

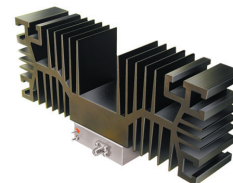
High Power Amplifier

ZVE-3W-183+

50Ω 3W 5.9 to 18 GHz

The Big Deal

- Wideband 5.9 to 18 GHz
- Output Power, 3 Watts
- Gain, 35 dB



CASE STYLE: BN1327

Product Overview

ZVE-3W-183+ is a Class-A, four stage, unconditionally stable amplifier which includes built-in voltage regulation and reverse bias protection for added reliability in un-constrained environments. This model exhibits outstanding performance in system applications as well as being ruggedized to support the stress and abuse associated with lab test environments including the capability to withstand accidental open/short at the output over military vibration and shock levels.

Key Features

Feature	Advantages
Wide Bandwidth, 5.9 to 18 GHz (Usable over 5.5 to 18 GHz)	The broad bandwidth for the ZVE-3W-183+ enables full coverage of major EW and Test bands in a single amplifier. This amplifier is ideal for broadband, high frequency EMI test applications or driving multiple modules from a single source.
Output power: 3W typ.	The ZVE-3W-183+ amplifier is capable of delivering 3W CW output making it an ideal driver amplifier for very high power amplifiers such as TWT's or in supporting power handling tests of wide band components such as amplifiers, splitters etc.
Gain: 35 dB typ.	With high gain, the ZVE-3W-183+ is ideal for use in test applications when used together with lab signal generators, enabling it to deliver full power without need of additional driver amplifiers. In system applications, the high gain reduces the number of amplifiers needed resulting in a reduction of mechanical footprint or performance degradation due to VSWR interaction of multiple coaxial components.
Low VSWR: Input 1:5:1 typ. Output: 1.2:1 typ.	Low VSWR minimizes interaction effects with adjacent components which can negatively affect the overall gain ripple over such wide bands.
Outstanding Gain Flatness: ± 1.4 dB typ.	Covering a 3:1 bandwidth often results in gain flatness that may require additional circuits for slope compensation. The ZVE-3W-183+ includes internal circuits to ensure tight flatness over the entire 5.9 to 18 GHz band making this amplifier ideal for use in a variety of critical applications.

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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Coaxial

High Power Amplifier

ZVE-3W-183+

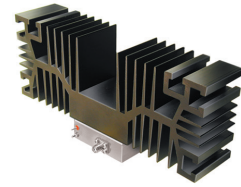
50Ω 3W 5.9 to 18 GHz

Features

- High power, 3 Watt
- Wideband, 5.9 to 18 GHz
- High IP3, +44 dBm typ.
- High dynamic range
- High gain, 35dB typ. and good directivity, 35dB typ.
- Internal voltage regulated for 13 to 18VDC

Applications

- Radar
- Video and test instrumentation
- Booster amplifiers for lab test equipment



CASE STYLE: BN1327

Connectors	Model
SMA	ZVE-3W-183+

+RoHS Compliant

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

Electrical Specifications

Parameter	Condition (MHz)	ZVE-3W-183+			Units
		Min.	Typ.	Max.	
Frequency Range		5900	—	18000	MHz
Gain	5900-18000	29	35	40	dB
Gain Flatness	5900-18000	—	±1.4	±2.0	dB
Output Power at 1dB compression	5900-18000	+31.5	+34	—	dBm
Saturated Output Power at 3dB compression	5900-18000	+32.5	+35	—	dBm
Noise Figure	5900-18000	—	5.5	—	dB
Output third order intercept point	5900-18000	—	+44	—	dBm
Input VSWR	5900-18000	—	1.5	2.0	:1
Output VSWR	5900-18000	—	1.2	2.0	:1
DC Supply Voltage		13	15	18	V
Supply Current ¹		—	1.3	2.2	A

1. Power Supply should be capable of delivering 3A at start-up.

Maximum Ratings

Parameter	Ratings
Operating Ambient Temperature	-40°C to 55°C
Base Plate Temperature	85°C
Storage Temperature	-55°C to 100°C
DC Voltage	18V
Input RF Power (no damage)	+20 dBm

Permanent damage may occur if any of these limits are exceeded.

