



COAXIAL

# Medium Power Amplifier

# ZHL-6A+

50Ω 0.0025 to 500 MHz

## FEATURES

- Wideband, 0.0025 to 500 MHz
- High IP3, +34 dBm typ.
- Protected by US Patent, 6,943,629



BNC version shown  
Generic photo used for illustration purposes only

CASE STYLE: S32

Connectors	Model
BNC	ZHL-6A+
SMA	ZHL-6A-S+
N-TYPE	ZHL-6A-N+

## APPLICATIONS

- HF/VHF
- Communication Systems
- UHF TV
- Lab use

### +RoHS Compliant

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

## ELECTRICAL SPECIFICATIONS

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Units
Frequency Range		0.0025		500	MHz
Gain	0.0025 - 500	21	25		dB
Gain Flatness	0.0025 - 500			±1.2	dB
Output Power at 1 dB Compression	0.0025 - 500	+22			dBm
Output third order intercept point	0.0025 - 500		+34		dBm
Noise Figure <sup>1</sup>	0.0025 - 500		9.5		dB
Input VSWR	0.0025 - 500		1.8		:1
Output VSWR <sup>1</sup>	0.0025 - 500		2.0		:1
DC Supply Voltage			+24		V
Supply Current				0.350	A

Caution! Transient voltage occurring at RF output upon turn-on is approximately 50% of the applied DC power supply voltage. User should protect equipment fed by this amplifier.

1. Noise Figure continually increases from 70 MHz to 10 MHz by approximately 4 dB; output VSWR 2.8:1 below 30 MHz  
Open load is not recommended, potentially can cause damage. With no load derate max input power by 20 dB

## ABSOLUTE MAXIMUM RATINGS

Parameter	Ratings
Operating Temperature	-20°C to +65°C
Storage Temperature	-55°C to +100°C
DC Voltage	+24.5 V Max.
Input RF Power (no damage)	+10 dBm

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

REV. J  
ECO-018143  
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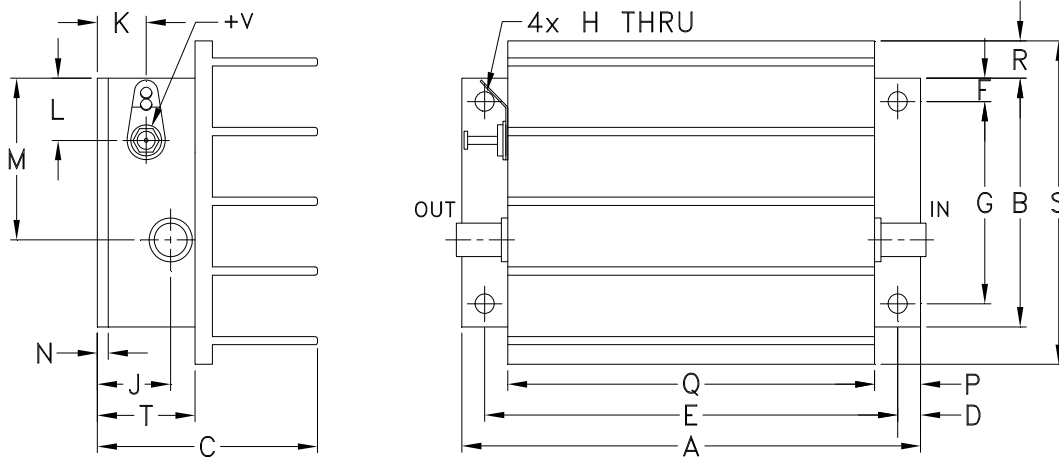
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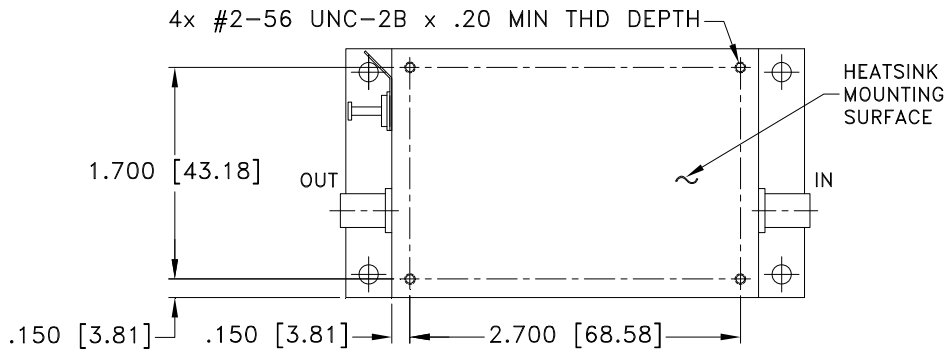
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50Ω 0.0025 to 500 MHz

