



# COAXIAL High Power Amplifier

## ZHL-5W-1+ ZHL-5W-1X+

50Ω 5W 5 to 500 MHz

### FEATURES

- High Power, 5 Watt
- Wideband, 5 to 500 MHz
- High Power Output, +37dBm Min.
- High Gain, 40 dB typ.
- Low Noise Figure, 4 dB typ.
- High IP3, +49 dBm typ.

### APPLICATIONS

- VHF
- Instrumentation
- Laboratory



Generic photo used for illustration purposes only

<b>Model No.</b>	ZHL-5W-1+	ZHL-5W-1X+ <sup>▲</sup>
<b>Case Style</b>	DDD131	
<b>Connectors</b>	SMA	

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

### ELECTRICAL SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Units
Frequency Range	5	—	500	MHz
Gain	40	—	—	dB
Gain Flatness	—	—	±1.7	dB
Output Power at 1dB compression	+37	—	—	dBm
Noise Figure	—	4.0	—	dB
Output third order intercept point	—	+49	—	dBm
Input VSWR	—	2.0	—	:1
Output VSWR	—	2.5	—	:1
DC Supply Voltage	—	24	25	V
Supply Current	—	—	3.3	A

Open load is not recommended potentially can cause damage  
With no load derate max. Input power by 20 dB

<sup>▲</sup> Heat sink not included. Alternative heat sinking and heat removal must be provided by the user to limit maximum base-plate temperature to 65°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.

### ABSOLUTE MAXIMUM RATINGS

Parameter	Ratings
Operating Temperature	-20°C to +65°C
Storage Temperature	-55°C to +100°C
Input RF Power (no damage)	0 dBm

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



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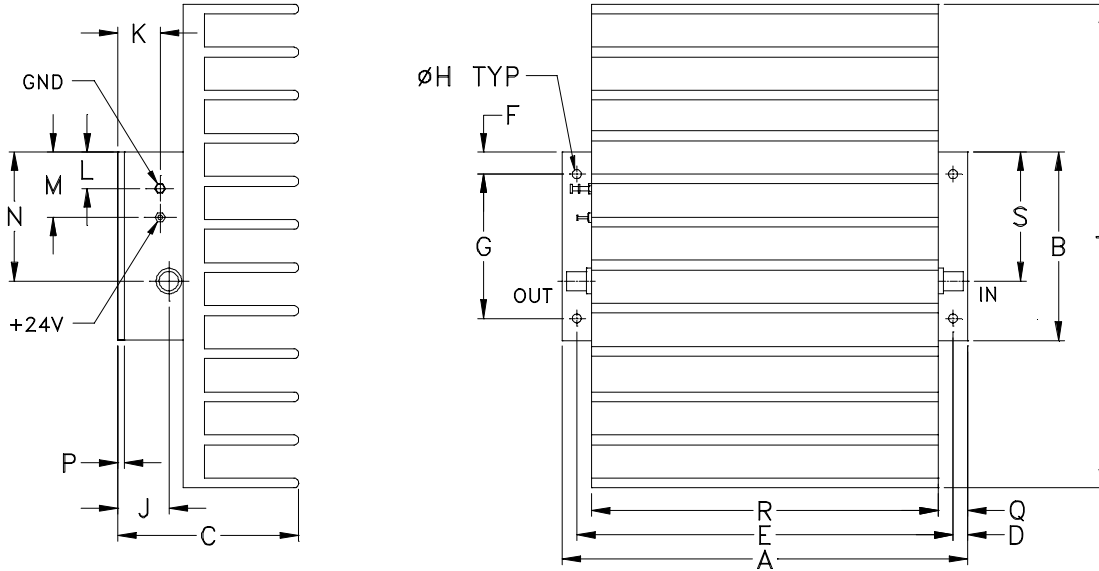
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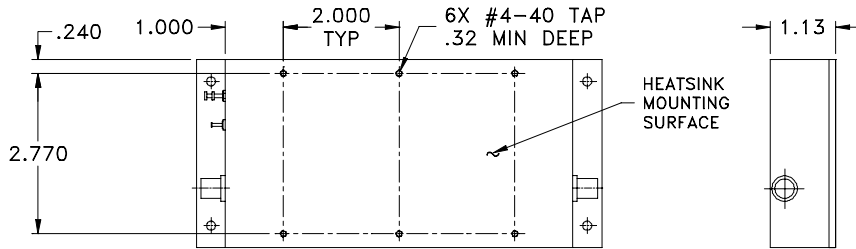
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### OUTLINE DRAWING



