

Low Noise Amplifier

ZFL-1000LN+

50Ω

0.1 to 1000 MHz

Features

- low noise figure, 2.9 dB typ.
- wideband, 0.1 to 1000 MHz
- protected by US Patent 6,943,629

Applications

- VHF/UHF
- cellular
- small signal amplifier



Generic photo used for illustration purposes only

CASE STYLE: Y460

Connectors Model
SMA **ZFL-1000LN+**
BRACKET (OPTION "B")

+RoHS Compliant

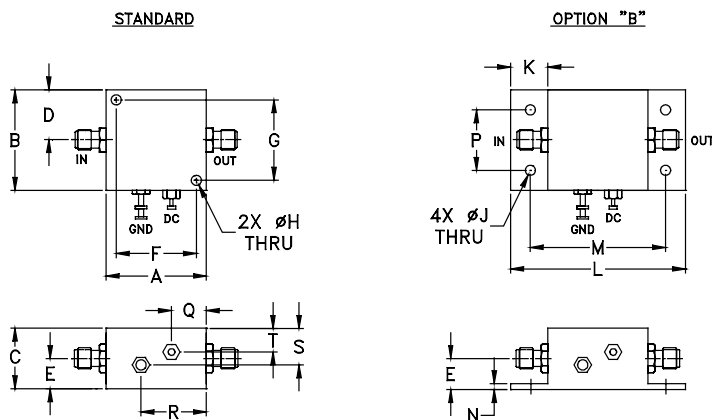
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Electrical Specifications

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Units
Frequency Range		0.1		1000	MHz
Noise Figure	0.1-1000	—	2.9	—	dB
Gain	0.1-1000	20	—	—	dB
Gain Flatness	0.1-1000	—	—	±0.5	dB
Output Power at 1dB compression	0.1-1000	—	+3	—	dBm
Output third order intercept point	0.1-1000	—	+14	—	dBm
Input VSWR	0.1-1000	—	1.5	—	:1
Output VSWR	0.1-1000	—	2.0	—	:1
DC Supply Voltage		—	15	—	V
Supply Current		—	—	60	mA

Open load is not recommended, potentially can cause damage.
 With no load derate max input power by 20 dB

Outline Drawing



Maximum Ratings

Parameter	Ratings
Operating Temperature	-20°C to 71°C
Storage Temperature	-55°C to 100°C
DC Voltage	17V
Input RF Power (no damage)	+5 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.
1.25	1.25	.75	.63	.36	1.000	1.000	.125	.125	.46	2.18	1.688	.06	.750	.50	.80	.45	.29	grams
31.75	31.75	19.05	16.00	9.14	25.40	25.40	3.18	3.18	11.68	55.37	42.88	1.52	19.05	12.70	20.32	11.43	7.37	38

Notes

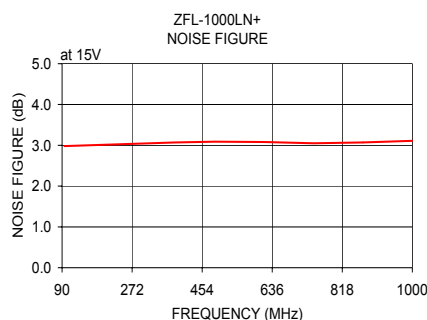
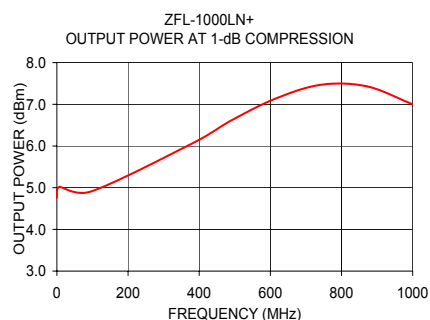
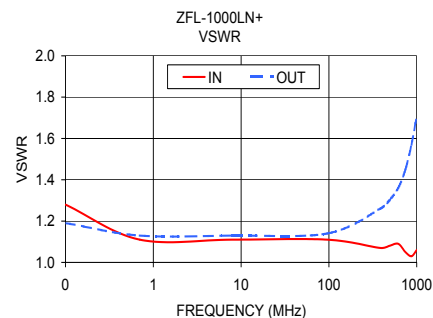
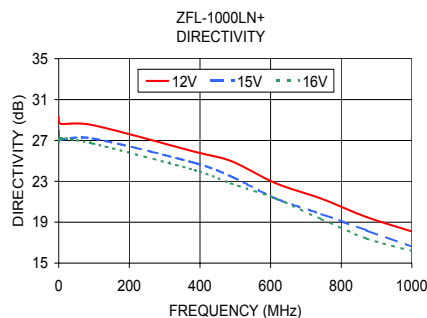
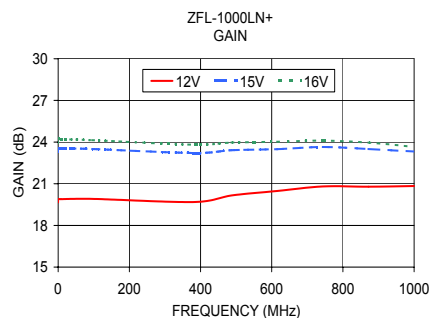
- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
 B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
 C. 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/MCLStore/terms.jsp



