

# Coaxial Amplifier

## ZFL-11AD+

50Ω High Isolation 2 to 2000 MHz

### Features

- wideband, 2 to 2000 MHz
- rugged, shielded case

### Applications

- receivers
- two-tone, 3rd order IM testing
- cellular
- satellite communication
- GPS



Generic photo used for illustration purposes only

CASE STYLE: Y460

Connectors	Model
SMA	ZFL-11AD+
BRACKET (OPTION "B")	

### +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* (dB)				DC POWER	
	$f_L$	$f_U$	Min.	m	Flatness Max. Total Range	Output (1 dB Compr.)			NF (dB) Typ.	IP3 (dBm) Typ.	In	Out	L		U		Volt (V) Nom.	Current (mA) Max.
ZFL-11AD+	2	2000	8	±0.5	±1.3	L	U	Input (no damage)	6.5	+14	2.5	2.0	Typ.	Min.	Typ.	Min.	15	22

\*Active Directivity(dB)= Isolation (dB)- Gain (dB)

\*\*Above 1 GHz, -5 dBm min.

Open load is not recommended, potentially can cause damage.

With no load derate max input power by 20 dB

L= low range ( $f_L$  to  $f_U/2$ )

m= mid range ( $2f_L$  to  $f_U/2$ )

U= upper range ( $f_U/2$  to  $f_U$ )

### Maximum Ratings

Operating Temperature -20°C to 71°C

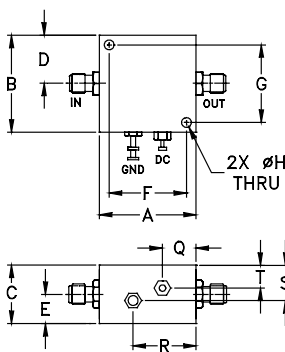
Storage Temperature -55°C to 100°C

DC Voltage +16V Max.

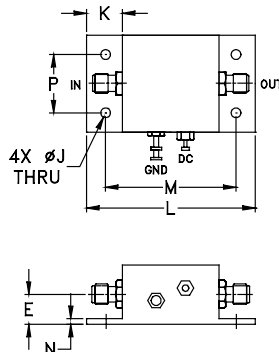
Permanent damage may occur if any of these limits are exceeded.

### Outline Drawing

STANDARD



OPTION "B"



### 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

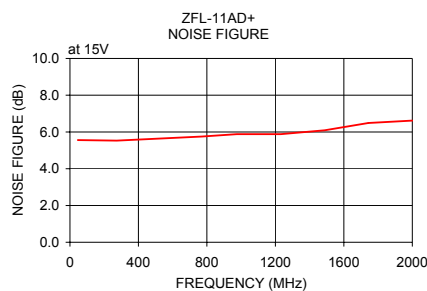
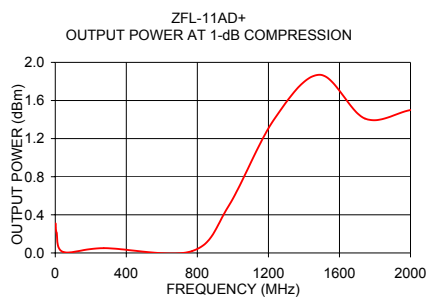
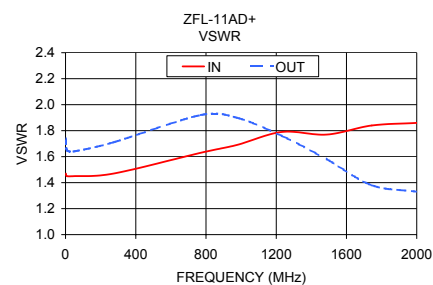
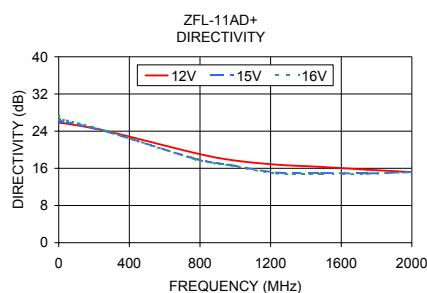
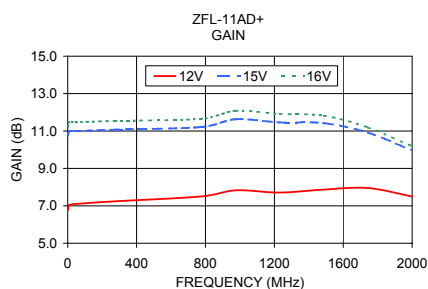
- Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's 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](http://www.minicircuits.com/MCLStore/terms.jsp)



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

REV. D  
M151107  
ZFL-11AD+  
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		
2.00	6.79	10.76	11.24	26.50	26.60	27.20	1.47	1.74	—	0.31
7.60	7.04	10.99	11.47	25.80	26.10	26.50	1.45	1.65	—	0.21
45.70	7.10	10.99	11.47	25.60	25.90	26.30	1.45	1.64	5.56	0.01
273.20	7.24	11.07	11.54	24.00	23.90	24.00	1.47	1.71	5.53	0.05
770.50	7.50	11.21	11.65	19.30	18.10	18.00	1.63	1.92	5.75	0.02
975.40	7.83	11.63	12.08	17.80	16.70	16.60	1.69	1.90	5.88	0.49
1231.50	7.71	11.46	11.91	16.80	15.10	14.90	1.79	1.76	5.88	1.40
1487.70	7.87	11.42	11.82	16.30	15.00	14.70	1.77	1.58	6.09	1.87
1743.80	7.95	10.91	11.19	15.70	14.90	14.80	1.84	1.38	6.49	1.41
2000.00	7.50	9.96	10.19	15.20	15.20	15.20	1.86	1.33	6.62	1.50



