



COAXIAL High Power Amplifier

ZHL-03-5WF+ ZHL-03-5WFX+

50Ω 5W 60 to 300 MHz

FEATURES

- High Power, +39dBm typ.
- Low Noise Figure, 3 dB typ.
- High IP3, +49 dBm typ.
- Class A amplifier
- Available with built-in fan with thermal shut-off



Generic photo used for illustration purposes only

APPLICATIONS

- VHF Transmitters
- Instrumentation
- Test Equipment

Model No.	ZHL-03-5WF	ZHL-03-5WFX+▲
Case Style	CP641	
Connectors	SMA	

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

ELECTRICAL SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Units
Frequency Range	60	—	300	MHz
Gain	30	—	—	dB
Gain Flatness	—	—	±1.0	dB
Output Power at 1dB compression	+36	—	—	dBm
Noise Figure	—	3.0	—	dB
Output third order intercept point	—	+49	—	dBm
Input VSWR	—	1.4	—	:1
Output VSWR	—	1.5	—	:1
DC Supply Voltage	—	24	—	V
Supply Current	—	—	2.8	A

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

▲ 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 0.3°C/W max.

ABSOLUTE MAXIMUM RATINGS

Parameter	Ratings
Operating Temperature	-20°C to +65°C
Storage Temperature	-55°C to +100°C
Base Plate Temperature	+85°C
DC Voltage	+28V
Input RF Power (no damage)	+10 dBm

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





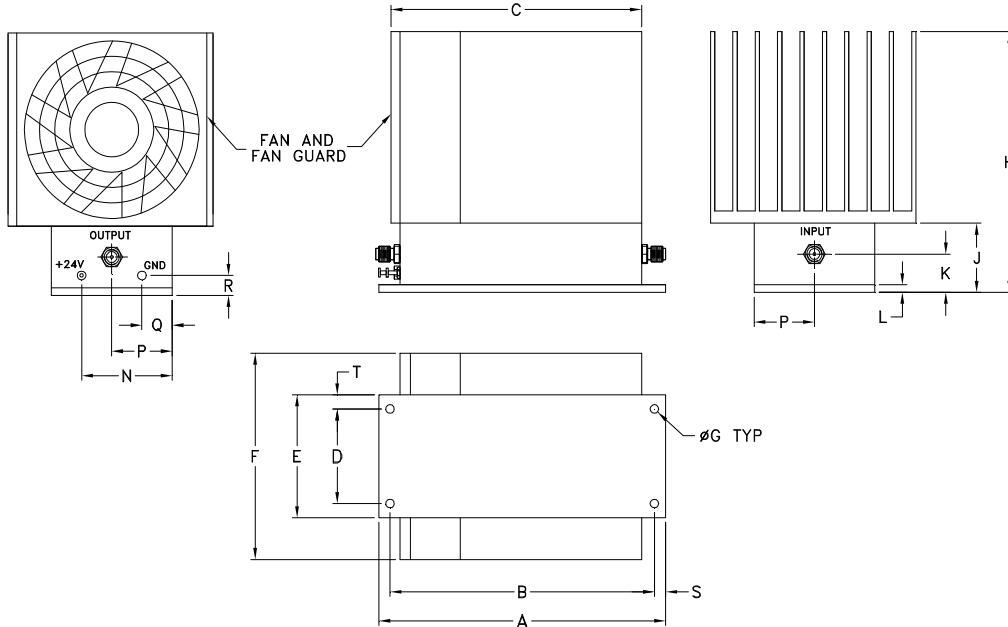
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High Power Amplifier

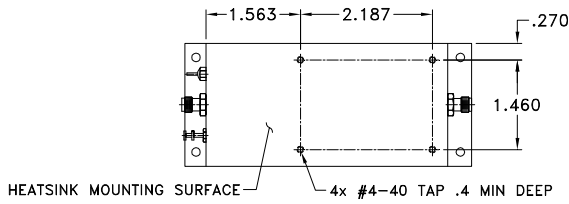
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OUTLINE DRAWING



