

# Coaxial High Power Amplifier

## ZHL-03-5WF+ ZHL-03-5WF

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

### Applications

- VHF transmitters
- instrumentation
- test equipment



Model No.	ZHL-03-5WF(+)	▲ZHL-03-5WF(+)
Case Style	CP641	
Connectors	SMA	
Price (Qty.)	\$495.00 ea. (1-9)	\$445.00 ea. (1-9)

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

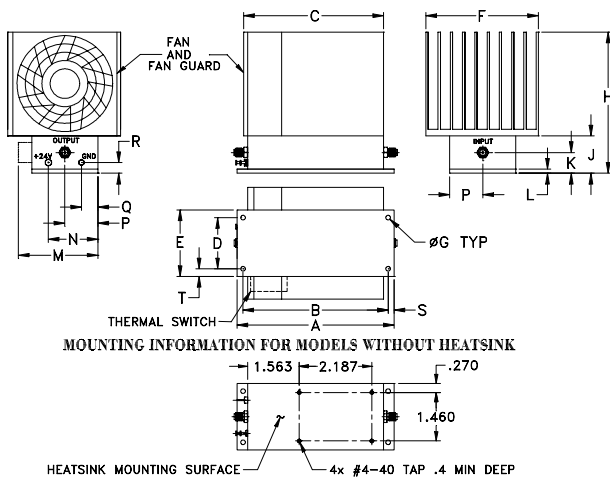
### Electrical Specifications

Parameter	ZHL-03-5WF(+) ▲ZHL-03-5WF(+)			Units
	Min.	Typ.	Max.	
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 0.08°C/W max.

### Outline Drawing



### 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.

### 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	2.38	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	60.45	38.10	25.40	12.70	8.64	4.83	5.84	750

\*290 grams without heatsink

### 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.
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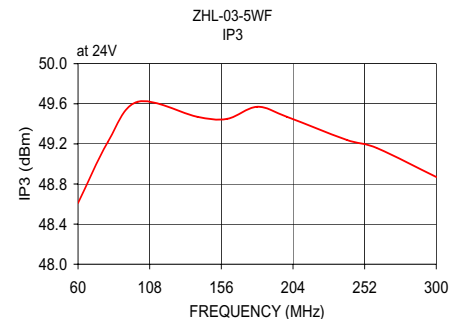
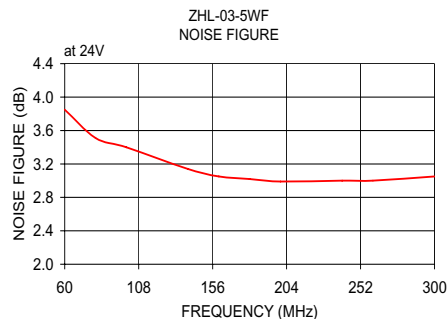
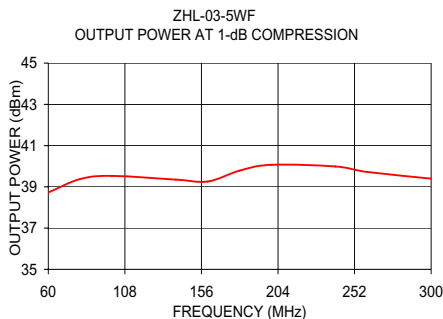
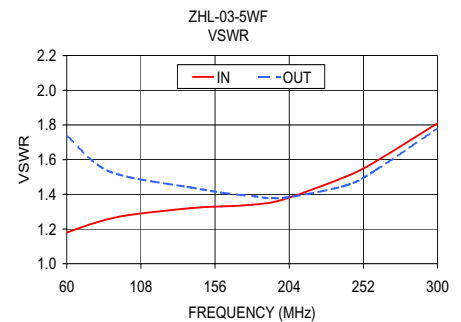
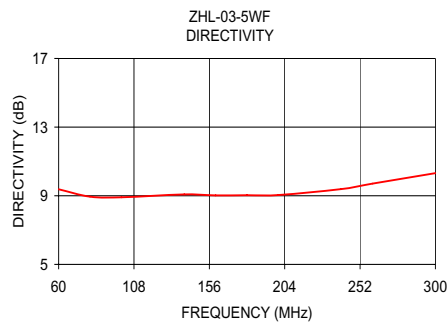
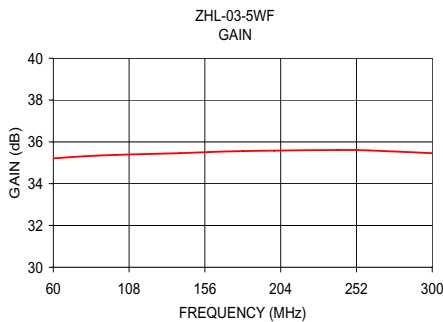


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Page 1 of 2

## Typical Performance Data/Curves

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



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