Coaxial

High Power Amplifier

ZHL-100W-43+

50Ω 100W 3500 to 4000 MHz

Features

- Saturated power 100W typ.
- Wide bandwidth, usable 3200 to 4100 MHz
- High gain, 50 dB typ.
- Good gain flatness, ±1.5dB typ.
- Unconditionally stable
- Self protected against excessive drive, high case temp., reverse polarity and shorting/unshorting
- Can withstand short and open circuit at output while delivering 100 watts

Model No.	ZHL-100W-43+	▲ZHL-100W-43X+
Case Style	BT1834	
Connectors	IN-SMA, OUT-N-Type	
Price (Qty.)	$3,595.00 ea. (1-9)	$3,495.00 ea. (1-9)

+RoHS Compliant

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

Applications

- Wireless communications
- Military communications
- Cellular base station
- Radio link
- Radar
- Rep measurement

Product Description

ZHL-100W-43+ is a Class-AB, unconditionally stable amplifier. It features a ruggedized case, the ability to withstand accidental open or short at output and reverse bias protection for added reliability under difficult conditions.

Electrical Specifications at 25°C

Parameter	Condition (MHz)	ZHL-100W-43+ ▲ZHL-100W-43X+ Min.	Typ.	Max.	Units
Frequency Range		3500	—	4000	MHz
Gain[1]	3500-4000	45	50	57	dB
Gain Flatness[1]	3500-4000	—	±1.5	±2.0	dB
Output Power at 1dB compression	3500-4000	+48	+50	—	dBm
Output Power at 3dB compression	3500-4000	+49	+51	—	dBm
Noise Figure	3500-4000	—	8	12	dB
Output third order intercept point[2]	3500-4000	+51	+54	—	dBm
Input VSWR[1]	3500-4000	—	1.6	2.0	:1
Output VSWR[1]	3500-4000	—	1.6	2.0	: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.

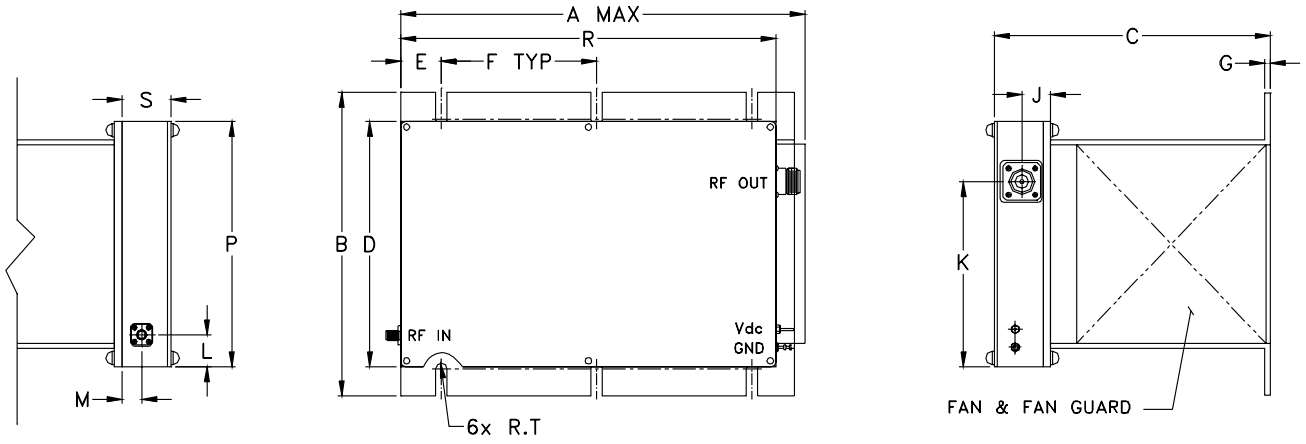
▲Heat sink and fan not included. Alternative heat sinking and heat removal must be provided by the user to limit maximum base-plate temperature to 60°C, in order to ensure proper performance. For reference, this requires thermal resistance of user's external heat sink to be 0.03°C/W max.

Maximum Ratings

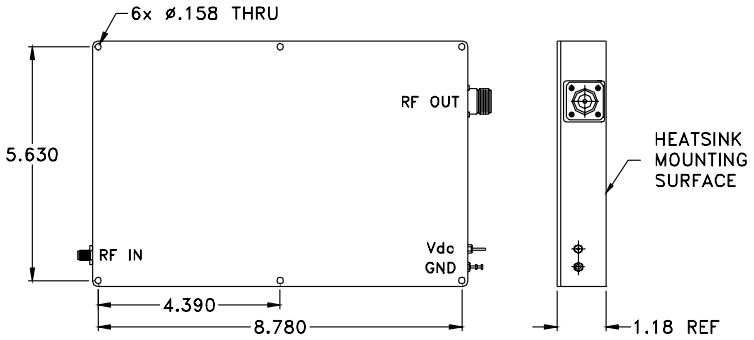
Parameter	Ratings
Operating Ambient Temperature (With Mini-Circuits' heatsink and fan)	-20°C to 45°C
Base Plate Temperature (When used without heatsink)	-20°C to 60°C
Storage Temperature	-55°C to 100°C
DC Voltage	30V
Input RF Power (no damage)	+7 dBm

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

Outline Drawing for models with heatsink



MOUNTING INFORMATION FOR MODELS WITHOUT HEATSINK.

