-3W-83+)



MOUNTING INFORMATION FOR MODELS WITHOUT HEATSINK (ZVE-3W-83X+)



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
														*120 grams without heatsink





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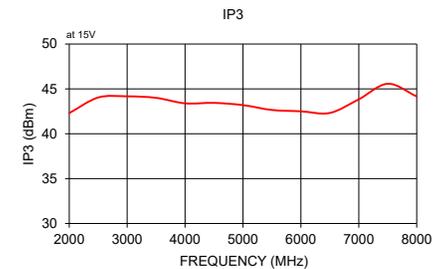
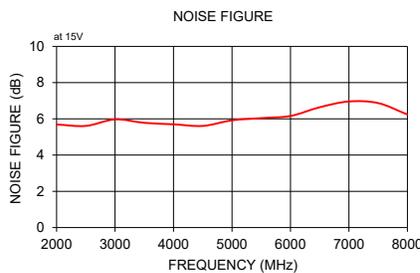
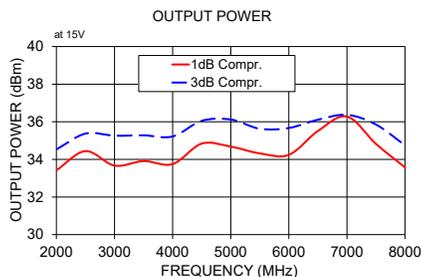
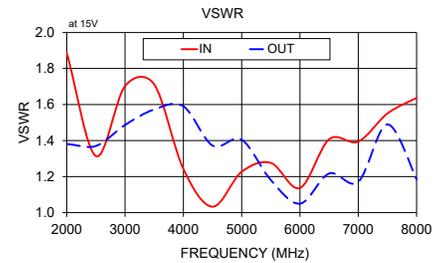
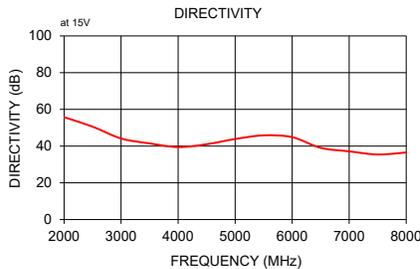
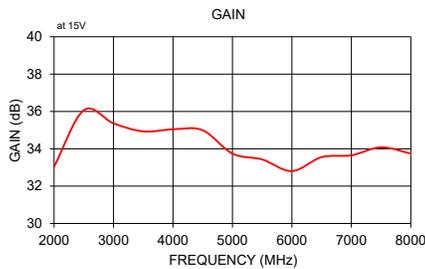
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50Ω 3 W 2000 to 8000 MHz SMA Female

TYPICAL PERFORMANCE DATA/CURVES

Frequency (MHz)	Gain (dB)	Directivity (dB)	VSWR (:1)		P _{OUT} at 1 dB Compr. (dBm)	P _{OUT} at 3 dB Compr. (dBm)	Noise Figure (dB)	OIP3 (dBm)
	+15 V	+15 V	IN	OUT	+15 V	+15 V	+15 V	+15 V
2000	33.04	55.76	1.89	1.38	33.42	34.53	5.69	42.30
2500	36.07	50.59	1.31	1.37	34.44	35.37	5.61	44.04
3000	35.36	44.15	1.70	1.49	33.67	35.26	5.97	44.17
3500	34.93	41.47	1.71	1.57	33.91	35.28	5.78	44.00
4000	35.04	39.47	1.24	1.59	33.75	35.22	5.70	43.39
4500	34.99	41.02	1.03	1.37	34.84	36.05	5.61	43.44
5000	33.74	43.87	1.23	1.40	34.68	36.12	5.92	43.19
5500	33.43	45.85	1.28	1.18	34.32	35.63	6.04	42.65
6000	32.80	44.87	1.14	1.05	34.24	35.67	6.16	42.50
6500	33.55	39.05	1.41	1.22	35.51	36.11	6.64	42.32
7000	33.65	37.15	1.39	1.17	36.28	36.37	6.96	43.84
7500	34.08	35.44	1.55	1.49	34.82	35.85	6.87	45.57
8000	33.74	36.53	1.64	1.18	33.57	34.75	6.24	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.
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ZVE-3W-83+

