

# Coaxial 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**

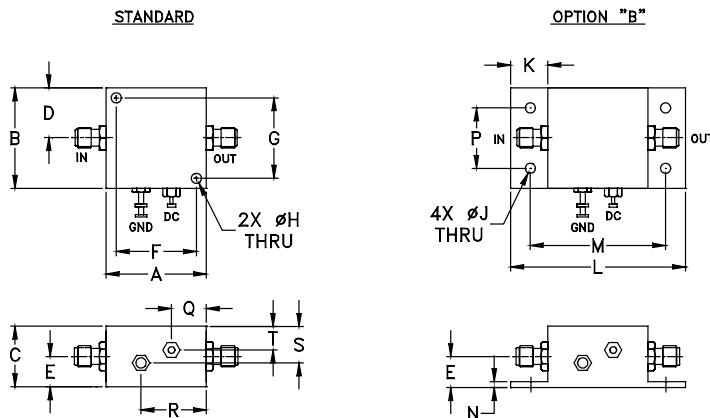
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

### 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

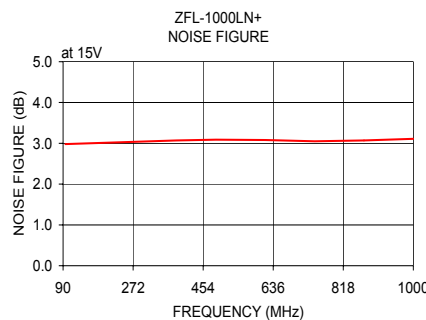
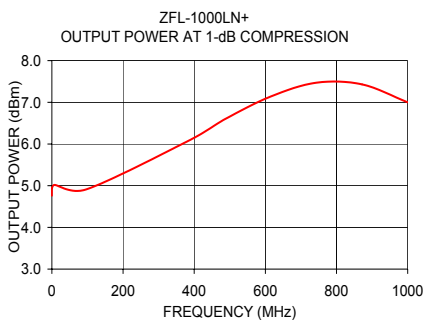
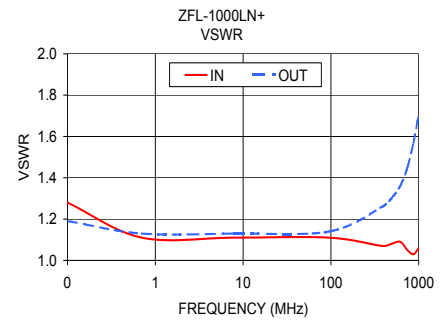
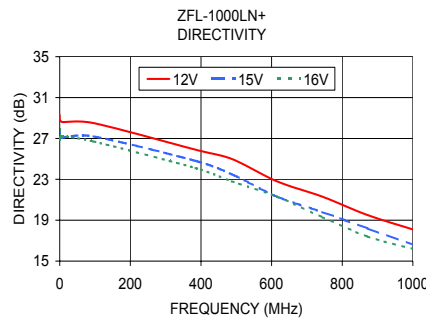
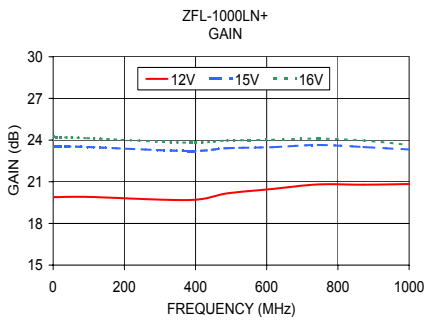
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FREQUENCY (MHz)	GAIN (dB)			DIRECTIVITY (dB)			VSWR (:1)		NOISE FIGURE (dB)	POUT at 1 dB COMPR. (dBm)
	12V	15V	16V	12V	15V	16V	IN	OUT		
0.10	19.66	23.31	23.96	29.30	27.50	27.90	1.28	1.19	—	4.76
0.70	19.90	23.56	24.24	28.80	27.10	26.90	1.11	1.13	—	4.95
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



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# 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