www.minicircuits.com P.O. Box 350166, Brooklyn, NY 11235-0003 (718) 934-4500 sales@minicircuits.com

REV. D
 M151107
 ZFL-1000LN+
 190426
 Page 1 of 2

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		
0.10	19.66	23.31	23.96	29.30	27.50	27.90	1.28	1.19	—	4.76
0.70	19.90	23.56	24.24	28.80	27.10	26.90	1.11	1.13	—	4.95
7.90	19.89	23.55	24.21	28.60	27.10	27.20	1.11	1.13	—	5.02
95.70	19.91	23.50	24.14	28.50	27.20	26.70	1.11	1.14	2.98	4.91
384.70	19.69	23.21	23.81	25.90	24.80	24.10	1.07	1.26	3.07	6.08
487.20	20.16	23.42	23.97	25.00	23.50	22.80	1.08	1.30	3.09	6.60
615.40	20.48	23.49	24.02	22.80	21.30	21.30	1.09	1.36	3.08	7.14
743.60	20.81	23.65	24.11	21.30	19.80	19.30	1.05	1.45	3.05	7.47
871.80	20.79	23.50	23.96	19.50	18.20	17.40	1.03	1.57	3.07	7.43
1000.00	20.84	23.32	23.66	18.10	16.60	16.20	1.06	1.71	3.11	7.00



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/MCLStore/terms.jsp



Low Noise Amplifier

ZFL-1000LN+

Typical Performance Data

FREQUENCY (MHz)	GAIN (dB)			DIRECTIVITY (dB)			VSWR IN (:1) 15V	VSWR OUT (:1) 15V	NOISE FIGURE (dB) 15V	Pout at 1dB Comp. (dBm) 15V
	12V	15V	16V	12V	15V	16V				
0.1	19.66	23.31	23.96	29.30	27.50	27.90	1.28	1.19		4.76
0.7	19.90	23.56	24.24	28.80	27.10	26.90	1.11	1.13		4.95
7.9	19.89	23.55	24.21	28.60	27.10	27.20	1.11	1.13		5.02
95.7	19.91	23.50	24.14	28.50	27.20	26.70	1.11	1.14	2.98	4.91
384.7	19.69	23.21	23.81	25.90	24.80	24.10	1.07	1.26	3.07	6.08
487.2	20.16	23.42	23.97	25.00	23.50	22.80	1.08	1.30	3.09	6.60
615.4	20.48	23.49	24.02	22.80	21.30	21.30	1.09	1.36	3.08	7.14
743.6	20.81	23.65	24.11	21.30	19.80	19.30	1.05	1.45	3.05	7.47
871.8	20.79	23.50	23.96	19.50	18.20	17.40	1.03	1.57	3.07	7.43
1000.0	20.84	23.32	23.66	18.10	16.60	16.20	1.06	1.71	3.11	7.00