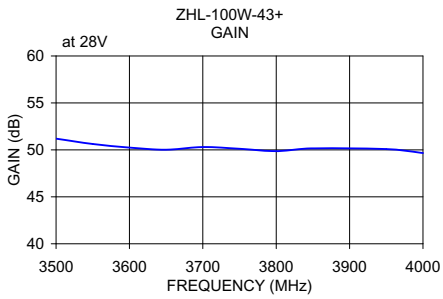


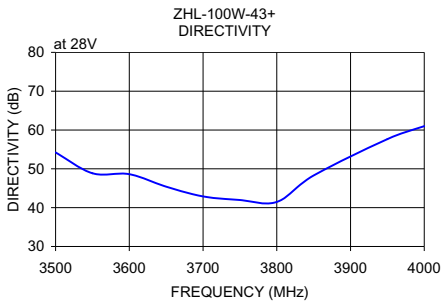
Outline Dimensions (inch / mm)

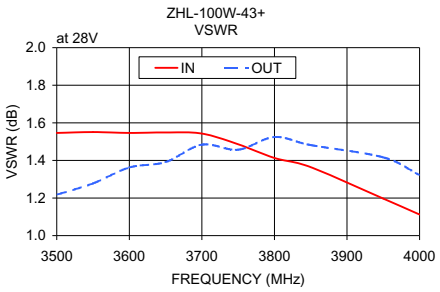
A	B	C	D	E	F	G	J	K	L	M	P	R	S	T	wt
9.85	7.3	6.6	6.00	.98	3.75	.13	.51	4.46	.77	.47	5.91	9.06	1.18	.135	grams*
250.19	185.42	167.64	152.40	24.89	95.25	3.30	12.95	113.28	19.56	11.94	150.11	230.12	29.97	3.43	5350

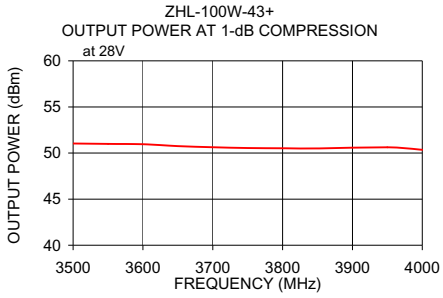
*1670 grams without heatsink

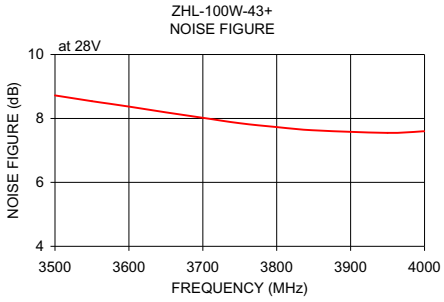
FREQUENCY (MHz)	GAIN (dB)	DIRECTIVITY (dB)	VSWR (:1)		POUT at 1 dB COMPR. (dBm)	NOISE FIGURE (dB)	IP3 (dBm)
	28V	28V	IN	OUT	28V	28V	28V
3500	51.19	54.21	1.55	1.22	51.03	8.72	55.48
3550	50.63	48.85	1.55	1.28	50.99	8.54	55.08
3600	50.24	48.62	1.55	1.36	50.96	8.37	54.77
3650	50.02	45.40	1.55	1.39	50.75	8.19	54.44
3700	50.30	42.89	1.54	1.48	50.63	8.02	54.23
3750	50.12	41.97	1.49	1.46	50.54	7.85	54.08
3800	49.87	41.46	1.41	1.52	50.52	7.73	54.16
3850	50.16	48.29	1.36	1.48	50.50	7.63	54.12
3950	50.08	57.64	1.20	1.42	50.62	7.55	54.33
4000	49.67	61.00	1.11	1.32	50.35	7.60	54.82

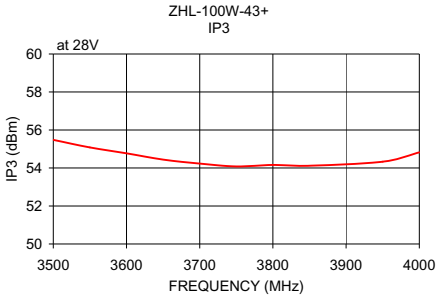












Additional Notes

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