

Coaxial Amplifier

ZHL-20W-13

50Ω High Power 20W 20 to 1000 MHz

Features

- protected against overheat- shuts off automatically
- over voltage protection, shuts off above 29V
- excellent gain flatness, ± 1.2 dB typ.
- class A amplifier
- usable over 15 to 1100 MHz
- protected by US patent 7,348,854

Applications

- VHF/UHF transmitters
- defense
- amateur radio, FM, TV



ZHL-20W-13X

ZHL-20W-13

CASE STYLE: CP641

Connectors	Model	Price	Qty.
SMA	ZHL-20W-13	\$1395.00	(1-9)
SMA	ZHL-20W-13X	\$1320.00	(1-9)

Electrical Specifications

MODEL NO.	FREQ. (MHz)		GAIN (dB)				MAXIMUM POWER OUTPUT (dBm)					DYNAMIC RANGE		VSWR (:1) Typ.		DC POWER	
	f _L	f _U	Min.	Typ.	Max.	Flatness Max.	(1 dB Compr.) Min.	Typ.	(3 dB Compr.) Min.	Typ.	⁽¹⁾ Input (no damage) Max.	NF (dB) Typ.	IP3 (dBm) Typ.	In	Out	Volt (V) Nom.	Current (A) Max.
ZHL-20W-13	20	1000	46	50	55	±1.8	+39	+41	+40	+43	-3	3.5	+50	1.7	2.5	24	2.8
ZHL-20W-13X*	20	1000	46	50	55	±1.8	+39	+41	+40	+43	-3	3.5	+50	1.7	2.5	24	2.8

*Heat sink and fan not included

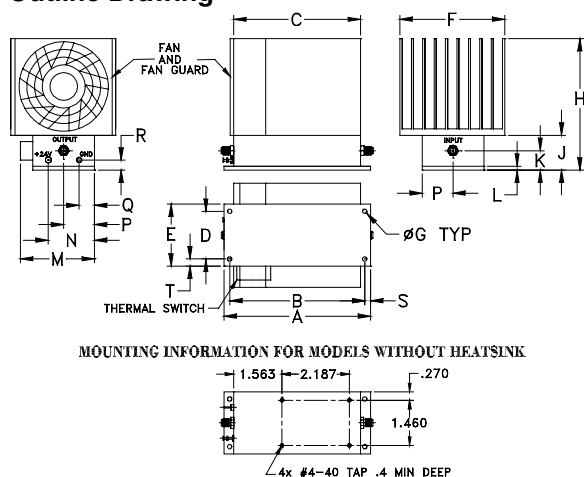
(1) At nominal output load, 24V nominal supply voltage. Amplifier can withstand a full mismatch (short or open) across all phases at the RF output for peak envelope power (PEP) not exceeding the output power at 1 dB compression [Refer to application note AN-60-037 for PEP calculation].

To order without heat sink and fan, add suffix X to model number. 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 heat sink to be 0.3°C/W Max.

Maximum Ratings, no damage

Operating Temperature	-20°C to 65°C
Storage Temperature	-55°C to 100°C
DC Voltage	+28V Max.

Outline Drawing



Outline Dimensions (inch mm)

A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	wt
4.75	4.375	4.18	1.540	2.00	3.36	.144	4.24	1.12	.58	.125	2.38	1.50	1.00	.50	.34	.19	.23	grams*
120.65	111.13	106.17	39.12	50.80	85.34	3.66	107.70	28.45	14.73	3.18	60.45	38.10	25.40	12.70	8.64	4.83	5.84	750

*290 grams with heatsink

*290 grams without heatsink

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The Design Engineers Search Engine Provides ACTUAL Data Instantly From MINI-CIRCUITS At: www.minicircuits.com

RF/IF MICROWAVE COMPONENTS



REV. B
M118055
ZHL-20W-13
WP/RS/CP/AM
080818
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FREQUENCY (MHz)	GAIN (dB)			VSWR (:1)		NOISE FIGURE (dB)	POUT at 1 dB COMPR. (dBm)	IP3 (dBm)
	21V	24V	27V	IN	OUT			
20.00	50.22	49.66	49.18	1.48	1.30	3.44	41.07	51.89
50.00	50.51	49.94	49.46	1.48	1.33	3.42	41.72	52.61
100.00	50.63	50.03	49.54	1.46	1.21	3.47	42.03	52.89
150.00	50.78	50.16	49.66	1.42	1.05	3.43	42.52	52.99
200.00	50.65	50.01	49.49	1.37	1.16	3.39	42.54	52.87
300.00	50.82	50.16	49.61	1.37	1.65	3.41	41.64	52.11
400.00	50.99	50.33	49.75	1.56	2.51	3.36	41.58	51.60
500.00	51.58	50.92	50.31	1.55	2.29	3.36	41.31	51.38
600.00	52.01	51.27	50.65	1.43	5.28	3.49	41.61	50.88
700.00	51.30	50.51	49.90	1.49	3.30	3.48	41.92	50.22
800.00	50.19	49.47	48.88	1.80	4.40	3.61	41.65	49.74
850.00	50.02	49.35	48.77	1.95	5.40	3.69	41.53	49.45
900.00	50.36	49.74	49.16	1.95	5.39	3.77	41.15	48.70
950.00	50.73	50.16	49.60	2.22	3.65	3.81	40.75	48.85
1000.00	50.51	50.01	49.51	2.15	3.66	3.78	41.47	49.08