REV. X1
ZFL-1000LN+
060913
Page 1 of 1



IF/RF MICROWAVE COMPONENTS • ISO 9001 ISO 14001 AS 9100 CERTIFIED RoHS compliant

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661



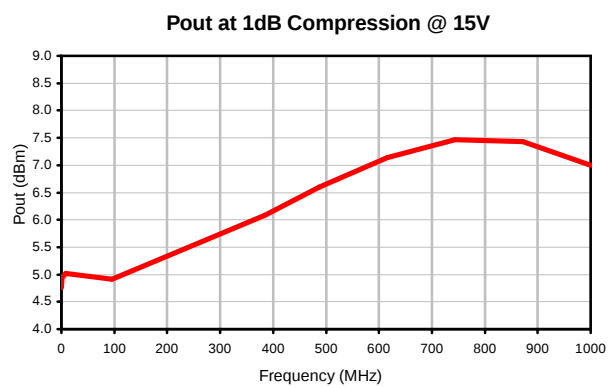
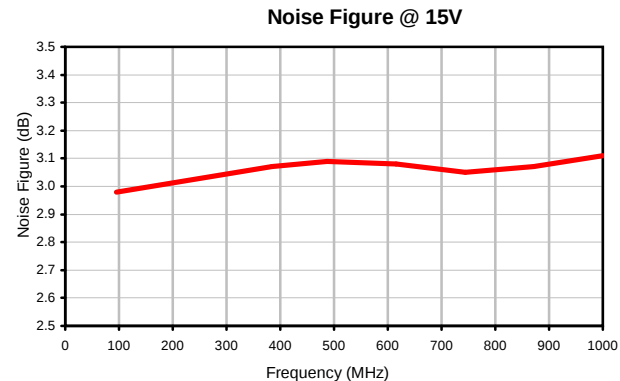
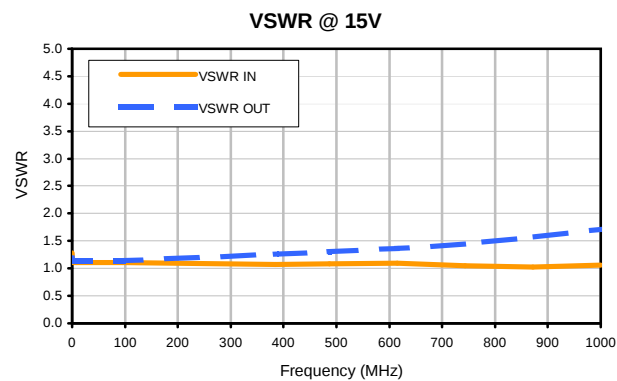
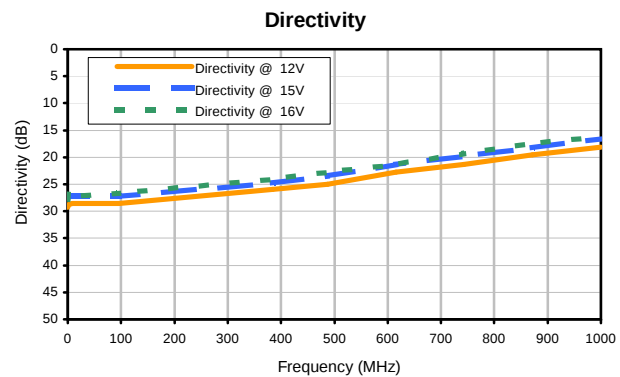
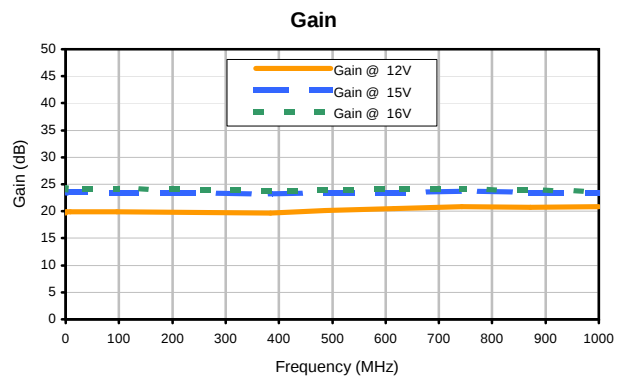
The Design Engineers Search Engine finds the model you need, Instantly • For detailed performance specs & shopping online see