MOUNTING INFORMATION OF MODEL 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
4.75	4.375	4.18	1.540	2.00	3.36	.144	4.24	1.12	.58	.125	--	1.50	1.00	.50	.34	.19	.23	grams*
120.65	111.13	106.17	39.12	50.80	85.34	3.66	107.70	28.45	14.73	3.18	--	38.10	25.40	12.70	8.64	4.83	5.84	750

*290 grams without heatsink



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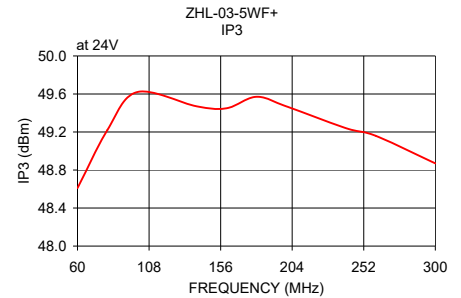
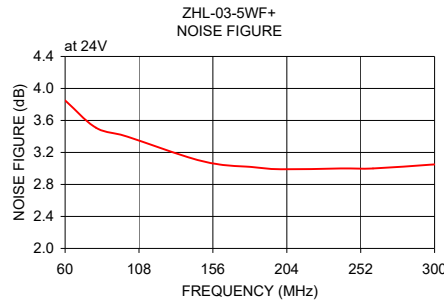
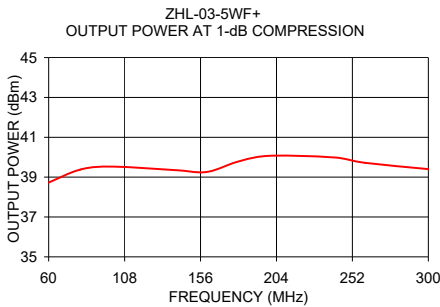
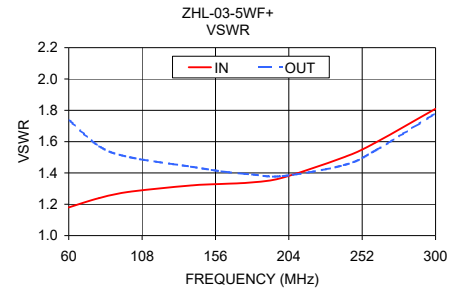
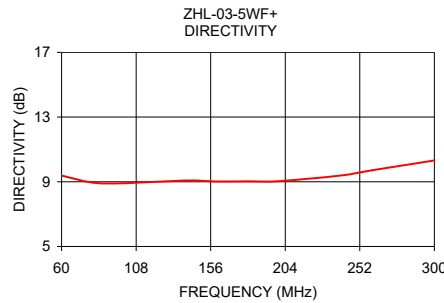
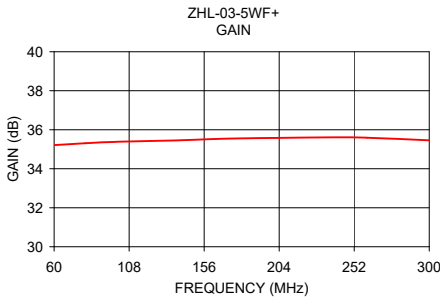
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TYPICAL PERFORMANCE DATA AND CHARTS

FREQUENCY (MHz)	GAIN (dB)	DIRECTIVITY (dB)	VSWR (:1)		NOISE FIGURE (dB)	POUT at 1 dB COMPR. (dBm)	IP3 (dBm)
	24V	24V	IN	OUT	24V	24V	24V
60.00	35.21	9.38	1.18	1.74	3.85	38.73	48.61
80.00	35.31	8.95	1.24	1.57	3.51	39.38	49.22
100.00	35.38	8.91	1.28	1.50	3.40	39.53	49.62
140.00	35.46	9.08	1.32	1.44	3.14	39.35	49.47
160.00	35.52	9.02	1.33	1.41	3.05	39.26	49.45
180.00	35.56	9.03	1.34	1.39	3.02	39.79	49.57
200.00	35.58	9.04	1.37	1.38	2.99	40.07	49.47
240.00	35.61	9.39	1.50	1.45	3.00	39.99	49.24
260.00	35.59	9.71	1.59	1.54	3.00	39.72	49.16
300.00	35.46	10.32	1.81	1.78	3.05	39.40	48.87



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

