



COAXIAL

Pulse Amplifier

ZHL-72A+

50Ω Inverting 0.0025 to 700 MHz

FEATURES

- Wideband, 2.5 kHz - 700 MHz
- High Gain, 25 dB typ. with Excellent Flatness, ±0.6 dB typ.
- Can handle wide pulses width (15µs typ.) with excellent rise/fall time (1.1 ns typ.)
- Delay time, 1.5 ns typ.
- Protected by US Patent, 6,943,629



Generic photo used for illustration purposes only

Model No.	ZHL-72A+
Case Style	S32
Connectors	BNC

+RoHS Compliant

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

APPLICATIONS

- Computers
- Digital communication
- Medical Test Setups

PRODUCT OVERVIEW

Mini-Circuits' ZHL-72A+ utilizes high power LDMOS transistor output stage. Class A operation accept any kind of modulation. The frequency range is so wide (280,000:1) that the amplifier may handle long pulses, 15µsec typ. with very short rise and fall duration 1.1 nsec. typ. Of course it may work as an ordinary RF amplifier within its very wide frequency range.

KEY FEATURES

Feature	Advantages
Current stabilization circuits.	The design utilizes a patented technology to set and maintain the constant current consumption.
Rugged Design	Extreme load mismatch such as open/short at output are tolerated without damaging the amplifier.
Range of Protections	Reverse polarity protection.

REV. A
ECO-018348
ZHL-72A+
MCL, NY
230626





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ELECTRICAL SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Units
Frequency Range	0.0025		700	MHz
Gain	21	25	—	dB
Gain Flatness	—	—	±1.0	dB
Output Power at 1dB compression	+22	—	—	dBm
Output Third Order Intercept Point (OIP3)	—	+34	—	dBm
Noise Figure**	—	7.7	—	dB
Rise/Fall Time	—	—	1.5	ns
Pulse Width*	6	15	—	µs
Input VSWR	—	2.0	—	:1
Output VSWR	—	2.0	—	:1
DC Supply Voltage	—	+24	—	V
Supply Current	—	—	350	mA

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.

* Pulse width for less than 10% droop.

** Tested above 10 MHz.

ABSOLUTE MAXIMUM RATINGS

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

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





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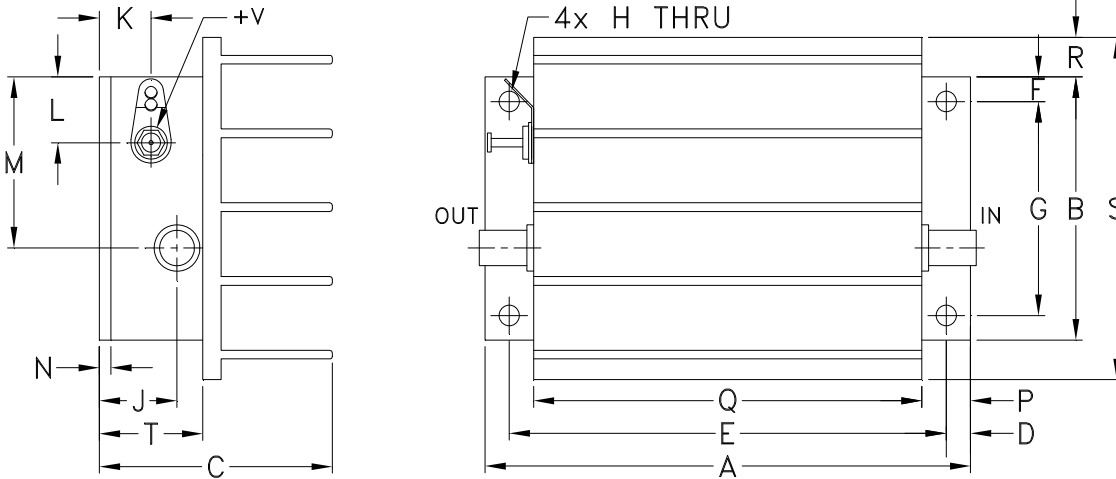
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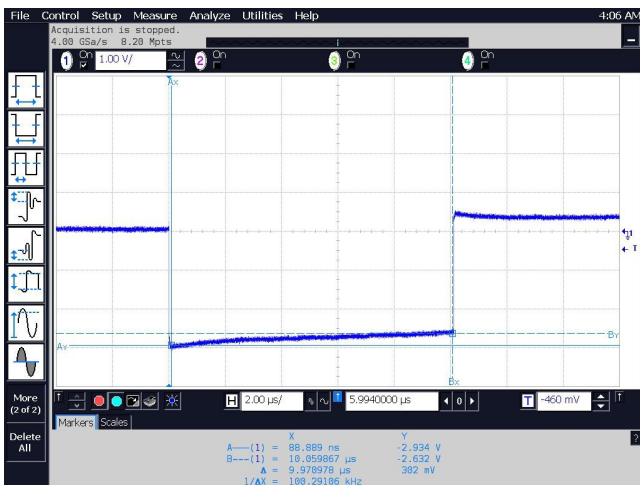
OUTLINE DRAWING