Low Noise Amplifier

ZFL-1000LN+

Typical Performance Curves



REV. X1
ZFL-1000LN+
060913
Page 1 of 1



The Design Engineers Search Engine finds the model you need, Instantly • For detailed performance specs & shopping online see

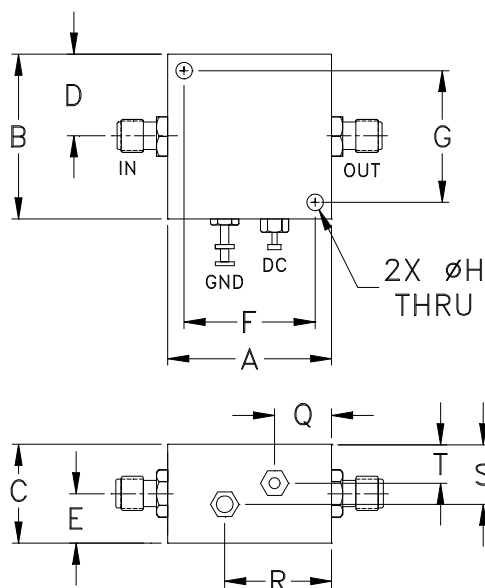
Mini-Circuits®

IF/RF MICROWAVE COMPONENTS • ISO 9001 ISO 14001 AS 9100 CERTIFIED RoHS compliant
P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661

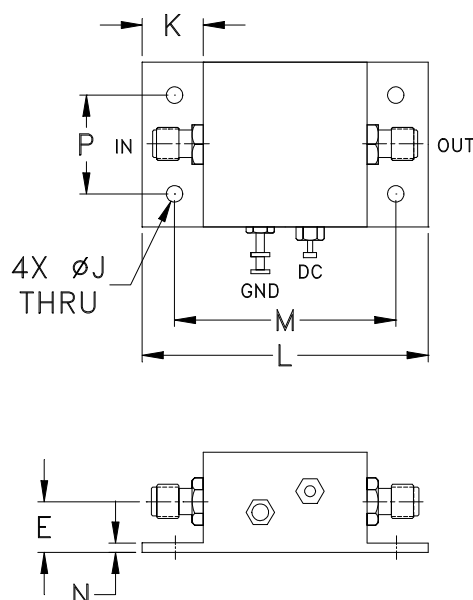


Outline Dimensions

STANDARD



OPTION "B"



CASE#	A	B	C	D	E	F	G	H	J	K	L	M	N
Y460	1.25 (31.75)	1.25 (31.75)	.75 (19.05)	.63 (16.0)	.36 (9.15)	1.000 (25.4)	1.000 (25.4)	.125 (3.2)	.125 (3.2)	.46 (11.7)	2.18 (55.4)	1.688 (42.9)	.06 (1.5)

CASE#	P	Q	R	S	T	WT. GRAMS
Y460	.750 (19.0)	.50 (12.7)	.80 (20.3)	.45 (11.4)	.29 (7.4)	38

Dimensions are in inches (mm). Tolerances: 2 Pl. $\pm .03$; 3 Pl. $\pm .015$

Notes:

- Case material: Aluminum alloy.
- Case finish:
For RoHS Case Styles: Clear chemical conversion coating, non-chrome or trivalent chrome based.
- Mounting bracket available on request. Add suffix B to part number



INTERNET <http://www.minicircuits.com>

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661

Distribution Centers NORTH AMERICA 800-654-7949 • 417-335-5935 • Fax 417-335-5945 • EUROPE 44-1252-832600 • Fax 44-1252-837010

Mini-Circuits ISO 9001 & ISO 14001 Certified



All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

Specification	Test/Inspection Condition	Reference/Spec
Operating Temperature	-20° to 71° C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 100° C Ambient Environment	Individual Model Data Sheet
Stabilization Bake	(non-operating) 125°C, 24 hours	- - -
Burn-in at Elevated Temp.	(DC on) 160 hours at 85° C	MIL-STD-202, Method 108
Thermal Shock	-55° to 100°C, 5 cycles	MIL-STD-202, Method 107, Condition A, except 100°C