Notes

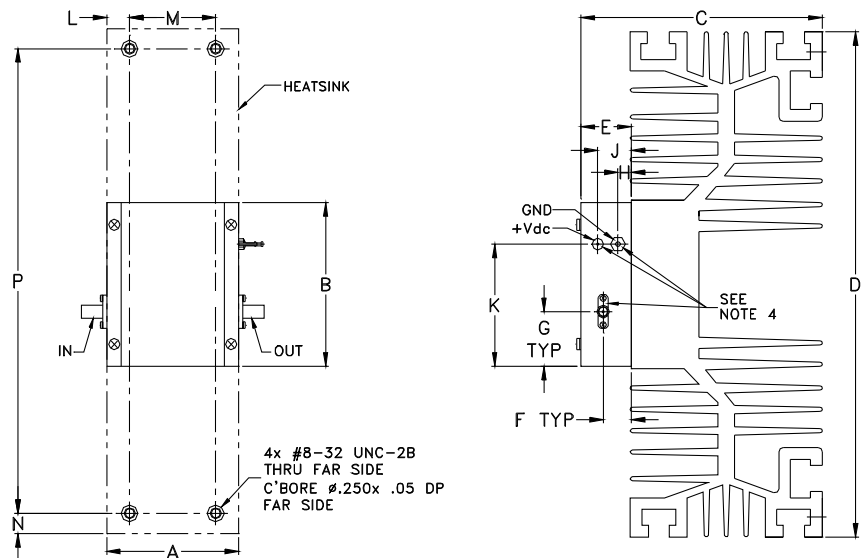
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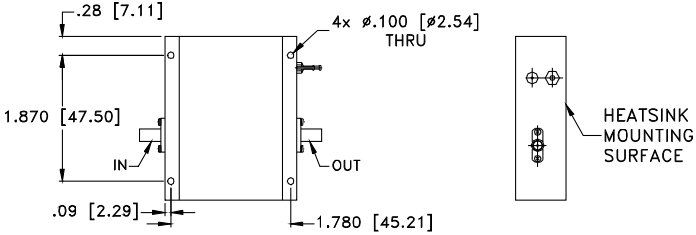
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ZVE-3W-183+
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Outline Drawing



MOUNTING INFORMATION FOR MODELS WITHOUT HEATSINK



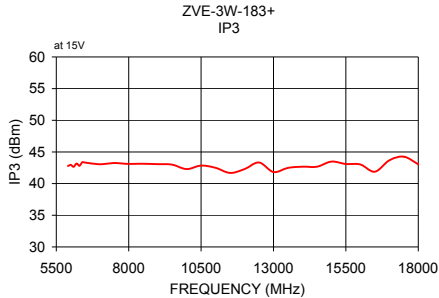
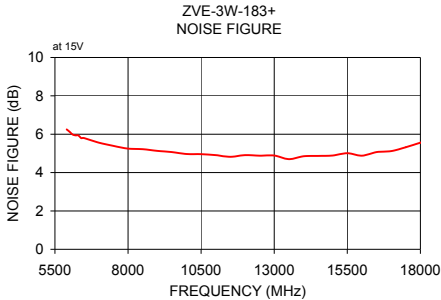
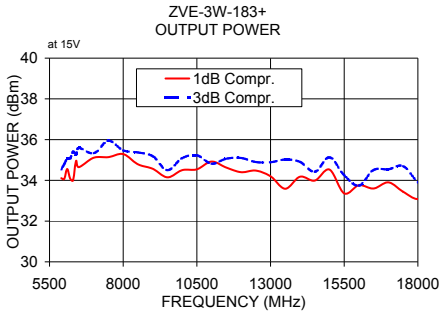
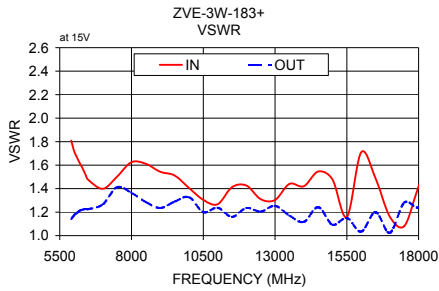
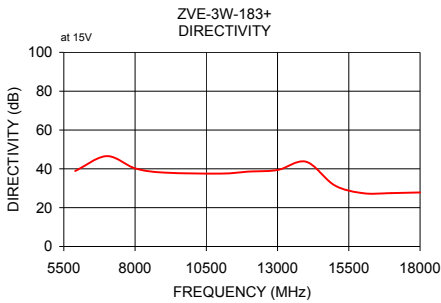
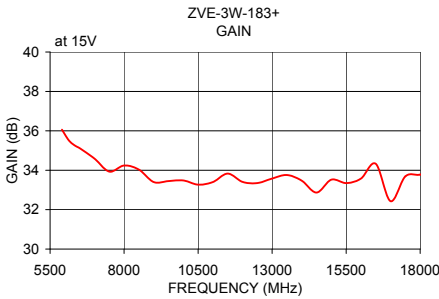
Outline Dimensions (inch mm)

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
*120 grams without heatsink														

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FREQUENCY (MHz)	GAIN (dB)	VSWR (:1)		NOISE FIGURE (dB)	POUT at 1 dB COMPR. (dBm)	IP3 (dBm)
	15V	IN	OUT	15V	15V	15V
5900.00	36.06	1.81	1.14	6.25	34.11	42.77
7000.00	34.59	1.40	1.27	5.56	35.11	43.06
8000.00	34.24	1.63	1.36	5.25	35.29	43.11
9000.00	33.40	1.54	1.24	5.13	34.57	43.07
11000.00	33.40	1.27	1.24	4.91	34.92	42.49
12000.00	33.41	1.43	1.24	4.91	34.40	42.29
13000.00	33.58	1.30	1.25	4.89	34.20	41.83
14000.00	33.47	1.42	1.12	4.85	34.18	42.67
15000.00	33.52	1.48	1.09	4.89	34.53	43.47
16000.00	33.58	1.71	1.03	4.88	33.76	43.02
17000.00	32.43	1.16	1.02	5.12	33.90	43.67
18000.00	33.78	1.42	1.24	5.56	33.08	43.06



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