Typical Performance Data

FREQ. (MHz)	GAIN (dB) 15V	DIRECTIVITY (dB) 15V	VSWR (:1)		NOISE FIGURE (dB) 15V	POUT @ 1 dB COMPRESSION (dBm) 15V	POUT @ 3 dB COMPRESSION (dBm) 15V	OUTPUT IP3 (dBm) 15V
			IN 15V	OUT 15V				
2000.0	34.01	73.37	1.63	1.55	5.69	33.42	34.53	42.30
2500.0	35.02	52.19	1.60	1.48	5.61	34.44	35.37	44.04
3000.0	34.77	43.74	1.57	1.31	5.97	33.67	35.26	44.17
3500.0	35.60	40.56	1.68	1.21	5.78	33.91	35.28	44.00
4000.0	35.73	40.67	1.54	1.12	5.70	33.75	35.22	43.39
4500.0	35.59	48.18	1.21	1.02	5.61	34.84	36.05	43.44
5000.0	35.57	45.70	1.15	1.13	5.92	34.68	36.12	43.19
5500.0	35.44	47.51	1.29	1.29	6.04	34.32	35.63	42.65
6000.0	35.12	47.69	1.44	1.41	6.16	34.24	35.67	42.50
6500.0	35.27	45.95	1.53	1.47	6.64	35.51	36.11	42.32
7000.0	35.29	43.62	1.39	1.40	6.96	36.28	36.37	43.84
7500.0	34.84	42.16	1.48	1.21	6.87	34.82	35.85	45.57
8000.0	33.80	42.17	1.44	1.07	6.24	33.57	34.75	44.16



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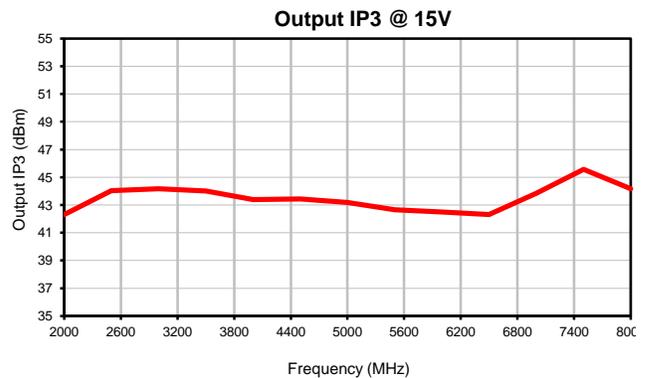
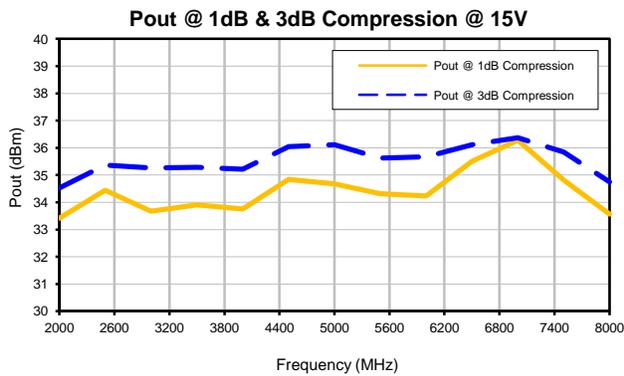
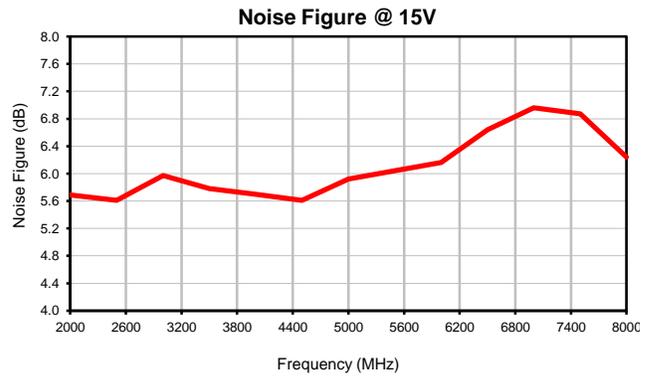
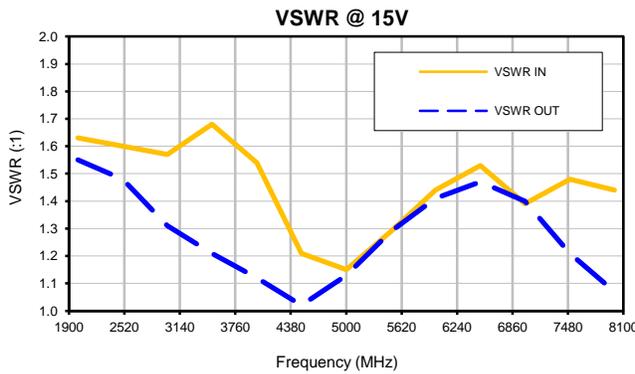
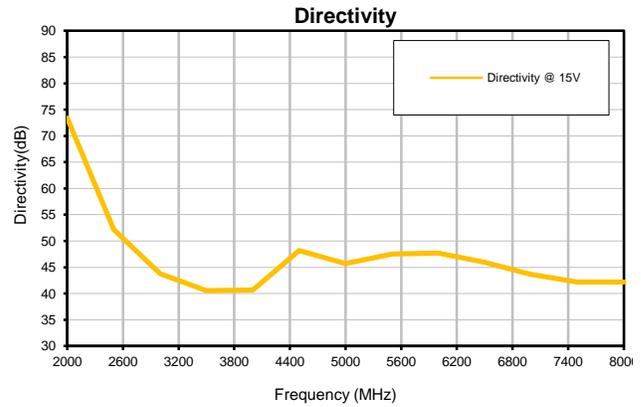
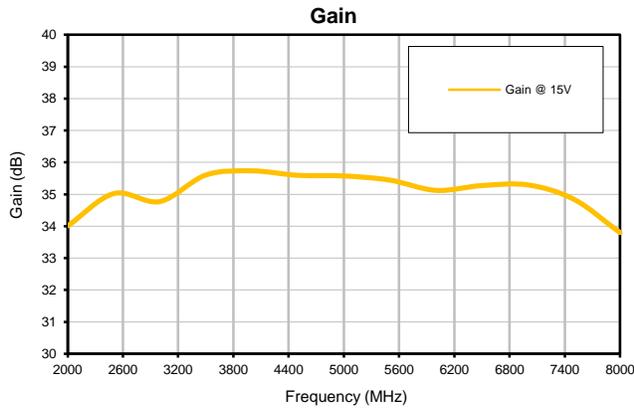
IF/RF MICROWAVE COMPONENTS

