Coaxial

High Power Amplifier

ZHL-100W-52-S+
ZHL-100W-52X-S+

50Ω 100W 50 to 500 MHz

Features
- High power, 100 Watt
- Excellent IP3, +58 dBm typ.
- Class A amplifier, usable up to 100W.
- No damage with an open or short output load under full CW output power[1]
- Shuts off when base plate temperature exceeds +100°C
- Internal power regulator (current remains constant over 22 to 28V)
- Over voltage protection, shut off above 29V
- Protected by US Patent 7,348,854

Applications
- VHF/UHF transmitters
- Defense
- Amateur radio, FM, TV
- Laboratory use

ZHL-100W-52-S+

ZHL-100W-52X-S+

Case Style: BT1165

Connectors	Model No.
SMA	ZHL-100W-52-S+
SMA	ZHL-100W-52X-S+▲

+RoHS Compliant
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Electrical Specifications at 25°C

Parameter	Condition (MHz)	ZHL-100W-52-S+			ZHL-100W-52X+▲ ▲			Units
		Min.	Typ.	Max.	Min.	Typ.	Max.	
Frequency Range		50		500	50		500	MHz
Gain		47	52	—	47	52	—	dB
Gain Flatness		—	±1.2	±1.8	—	±1.2	±1.8	dB
Output Power at 1dB compression	200 - 300	+46.5	+48.5	—	+46.5	+48.5	—	dBm
	50 - 500	+45	+47.5	—	+45	+47.5	—	
Saturated Output Power at 3dB compression	200 - 300	+47.5	+49.5	—	+47.5	+49.5	—	dBm
	50 - 500	+46.5	+49	—	+46.5	+49	—	
Noise Figure		—	4.5	8.0	—	4.5	8.0	dB
Output third order intercept point		—	+58	—	—	+58	—	dBm
Input VSWR		—	1.75	—	—	1.75	—	:1
Output VSWR		—	2.5	—	—	2.5	—	:1
DC Supply Voltage		—	24	25	—	24	25	V
Supply Current		—	—	10.5	—	—	10.2	A

1. At constant open or short load 24V nominal supply voltage

▲ Heat sink and fan not included. 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 0.08°C/W max.

Maximum Ratings

Parameter	Ratings
Operating Temperature	-20°C to 85°C
Storage Temperature	-55°C to 100°C
Base Plate Temperature	85°C
Input RF Power[2] (no damage)	3dBm

2. At nominal output load, 24V nominal supply voltage.

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

Notes
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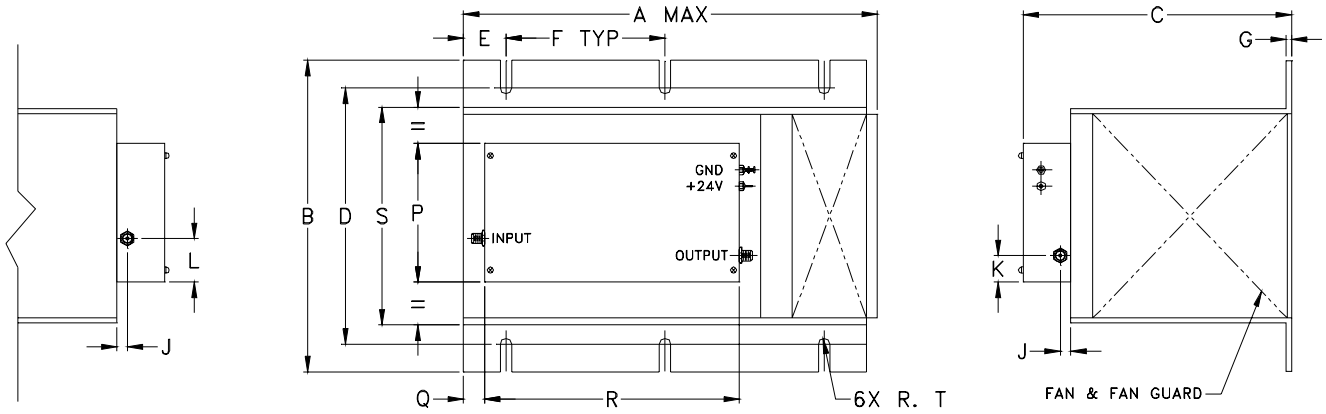
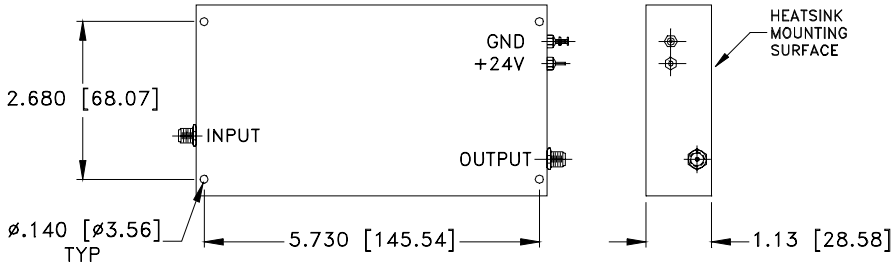
C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp

Outline Drawing for models with heatsink



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
9.85	7.3	6.3	6.00	1.00	3.75	.13	__	.25	.63	1.03	__	__	3.25	.5	6.00	5.1	.135 g
250.19	185.42	160.02	152.40	25.40	95.25	3.30	__	6.35	16.00	26.16	__	__	82.55	12.70	152.40	129.54	3.43

*500 grams without he

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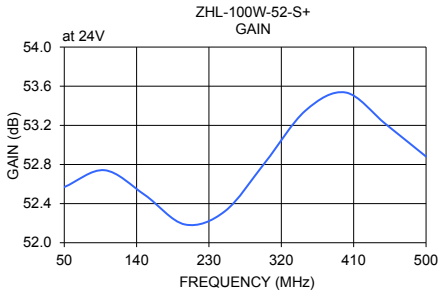
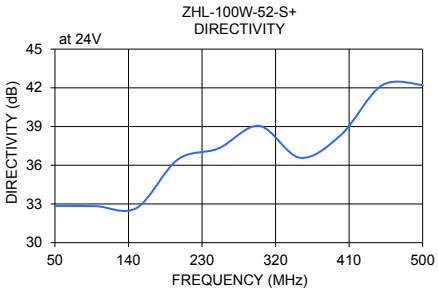
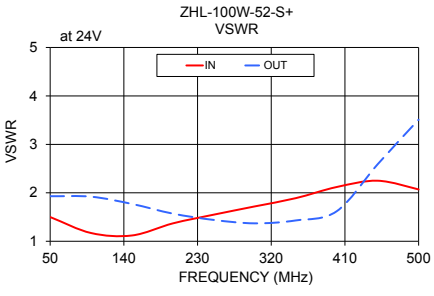
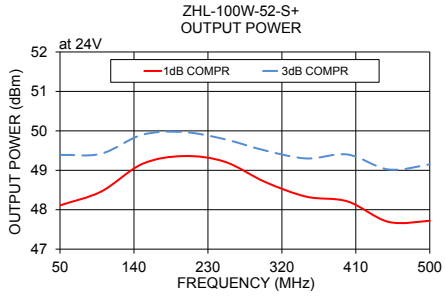
Typical Performance Data/Curves

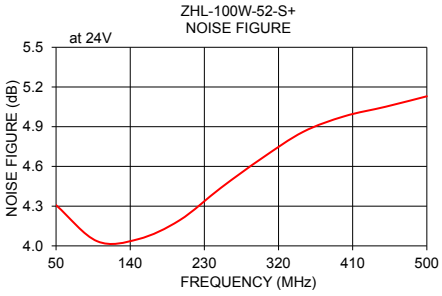
FREQUENCY (MHz)	GAIN (dB)	DIRECTIVITY (dB)	VSWR (:1)		POUT at 1 dB COMPR. (dBm)	POUT at 3 dB COMPR. (dBm)	NOISE FIGURE (dB)	IP3 (dBm)
	24V	24V	IN	OUT	24V	24V	24V	24V
50	52.57	32.85	1.50	1.93	48.11	49.39	4.31	60.14
100	52.74	32.83	1.17	1.92	48.46	49.42	4.03	59.75
150	52.49	32.69	1.12	1.77	49.16	49.90	4.05	60.53
200	52.19	36.43	1.37	1.57	49.36	49.97	4.19	61.26
250	52.32	37.30	1.55	1.44	49.22	49.79	4.44	60.54
300	52.82	39.05	1.72	1.37	48.70	49.50	4.66	60.44
350	53.35	36.58	1.89	1.43	48.33	49.30	4.86	59.69
400	53.54	38.35	2.12	1.62	48.21	49.40	4.98	58.94
450	53.21	42.19	2.25	2.59	47.69	49.02	5.05	58.46
500	52.88	42.22	2.07	3.51	47.72	49.15	5.13	57.83

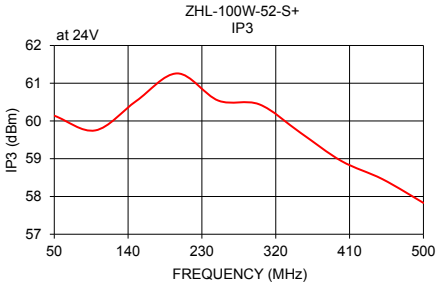












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