

# Coaxial High Power Amplifier

## ZHL-100W-13+

50Ω 100W 800 to 1000 MHz

### Features

- saturated power 100W typ.
- wide bandwidth, usable 750 to 1050 MHz
- high gain, 50 dB typ.
- good gain flatness,  $\pm 1$ dB 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

### Applications

- AM/FM
- multi-carrier amplification
- broadband swept signal
- linear pulse
- feed-forward



Generic photo used for illustration purposes only

Model No.	ZHL-100W-13+
Case Style	BT1689
Connectors	IN-SMA, OUT-N-Type

#### +RoHS Compliant

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

### Electrical Specifications at 25°C

Parameter	Condition (MHz)	ZHL-10W-13+			Units
		Min.	Typ.	Max.	
Frequency Range		800	—	1000	MHz
Gain <sup>1</sup>	800 - 1000	45	50	57	dB
Gain Flatness <sup>1</sup>	800 - 1000	—	$\pm 1.0$	$\pm 1.5$	dB
Output Power at 1dB compression	800 - 1000	+47.5	+49	—	dBm
Output Power at 3dB compression	800 - 1000	+48.5	+50	—	dBm
Noise Figure	800 - 1000	—	7	10	dB
Output third order intercept point <sup>2</sup>	800 - 1000	+52	+60	—	dBm
Input VSWR <sup>1</sup>	800 - 1000	—	1.3	1.6	:1
Output VSWR <sup>1</sup>	800 - 1000	—	1.4	1.6	:1
DC Supply Voltage		—	28 <sup>4</sup>	30	V
Supply Current <sup>3</sup>		—	10	14.5	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 17A at start up.

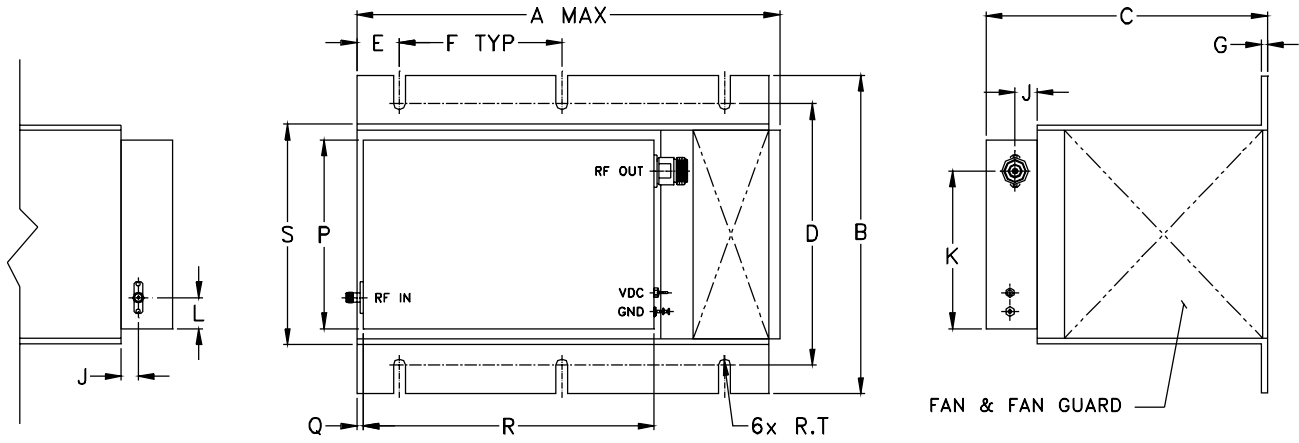
4. Recommended Operating Voltage.

### Maximum Ratings

Parameter	Ratings
Operating Temperature	-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.