**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](http://www.minicircuits.com/MCLStore/terms.jsp)



# Amplifier

# ZFL-11AD+

## 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				
2.0	6.79	10.76	11.24	26.50	26.60	27.20	1.47	1.74	-	0.31
7.6	7.04	10.99	11.47	25.80	26.10	26.50	1.45	1.65	-	0.21
45.7	7.10	10.99	11.47	25.60	25.90	26.30	1.45	1.64	5.56	0.01
273.2	7.24	11.07	11.54	24.00	23.90	24.00	1.47	1.71	5.53	0.05
770.5	7.50	11.21	11.65	19.30	18.10	18.00	1.63	1.92	5.75	0.02
975.4	7.83	11.63	12.08	17.80	16.70	16.60	1.69	1.90	5.88	0.49
1231.5	7.71	11.46	11.91	16.80	15.10	14.90	1.79	1.76	5.88	1.40
1487.7	7.87	11.42	11.82	16.30	15.00	14.70	1.77	1.58	6.09	1.87
1743.8	7.95	10.91	11.19	15.70	14.90	14.80	1.84	1.38	6.49	1.41
2000.0	7.50	9.96	10.19	15.20	15.20	15.20	1.86	1.33	6.62	1.50

REV. X1  
ZFL-11AD+  
080701  
Page 1 of 1



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

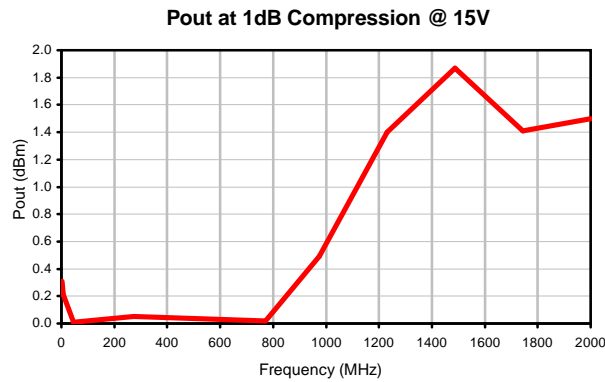
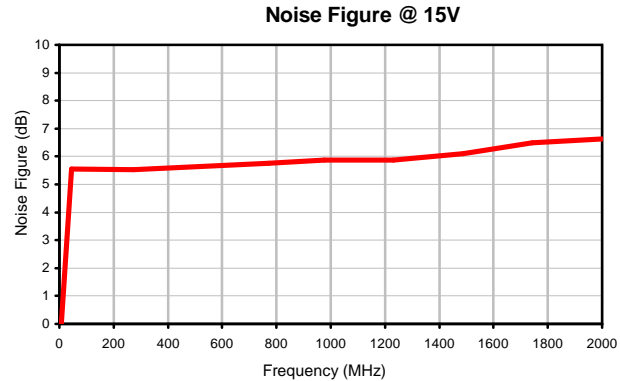
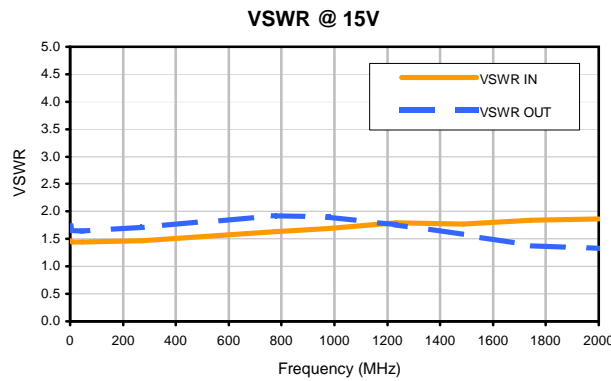
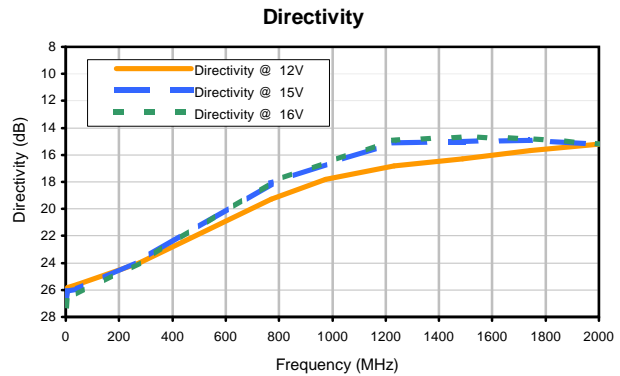
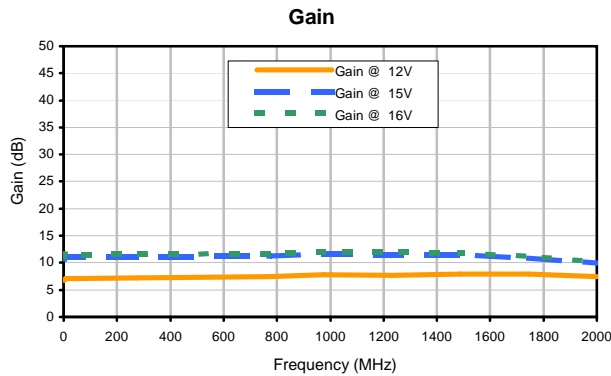
P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661



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



## 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:

- 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



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