REV. OR
ZVE-3W-83+
11/22/2013
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Typical Performance Curves



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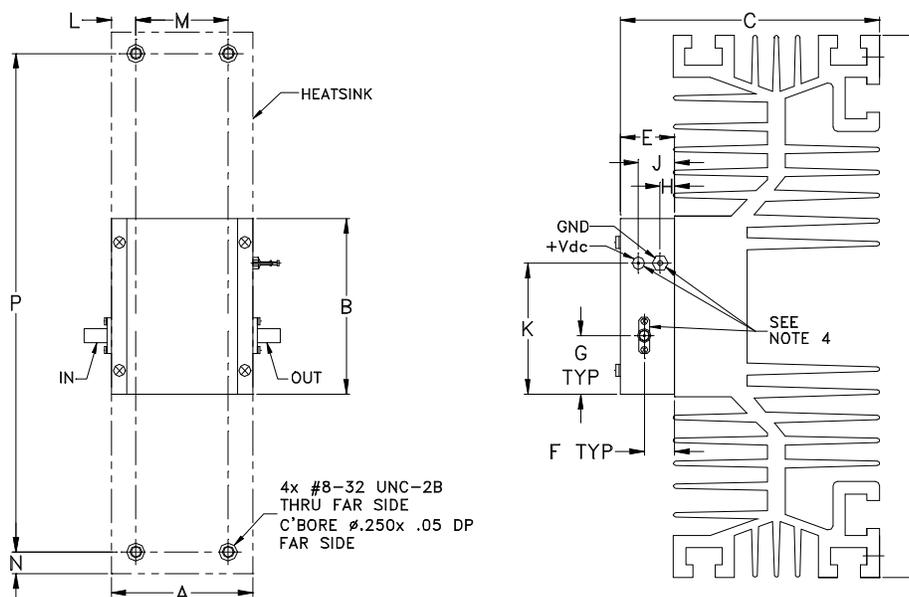
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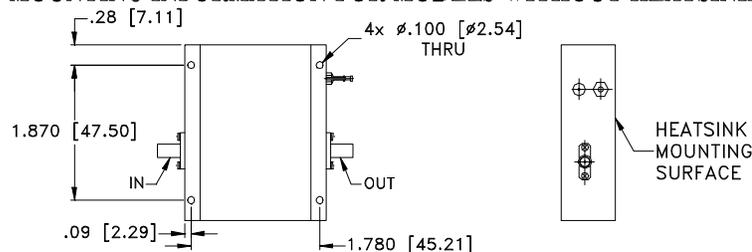
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Outline Dimensions



MOUNTING INFORMATION FOR MODELS WITHOUT HEATSINK



CASE #	A	B	C	D	E	F	G	H	J	K	L
BN1327	1.960 (49.78)	2.430 (61.72)	3.6 (91.44)	7.5 (190.50)	.74 (18.80)	.42 (10.67)	0.81 (20.57)	.20 (5.08)	.49 (12.45)	1.81 (45.97)	.36 (9.02)

CASE #	M	N	P	WT. GRAM	WT. WITHOUT HEATSINK GRAM
BN1327	1.250 (31.75)	.30 (7.62)	6.900 (175.26)	875	120

Dimensions are in inches (mm). Tolerances: 1Pl. \pm .1; 2Pl. \pm .03; 3 Pl. \pm .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 85°C base plate temp	Individual Model Data Sheet
Storage Temperature	-65° to 150°C	Individual Model Data Sheet
Thermal Shock	-55° to 100°C, 100 cycles	MIL-STD-202, Method 107
Vibration (High Frequency)	Category 24, Exposure level figures 514C-17 General use, random, 20-2000Hz, 1 hr per axis	MIL-STD-810, Method 514.5
Mechanical Shock	40Gs, 11ms, 18 shocks: 3 each direction), each axis	MIL-STD-810, Method 516-5-II