

# Coaxial Amplifier

## ZFL-2000+ ZFL-2000

50Ω Medium Power 10 to 2000 MHz

### Features

- wideband, 10 to 2000 MHz
- high gain, 20 dB min.
- unconditionally stable
- protected by US Patent, 6,943,629

### Applications

- instrumentation
- communication
- lab use



ZFL-2000X(+)

ZFL-2000(+)

CASE STYLE: SS98

Connectors	Model	Price	Qty.
SMA	ZFL-2000(+)	\$219.00 ea.	(1-9)
BRACKET (OPTION "B")		\$2.50	(1+)
SMA	ZFL-2000X(+)	\$209.00 ea.	(1-9)

+ RoHS compliant in accordance with EU Directive (2002/95/EC)

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.		DC POWER	
	$f_L$	$f_U$	Min.	Flatness Max.	Output <sup>1</sup> (1 dB Compr.)	Input (no damage)	NF (dB) Typ.	IP3 (dBm) Typ.	In	Out	Volt (V) Nom.	Current (mA) Max.
ZFL-2000(+)	10	2000	20	±1.5	+16	+5	7.0	+25	2.0	2.0	15	120
ZFL-2000X(+)	10	2000	20	±1.5	+16	+5	7.0	+25	2.0	2.0	15	120

\* Heat sink not included

<sup>1</sup>+15 dBm below 1000 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

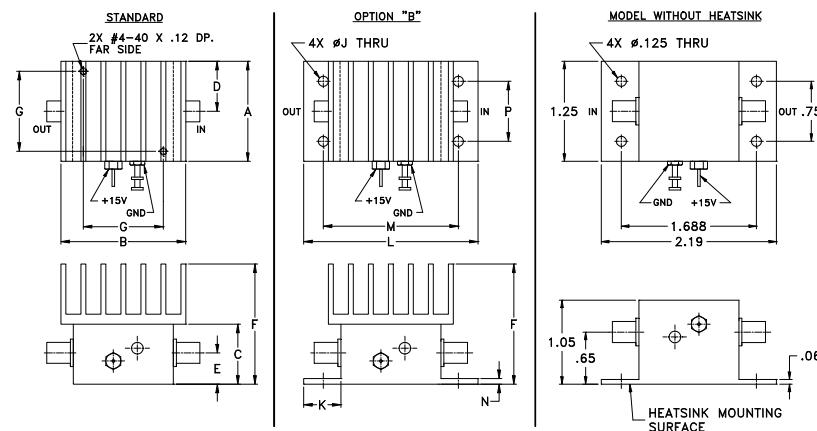
Operating Temperature -20°C to 71°C

Storage Temperature -55°C to 100°C

DC Voltage +17V Max.

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 with heat sink

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ISO 9001 ISO 14001 AS 9100 CERTIFIED

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IF/RF MICROWAVE COMPONENTS

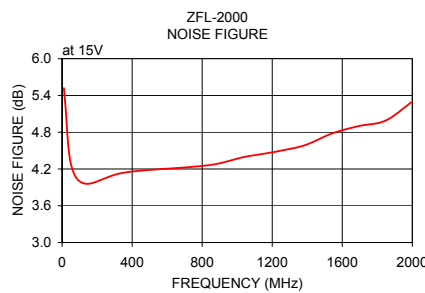
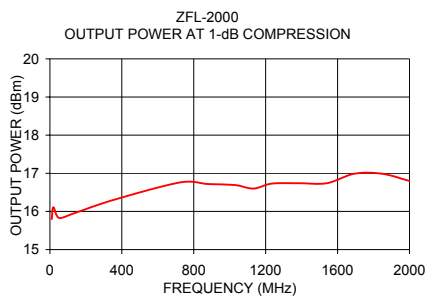
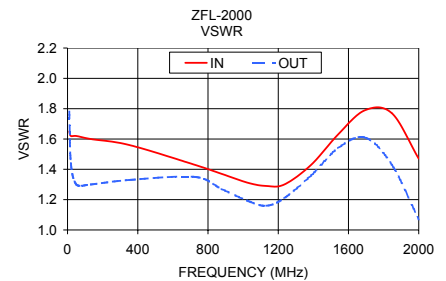
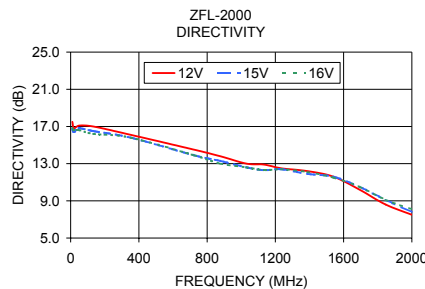
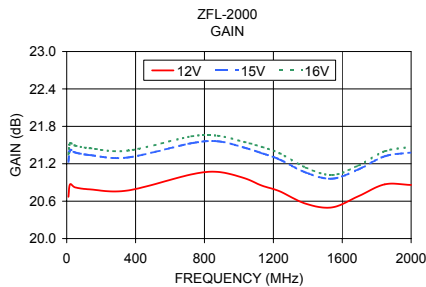
For detailed performance specs & shopping online see web site

Notes: 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuits' applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet 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/MCLStore/terms.jsp](http://www.minicircuits.com/MCLStore/terms.jsp).

# Typical Performance Data/Curves

# ZFL-2000+ ZFL-2000

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	20.67	21.23	21.35	17.50	16.70	16.80	1.65	1.78	5.52	15.80
19.10	20.87	21.42	21.53	16.80	16.40	16.60	1.62	1.44	5.24	16.11
50.50	20.82	21.38	21.49	17.10	16.80	16.60	1.62	1.30	4.28	15.83
133.40	20.79	21.34	21.45	17.00	16.50	16.20	1.60	1.30	3.96	15.95
352.30	20.77	21.30	21.41	16.10	15.80	15.80	1.56	1.33	4.14	16.30
724.40	21.03	21.53	21.64	14.50	13.90	13.90	1.43	1.35	4.23	16.76
877.40	21.07	21.56	21.65	13.80	13.30	13.00	1.37	1.27	4.28	16.72
1030.50	20.97	21.46	21.55	13.00	12.60	12.60	1.31	1.19	4.39	16.69
1132.60	20.85	21.37	21.47	12.90	12.30	12.30	1.29	1.16	4.44	16.60
1234.60	20.76	21.27	21.37	12.50	12.40	12.40	1.30	1.21	4.49	16.73
1387.70	20.56	21.06	21.14	12.20	11.90	12.10	1.43	1.36	4.59	16.74
1540.80	20.50	20.96	21.02	11.60	11.60	11.50	1.63	1.54	4.78	16.74
1693.80	20.68	21.11	21.17	10.20	10.50	10.50	1.79	1.61	4.90	16.99
1846.90	20.87	21.32	21.40	8.60	9.10	9.10	1.77	1.43	4.99	16.99
2000.00	20.86	21.38	21.47	7.50	7.80	8.10	1.47	1.07	5.30	16.80



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