

# Coaxial Amplifier

## ZFL-1HAD

50Ω High Isolation 10 to 500 MHz

### Features

- wideband, 10 to 500 MHz
- active directivity (isolation-gain), 30 dB typ.

### Applications

- VHF/UHF
- laboratory use
- receivers
- two-tone, 3rd order IM testing



ZFL-1HADX

ZFL-1HAD

CASE STYLE: SS98

Connectors	Model	Price	Qty.
SMA	ZFL-1HAD	\$210.00 ea.	(1-9)
<b>BRACKET (OPTION "B")</b>		\$2.50	(1+)
SMA	ZFL-1HADX	\$200.00 ea.	(1-9)

### Amplifier Electrical Specifications

MODEL NO.	FREQUENCY (MHz)		GAIN (dB)		MAXIMUM POWER (dBm)			DYNAMIC RANGE		VSWR (:1) Typ.		ACTIVE DIRECTIVITY <sup>1</sup> (dB)				DC POWER	
	f <sub>L</sub>	f <sub>U</sub>	Min.	Flatness Max. Total Range	Output (1 dB Compr.)	Input (no damage)	NF (dB) Typ.	IP3 (dBm) Typ.	In <sup>2</sup>	Out	L <sub>w</sub> Typ.	U Typ.	Min.	Min.	Min.	Max.	Volt (V) Nom.
ZFL-1HAD	10	500	10	±1.0	+20	+20	+17	7.5	+30	1.3	1.35	30	20	25	18	15	115
ZFL-1HADX*	10	500	10	±1.0	+20	+20	+17	7.5	+30	1.3	1.35	30	20	25	18	15	115

\* Heat sink not included

L<sub>w</sub>= low range (f<sub>L</sub> to f<sub>U</sub>/2)

U= upper range (f<sub>U</sub>/2 to f<sub>U</sub>)

<sup>1</sup>Active Directivity(dB)= Isolation (dB)- Gain (dB)

<sup>2</sup> Input VSWR in 10-20 MHz band increases to 1.45:1 at -20°C.

Below 50 MHz, NF increases to 11dB typ. at 10 MHz

Open load is not recommended, potentially can cause damage.

With no load derate max input power by 20 dB

To order without heat sink, add suffix X to model number. Alternative heat sinking and heat removal must be provided by the user to limit maximum temperature to 71°C, in order to ensure proper performance. For reference, this requires thermal resistance of user's external heat sink to be 15°C/W Max.

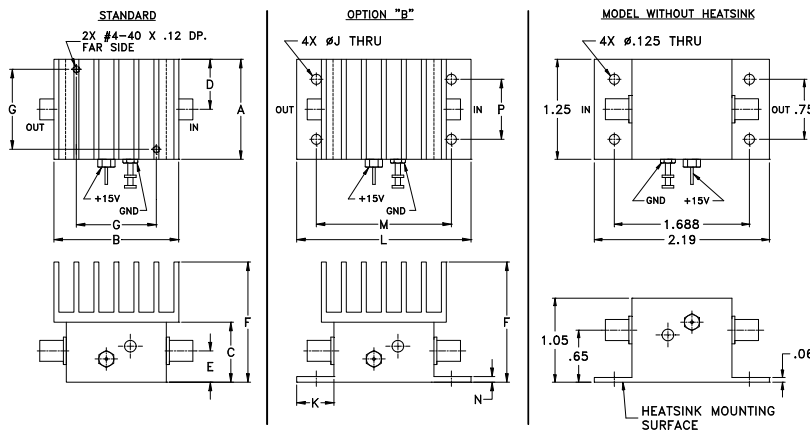
### Maximum Ratings

Operating Temperature -20°C to 71°C

Storage Temperature -55°C to 100°C

DC Voltage +17V Max.

