



COAXIAL

High Power Amplifier

ZHL-100W-382+

50Ω 100W 3250 to 3850 MHz

THE BIG DEAL

- Output Power at Saturation 100W typ.
- Wide Bandwidth, 3250 to 3850 MHz
- High Gain, 47 dB typ.
- Good Gain Flatness, ±1.0dB typ.
- Unconditionally stable
- Self protected against high case temp., reverse polarity and shorting/unshorting
- Can withstand short and open circuit at output while delivering 100 watts



Generic photo used for illustration purposes only

Model No.	ZHL-100W-382+
Case Style	BT1834
Connectors	IN-SMA, OUT-N-Type

+RoHS Compliant

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

APPLICATIONS

- High Power Test Sets
- Burn-in Setups
- Communications
- Radar

PRODUCT OVERVIEW

The ZHL-100W-382+ is a Class AB, high-power amplifier providing 100W saturated power over the 3250 to 3850 MHz band, ideal for a variety of high-power test setups as well as applications including communications, radar and more. The ruggedly-designed amplifier provides unconditional stability and built-in self-protection against reverse polarity and overheating. It is capable of withstanding short and open circuits at output while continuously delivering 100W of power. Housed in a rugged aluminum alloy case measuring 5.6 x 8.8 x 1.2", the unit features SMA-N type connectors and heat sink and fan attachment for cooling.

KEY FEATURES

Feature	Advantages
Wideband, usable from 3100 to 4000 MHz	Suitable for a broad range of high-power, wideband applications, including test setups, communications and defense applications.
High Gain, 47 dB	Enables signal amplification to 100 W output without the need for multiple gain stages.
Good Gain Flatness, ±1.0 dB	Provides consistent performance across frequency without the need for gain flattening using external components.
Built-in self-protection	In instances of potentially-damaging heat buildup within the housing, unshorting of DC supply, and short or open loads at the output, an automatic sensing feature signals the unit to power down.
Unconditional stability	Provides reliable performance independent of input and load conditions.





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ELECTRICAL SPECIFICATIONS AT 25°C

Parameter	Condition (MHz)	Min.	Typ.	Max.	Units
Frequency Range		3250	–	3850	MHz
Gain ¹	3250-3850	44	47	56	dB
Gain Flatness ¹	3250-3850	–	±1.0	±2.0	dB
Output Power at 1dB Compression	3250-3850	+48	+50	–	dBm
Output Power at Saturation	3250-3850	+49	+51	–	dBm
Noise Figure	3250-3850	–	9.5	13	dB
Output third order intercept point ²	3250-3850	+49	+58	–	dBm
Input VSWR ¹	3250-3850	–	1.3	2.5	:1
Output VSWR ¹	3250-3850	–	1.3	2.5	:1
DC Supply Voltage		–	+28 ⁴	+30	V
Supply Current ³		–	18	20	A

1. Small signal input power -15 dBm typ.
2. Two tones, +40 dBm/tone, 1 MHz spacing.
3. Power supply should be capable of delivering 20A at start up; 18 A current measurement at 100 W output.
4. Recommended Operating Voltage.

MAXIMUM RATINGS

Parameter	Ratings
Operating Ambient Temperature (With Mini-Circuits' heatsink and fan)	-20°C to +45°C
Storage Temperature	-55°C to +100°C
DC Voltage	+30V
Input RF Power (no damage)	+7 dBm

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





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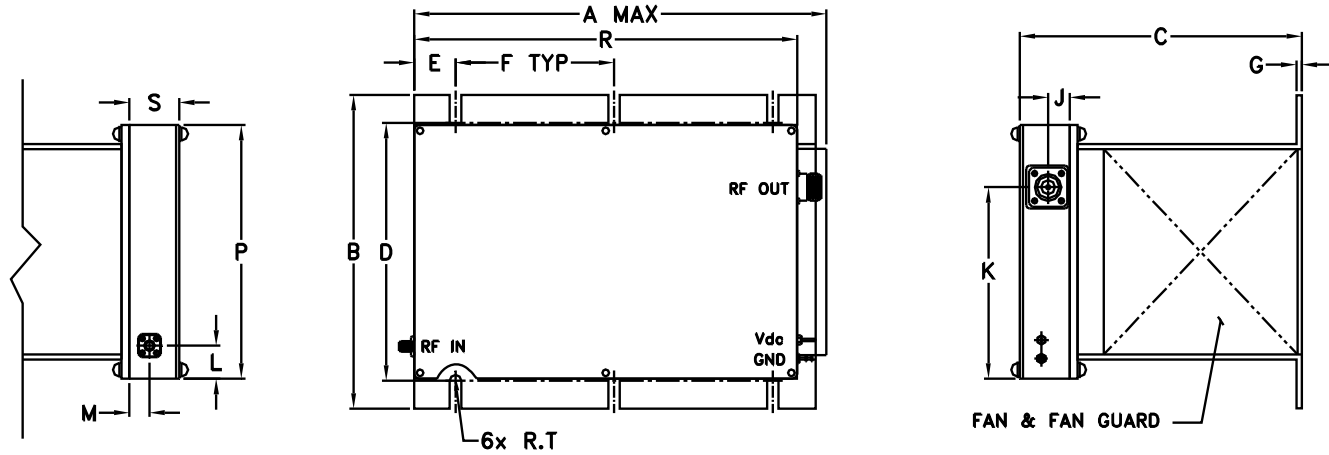
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OUTLINE DRAWING FOR MODELS WITH HEATSINK