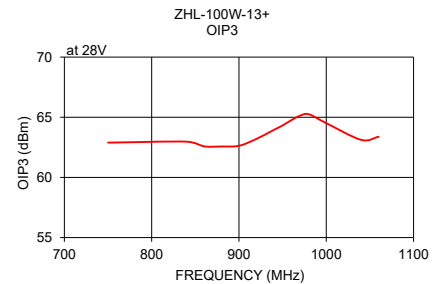
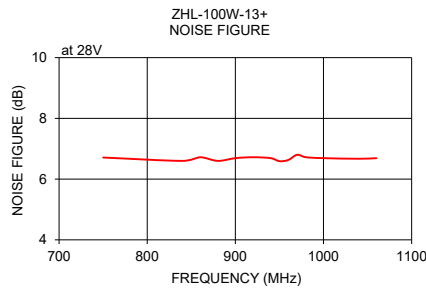
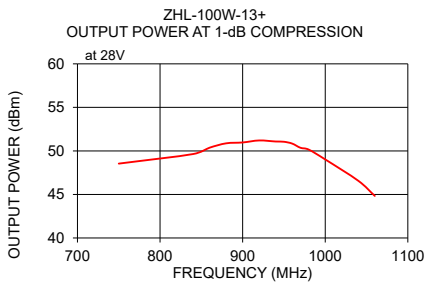
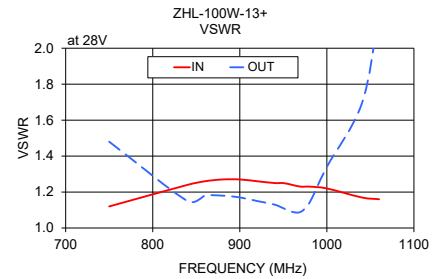
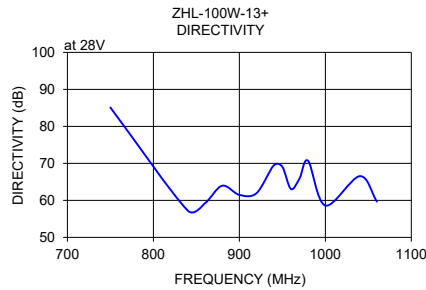
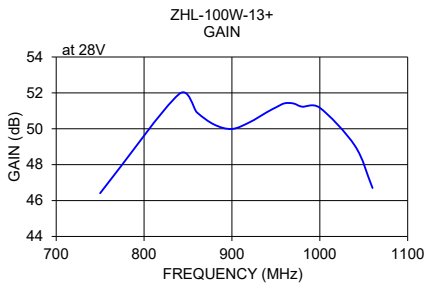
## Outline Drawing for models with heatsink



### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	J	K	L	P	Q	R	S	T	wt
9.85	7.3	6.5	6.00	.98	3.75	.13	.51	3.62	.72	4.33	.2	6.69	5.1	.136	grams
250.19	185.42	165.10	152.40	24.89	95.25	3.30	12.95	91.95	18.29	109.98	5.08	169.93	129.54	3.45	4565

FREQUENCY (MHz)	GAIN (dB)	DIRECTIVITY (dB)	VSWR (:1)		POUT at 1 dB COMPR. (dBm)	NOISE FIGURE (dB)	OIP3 (dBm)
	30V	30V	IN	OUT	30V	30V	30V
750.00	46.41	85.10	1.12	1.48	48.54	6.71	62.89
840.00	51.94	57.24	1.24	1.15	49.64	6.60	62.97
860.00	50.92	59.22	1.26	1.18	50.37	6.72	62.58
880.00	50.23	63.96	1.27	1.18	50.87	6.60	62.57
900.00	49.99	61.48	1.27	1.17	50.97	6.69	62.63
920.00	50.36	61.95	1.26	1.15	51.20	6.72	63.20
940.00	50.93	69.45	1.25	1.13	51.08	6.69	63.95
950.00	51.19	69.08	1.25	1.11	51.05	6.59	64.32
960.00	51.42	63.07	1.24	1.09	50.84	6.63	64.76
970.00	51.41	65.92	1.23	1.09	50.36	6.80	65.13
980.00	51.23	70.67	1.23	1.14	50.15	6.72	65.25
1000.00	51.17	58.60	1.22	1.34	49.02	6.69	64.51
1040.00	49.05	66.54	1.17	1.69	46.57	6.67	63.12
1060.00	46.70	59.66	1.16	2.18	44.83	6.69	63.38



### 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](http://www.minicircuits.com/MCLStore/terms.jsp)