### Outline Drawing



### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J	K	L	M	N	P	wt*
1.25	1.56	.75	.63	.39	1.50	1.000	--	.125	.46	2.19	1.688	.06	.750	grams
31.75	39.62	19.05	16.00	9.91	38.10	25.40	--	3.18	11.68	55.63	42.88	1.52	19.05	85.0

\*70 grams with heat sink



P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 For detailed performance specs & shopping online see Mini-Circuits web site

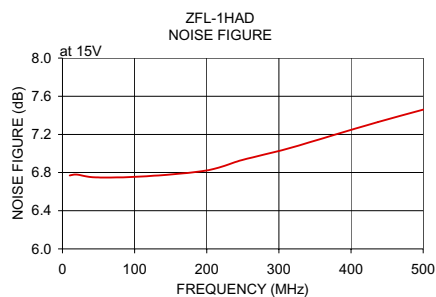
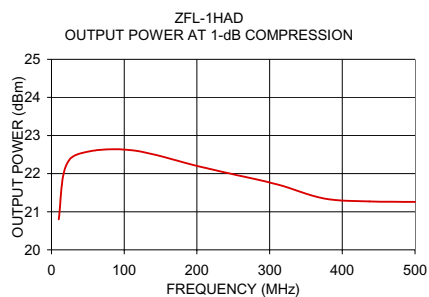
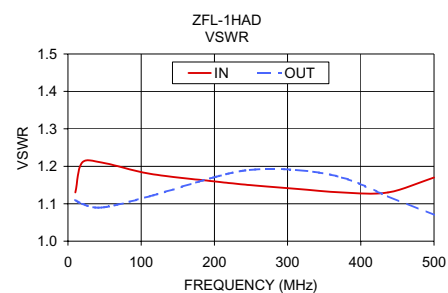
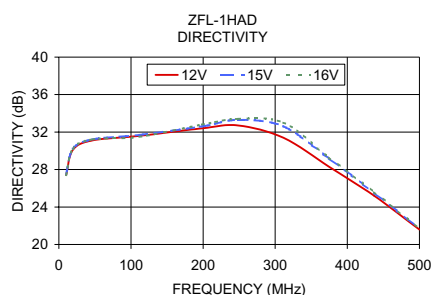
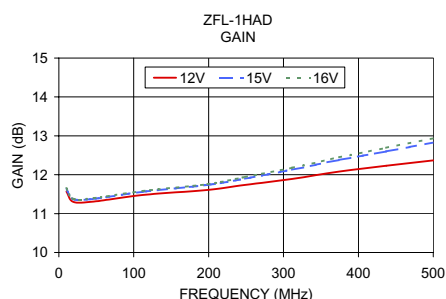
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IF/RF MICROWAVE COMPONENTS

# Typical Performance Data/Curves

# ZFL-1HAD

FREQUENCY (MHz)	GAIN (dB)			DIRECTIVITY (dB)			VSWR (:1)		NOISE FIGURE (dB)	POUT at 1 dB COMPR. (dBm)
	12V	15V	16V	12V	15V	16V	IN	OUT		
10.00	11.57	11.63	11.65	27.40	27.50	27.40	1.13	1.11	6.77	20.80
19.30	11.30	11.37	11.38	30.10	30.20	30.20	1.21	1.10	6.78	22.17
46.50	11.31	11.38	11.40	31.10	31.20	31.20	1.21	1.09	6.75	22.56
111.80	11.48	11.56	11.58	31.60	31.70	31.50	1.18	1.12	6.76	22.61
198.50	11.61	11.74	11.76	32.40	32.60	32.80	1.16	1.17	6.82	22.21
248.70	11.74	11.90	11.94	32.70	33.30	33.40	1.15	1.19	6.93	21.99
311.50	11.89	12.13	12.18	31.40	32.60	33.00	1.14	1.19	7.05	21.71
374.40	12.08	12.38	12.45	28.30	29.20	29.30	1.13	1.17	7.19	21.35
437.20	12.23	12.60	12.69	25.20	25.50	25.60	1.13	1.12	7.33	21.27
500.00	12.37	12.83	12.94	21.60	21.70	21.70	1.17	1.07	7.46	21.26



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