### 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	
3.75	2.00	1.80	.19	3.375	.19	1.625	.144	.50	.40	.50	1.30	.10	.38	3.00	.30	2.60	.80	grams	
95.25	50.80	45.72	4.83	85.73	4.83	41.28	3.66	12.70	10.16	12.70	33.02	2.54	9.65	76.20	7.62	66.04	20.32	220.0	
																		wt. w/o heat sink	150



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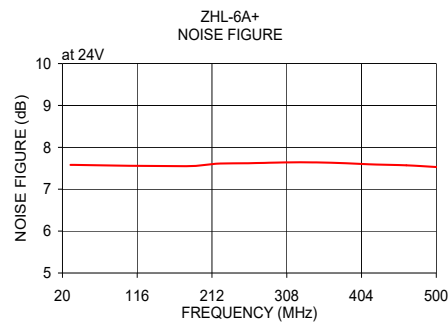
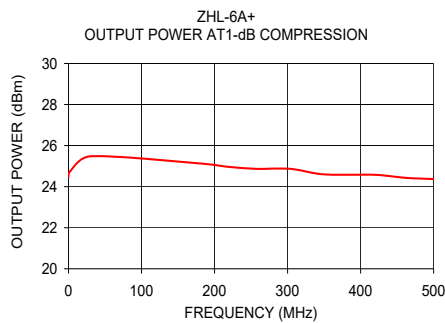
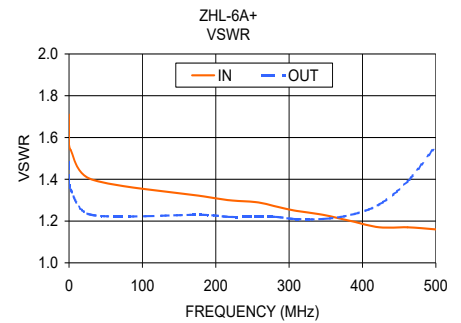
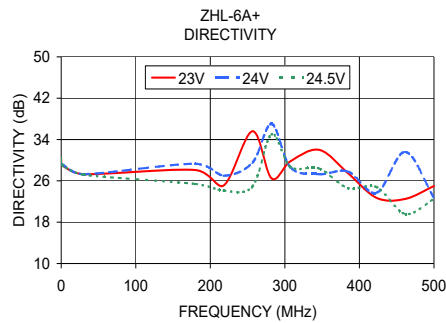
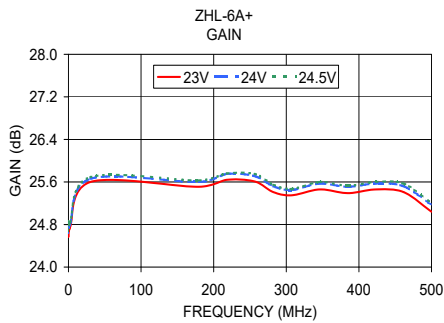
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### TYPICAL PERFORMANCE DATA/CURVES

FREQ. (MHz)	GAIN (dB)			DIRECTIVITY (dB)			VSWR (:1)		NOISE FIGURE (dB)	P <sub>OUT</sub> at 1 dB COMPR. (dBm)
	23V	24V	24.5V	23V	24V	24.5V	IN	OUT		
0.0025	24.57	24.64	24.69	30.40	30.50	30.40	1.71	1.48	—	24.48
0.01	24.73	24.82	24.86	29.80	29.80	29.70	1.57	1.38	—	24.62
0.18	24.67	24.75	24.79	29.30	29.20	29.20	1.56	1.37	—	24.65
2.30	24.75	24.81	24.85	28.90	29.10	28.90	1.54	1.35	—	24.75
30.20	25.60	25.66	25.69	27.30	27.30	27.20	1.40	1.23	7.58	25.48
179.50	25.51	25.60	25.63	28.10	29.30	25.40	1.32	1.23	7.55	25.13
217.90	25.64	25.75	25.76	25.10	27.00	24.10	1.30	1.22	7.61	24.97
256.40	25.61	25.71	25.75	35.60	29.50	24.90	1.29	1.22	7.62	24.87
282.10	25.41	25.52	25.55	26.50	37.00	35.00	1.27	1.22	7.63	24.88
307.70	25.35	25.45	25.47	29.80	28.60	28.70	1.25	1.21	7.64	24.85
346.10	25.46	25.57	25.60	32.00	27.30	28.40	1.23	1.21	7.64	24.61
384.60	25.39	25.51	25.53	27.50	27.80	24.60	1.20	1.23	7.62	24.58
423.10	25.46	25.57	25.60	22.70	23.70	24.80	1.17	1.28	7.59	24.57
461.50	25.41	25.52	25.57	22.50	31.60	19.60	1.17	1.39	7.57	24.43
500.00	25.04	25.17	25.21	25.00	22.70	22.50	1.16	1.56	7.53	24.37



- 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/terms/viewterm.html](http://www.minicircuits.com/terms/viewterm.html)

