



Mini-Circuits®

COAXIAL

High Power Amplifier

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

50Ω 5W 60 to 300 MHz

FEATURES

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

APPLICATIONS

- VHF Transmitters
- Instrumentation
- Test Equipment



Generic photo used for illustration purposes only

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	+28 V
Input RF Power (no damage)	+10 dBm

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

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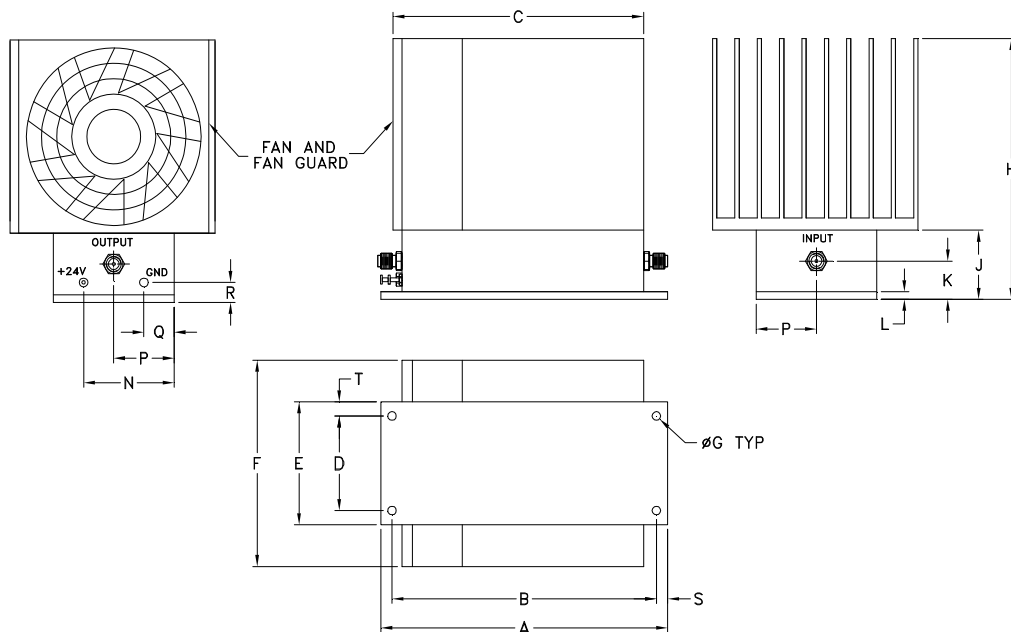
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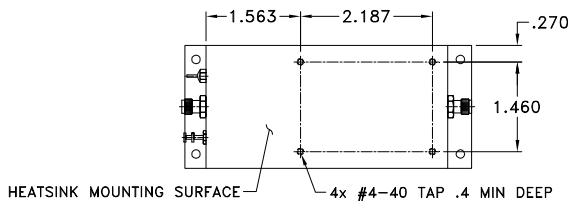
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OUTLINE DRAWING



MOUNTING INFORMATION 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																		

*290 grams without heatsink

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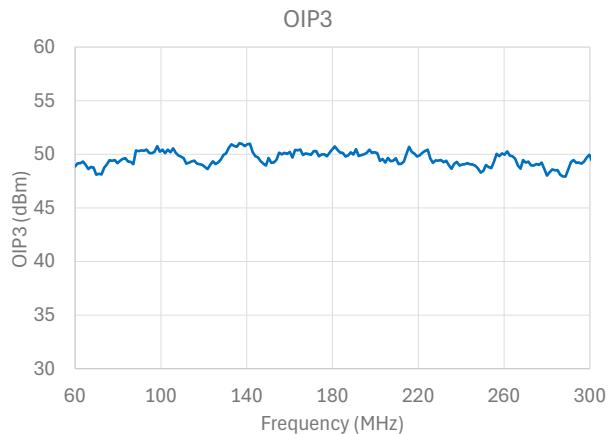
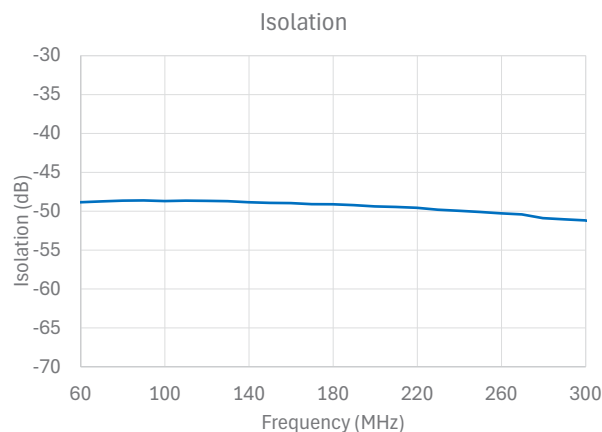
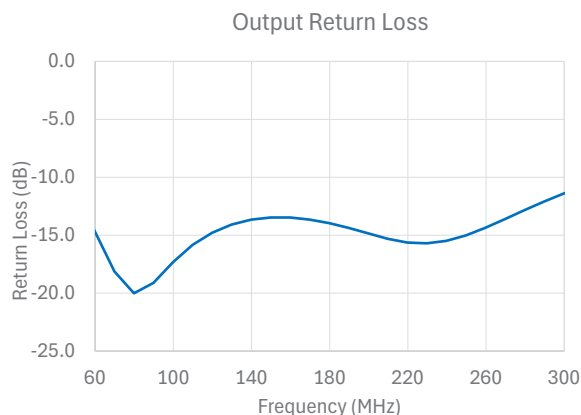
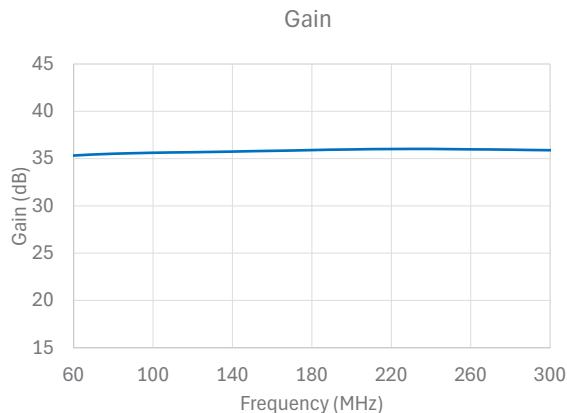
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TYPICAL PERFORMANCE CHARTS



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.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- 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

