

Coaxial Amplifier

ZHL-20W-13

50Ω High Power 20W 20 to 1000 MHz

Features

- Rugged- can withstand Open/Short at Output under full Output Power condition
- 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
- Patent pending

Applications

- VHF/UHF Transmitters
- Defense, Amateur Radio, FM, TV 4B



CASE STYLE: CP641

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

Amplifier Electrical Specifications

MODEL NO.	FREQUENCY (MHz)		GAIN (dB)				MAXIMUM POWER (dBm)					DYNAMIC RANGE		VSWR (:1) Typ.		DC POWER	
	f_L	f_U	Min.	Typ.	Max.	Flatness Max.	Output (1 dB compr.) Min.	Output (1 dB compr.) Typ.	Output (3 dB compr.) Min.	Output (3 dB compr.) Typ.	Input (no damage)	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	0	3.5	+50	1.7	2.5	24	2.8
ZHL-20W-13X*	20	1000	46	50	55	± 1.8	+39	+41	+40	+43	0	3.5	+50	1.7	2.5	24	2.8

*Heat sink and fan not included

Open load is not recommended, potentially can cause damage.

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 0.30°C/W Max.

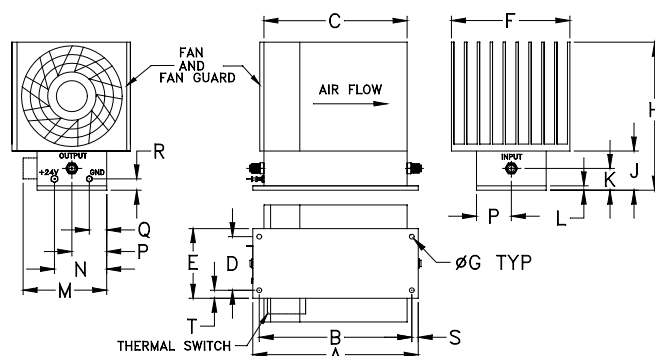
Maximum Ratings

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

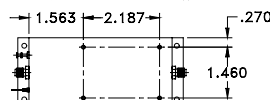
Pin Connection

IN	IN
OUT	OUT
DC	1
DC	2

Outline Drawing



MOUNTING INFORMATION FOR MODELS WITHOUT HEATSINK



Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J	
4.75	4.375	4.11	1.540	2.00	3.36	.144	4.24	1.12	
120.65	111.13	104.39	39.12	50.80	85.34	3.66	107.70	28.45	
K	L	M	N	P	Q	R	S	T	wt
.58	.125	2.38	1.50	1.00	.50	.34	.19	.23	grams
14.73	3.18	60.45	38.10	25.40	12.70	8.64	4.83	5.84	850



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Mini-Circuits ISO 9001 & ISO 14001 Certified

REV. OR
M106317
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Typical Performance Data/Curves

ZHL-20W-13

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