OUTLINE DIMENSIONS (Inch/mm)

A	B	C	D	E	F	G	J	K	L	M	P	R	S	T	wt
9.85	7.3	6.6	6.00	.98	3.75	.13	.51	4.46	.77	.47	5.91	9.06	1.18	.135	grams*
250.19	185.42	167.64	152.40	24.89	95.25	3.30	12.95	113.28	19.56	11.94	150.11	230.12	29.97	3.43	5350

*1670 grams without heatsink





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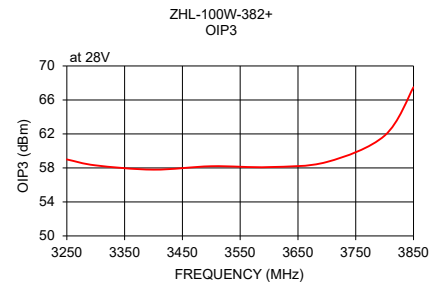
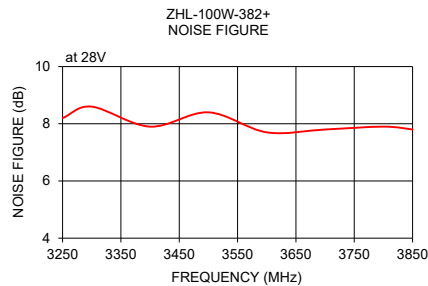
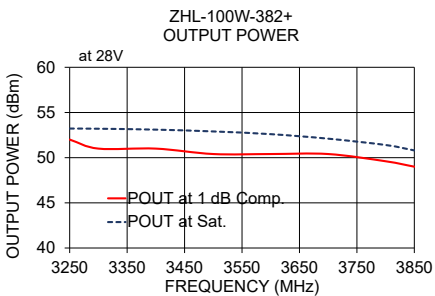
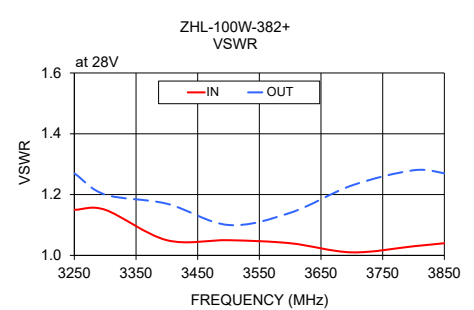
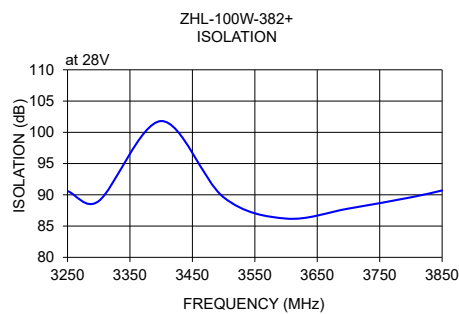
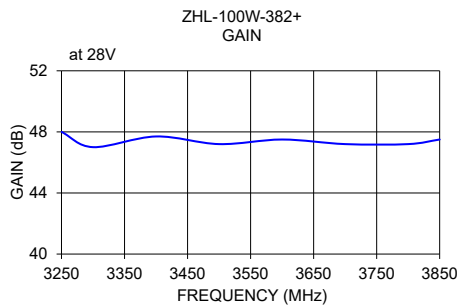
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TYPICAL PERFORMANCE DATA / GRAPHS

FREQUENCY (MHz)	GAIN (dB)	ISOLATION (dB)	VSWR (:1)		POUT at 1 dB COMPR. (dBm)	POUT at SAT (dBm)	NOISE FIGURE (dB)	OUTPUT IP3 (dBm)
	28V	28V	IN	OUT	28V	28V	28V	28V
3250	48.00	90.60	1.15	1.27	52.00	53.22	8.20	59.00
3300	47.00	89.00	1.15	1.20	51.00	53.20	8.60	58.30
3400	47.70	101.80	1.05	1.17	51.00	53.10	7.90	57.80
3500	47.20	89.60	1.05	1.10	50.40	52.90	8.40	58.20
3600	47.50	86.20	1.04	1.14	50.40	52.60	7.70	58.10
3700	47.20	87.80	1.01	1.23	50.40	52.10	7.80	58.70
3800	47.20	89.60	1.03	1.28	49.60	51.40	7.90	61.80
3850	47.50	90.70	1.04	1.27	49.00	50.80	7.80	67.50



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/terms/viewterm.html