OUTLINE DIMENSIONS (Inch mm)

A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	wt
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

TYPICAL AMPLIFIER RESPONSE TO A PULSE INPUT



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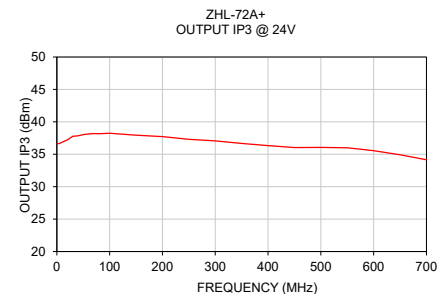
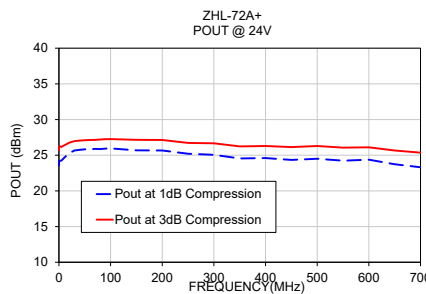
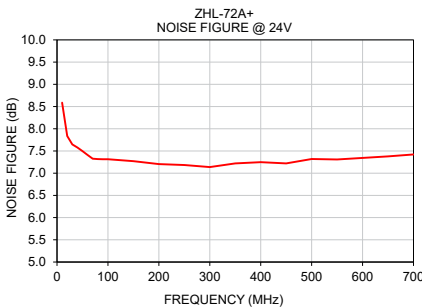
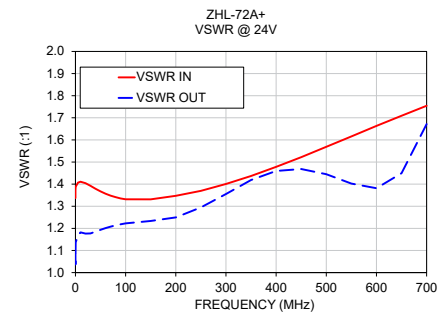
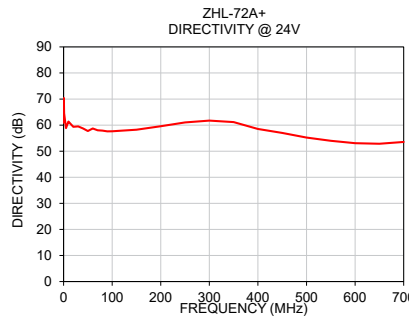
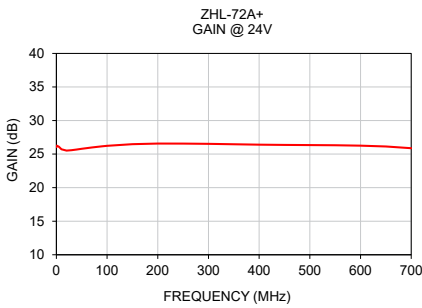
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TYPICAL PERFORMANCE DATA/CURVES

FREQUENCY (MHz)	GAIN (dB)	DIRECTIVITY (dB)	VSWR (:1)		NOISE FIGURE (dB)	POUT at 1 dB COMPR. (dBm)	POUT at 3 dB COMPR. (dBm)	OUTPUT IP3 (dBm)
	24V	24V	IN	OUT				
0.0090	26.21	64.42	1.34	1.08	--	23.54	25.74	--
0.01	26.19	69.56	1.34	1.07	--	23.63	25.70	--
0.05	26.03	61.03	1.37	1.04	--	23.74	25.79	--
0.1	26.09	65.10	1.38	1.08	--	23.93	25.96	--
0.5	26.27	70.41	1.39	1.14	--	24.23	26.27	36.67
1	26.25	64.56	1.39	1.14	--	24.22	26.26	36.63
5	26.09	58.85	1.41	1.17	--	24.25	26.17	36.65
10	25.71	61.38	1.41	1.18	8.59	24.64	26.37	36.86
50	25.79	57.75	1.37	1.19	7.50	25.82	27.10	38.03
100	26.23	57.64	1.33	1.22	7.31	25.95	27.26	38.24
200	26.57	59.58	1.35	1.25	7.20	25.66	27.13	37.73
300	26.53	61.75	1.40	1.36	7.14	25.05	26.67	37.07
400	26.41	58.53	1.48	1.46	7.25	24.60	26.29	36.33
500	26.34	55.23	1.57	1.44	7.32	24.51	26.29	36.06
600	26.26	53.08	1.66	1.38	7.34	24.38	26.11	35.55
700	25.87	53.55	1.75	1.67	7.42	23.31	25.36	34.15



- 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.
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