### MOUNTING INFORMATION FOR MODELS WITHOUT HEATSINK



### OUTLINE DIMENSIONS (Inch mm)

A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	wt
7.00	3.25	3.13	.25	6.500	.38	2.500	.156	.88	.43	.62	1.00	2.63	.125	.50	6.00	2.23	8.35	grams*
177.80	82.55	79.50	6.35	165.10	9.65	63.50	3.96	22.35	10.92	15.75	25.40	66.80	3.18	12.70	152.40	56.64	212.09	1780
																		*510 grams without heatsink





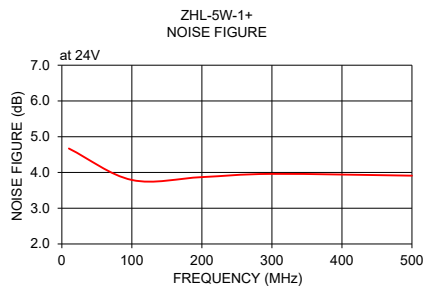
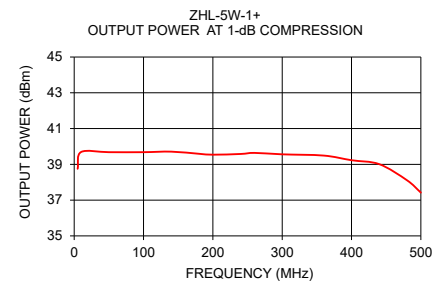
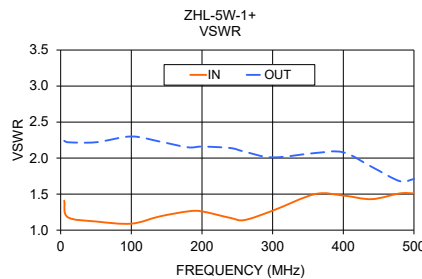
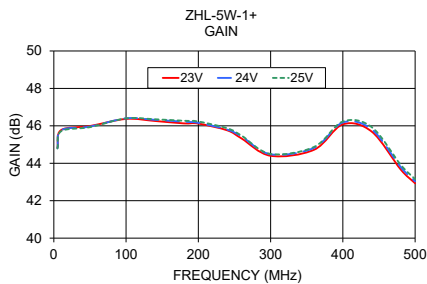
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### TYPICAL PERFORMANCE DATA AND CHARTS

FREQUENCY (MHz)	GAIN (dB)			VSWR (:1)		POUT at 1 dB COMPR. (dBm) 24V	FREQUENCY (MHz)	NOISE FIGURE (dB) 24V
	23V	24V	25V	IN	OUT			
5.00	44.82	44.8	44.79	1.41	2.24	38.75	10.00	4.67
10.00	45.77	45.76	45.71	1.18	2.22	39.69	100.00	3.79
50.00	45.99	45.96	45.93	1.12	2.22	39.68	200.00	3.87
100.00	46.37	46.40	46.40	1.09	2.30	39.68	300.00	3.96
140.00	46.26	46.32	46.35	1.19	2.23	39.71	500.00	3.91
180.00	46.13	46.22	46.27	1.26	2.15	39.59		
200.00	46.12	46.16	46.23	1.26	2.16	39.54		
240.00	45.76	45.80	45.87	1.17	2.14	39.58		
260.00	45.32	45.43	45.47	1.14	2.09	39.64		
300.00	44.40	44.48	44.50	1.27	2.01	39.56		
360.00	44.72	44.82	44.87	1.50	2.07	39.49		
400.00	46.08	46.18	46.23	1.48	2.08	39.23		
440.00	45.69	45.81	45.93	1.43	1.88	39.01		
480.00	43.67	43.80	43.92	1.51	1.68	38.11		
500.00	42.93	43.03	43.15	1.51	1.71	37.42		




#### NOTES

- 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.
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