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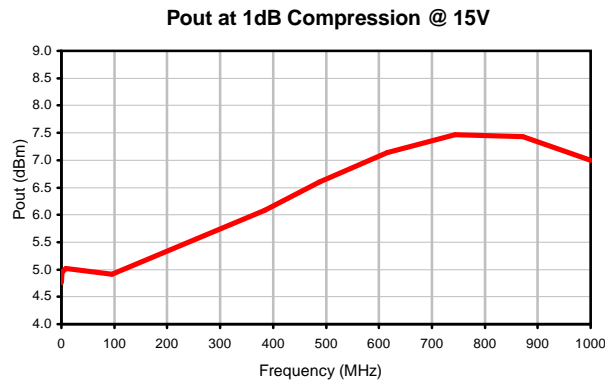
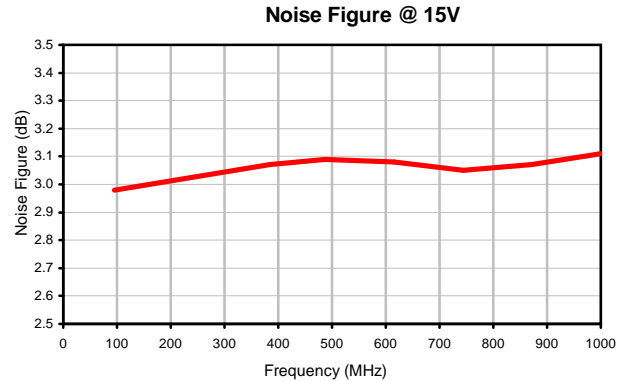
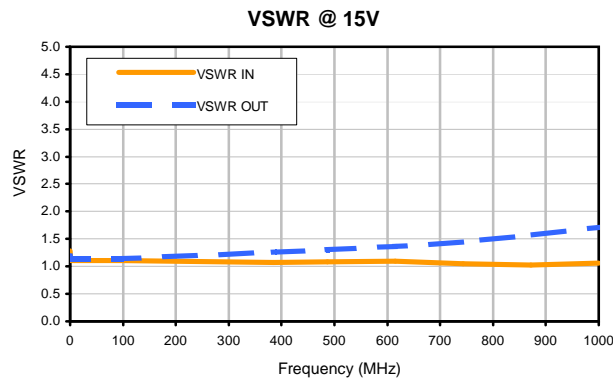
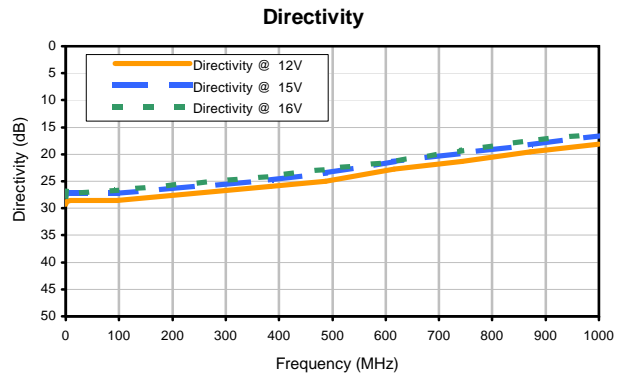
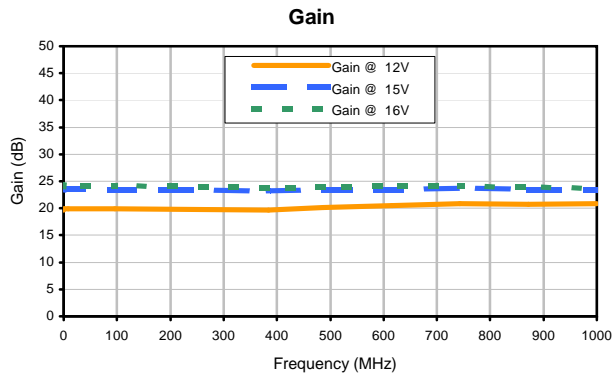
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## Typical Performance Curves



### Outline Dimensions



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:

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

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