

# Coaxial Amplifier

# ZFL-2HAD+ ZFL-2HAD

50Ω High Isolation 50 to 1000 MHz

## Features

- wideband, 50 to 1000 MHz
- active directivity (isolation-gain), 30 dB typ. at 50-500 MHz

## Applications

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



ZFL-2HADX(+) CASE STYLE: SS98 ZFL-2HAD(+)

Connectors	Model
SMA	ZFL-2HAD(+)
BRACKET (OPTION "B")	
SMA	ZFL-2HADX(+)

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

## 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.	m	Flatness Max. Total Range	L	U	Input (no damage)	NF (dB) Typ.	IP3 (dBm) Typ.	In	Out	L		U		Volt (V) Nom.	Current (mA) Max.
ZFL-2HAD(+)	50	1000	11	±0.7	±1.0	+20	+20	+15	6	+35	1.5	1.5	30	20	21	15	15	115
ZFL-2HADX(+)*	50	1000	11	±0.7	±1.0	+20	+20	+15	6	+35	1.5	1.5	30	20	21	15	15	115

\* Heat sink not included

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

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

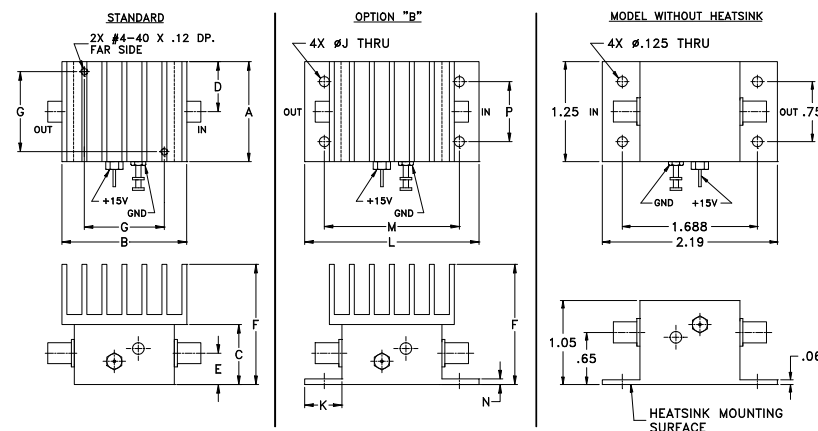
Operating Temperature -20°C to 71°C

Storage Temperature -55°C to 100°C

DC Voltage +17V Max.

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

## 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 without heat sink

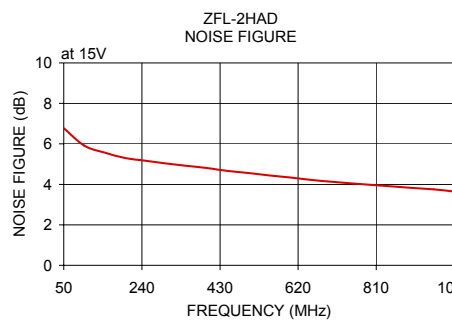
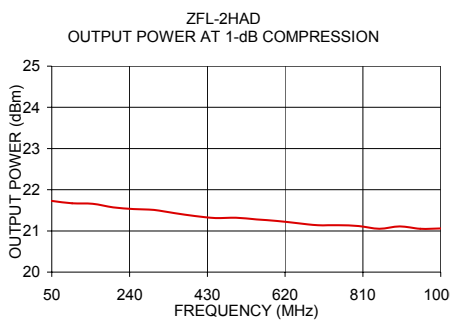
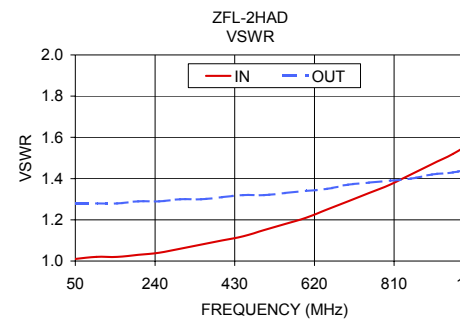
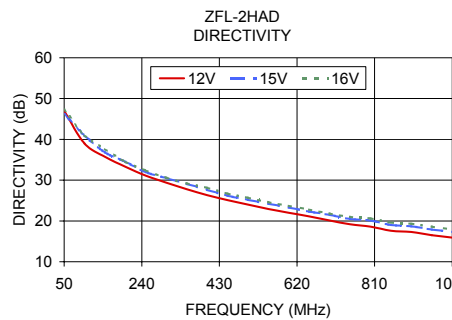
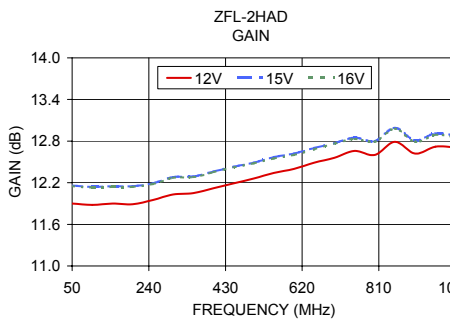
## Notes

- 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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## Typical Performance Data/Curves

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		
50.00	11.90	12.16	12.15	47.00	46.20	47.30	1.01	1.28	6.78	21.73
100.00	11.88	12.14	12.13	39.00	41.00	41.00	1.02	1.28	5.91	21.67
150.00	11.90	12.15	12.14	35.70	36.80	37.60	1.02	1.28	5.57	21.66
200.00	11.89	12.15	12.14	33.30	34.50	34.50	1.03	1.29	5.30	21.57
250.00	11.95	12.19	12.18	31.10	32.00	32.40	1.04	1.29	5.16	21.53
300.00	12.03	12.28	12.27	29.40	30.50	30.60	1.06	1.30	5.03	21.51
350.00	12.05	12.29	12.28	27.80	29.10	29.20	1.08	1.30	4.91	21.43
400.00	12.12	12.36	12.35	26.30	27.60	28.10	1.10	1.31	4.80	21.36
450.00	12.19	12.43	12.42	25.10	26.20	26.70	1.12	1.32	4.66	21.31
500.00	12.26	12.49	12.48	24.00	25.20	25.70	1.15	1.32	4.56	21.32
550.00	12.34	12.57	12.55	22.90	24.20	24.60	1.18	1.33	4.44	21.28
600.00	12.40	12.62	12.60	22.00	23.30	23.70	1.21	1.34	4.34	21.24
650.00	12.49	12.70	12.68	21.10	22.30	22.80	1.25	1.35	4.22	21.19
700.00	12.56	12.77	12.76	20.10	21.50	21.80	1.29	1.37	4.13	21.14
750.00	12.66	12.85	12.83	19.20	20.50	21.00	1.33	1.38	4.05	21.14
800.00	12.60	12.80	12.79	18.60	20.10	20.60	1.37	1.39	3.97	21.12
850.00	12.79	12.99	12.98	17.60	19.00	19.60	1.42	1.40	3.90	21.05
900.00	12.62	12.81	12.79	17.30	18.70	19.30	1.47	1.42	3.82	21.11
950.00	12.72	12.91	12.89	16.50	17.90	18.60	1.52	1.43	3.75	21.05
1000.00	12.71	12.88	12.86	15.90	17.30	17.90	1.58	1.45	3.64	21.06



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