

Coaxial Amplifier

NON-CATALOG

ZFL-500

50Ω Low Power 0.05 to 500 MHz

Features

- wideband, 0.05 to 500 MHz
- rugged, shielded case
- low noise, 4.2 dB typ.
- protected by US Patent, 6,943,629

Applications

- instrumentation
- lab use
- VHF/UHF



SMA version shown
CASE STYLE: Y460

Connectors	Model
BNC	ZFL-500-BNC
BRACKET (OPTION "B")	

Amplifier Electrical Specifications

MODEL NO.	FREQUENCY (MHz)		GAIN (dB)			MAXIMUM POWER (dBm)		DYNAMIC RANGE		VSWR* (:1) Typ.		DC POWER	
	f _L	f _U	Min.	Typ.	Flatness Max.	Output (1 dB Compr.) Min.	Input (no damage) +5	NF (dB) Typ.	IP3 (dBm) Typ.	In	Out	Volt (V) Nom.	Current (mA) Max.
ZFL-500	0.05	500	20	25	±1.0	+9		4.2	+25	1.3	1.3	15	80

Open load is not recommended, potentially can cause damage.
With no load derate max input power by 20 dB
*VSWR may increase to 1.8 below 0.1 MHz

Maximum Ratings

Operating Temperature -20°C to 71°C

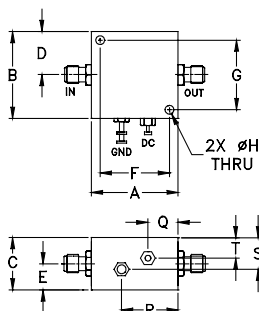
Storage Temperature -55°C to 100°C

DC Voltage +17V Max.

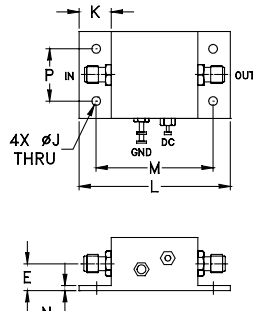
Permanent damage may occur if any of these limits are exceeded.

Outline Drawing

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.
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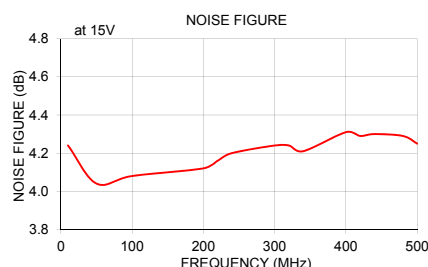
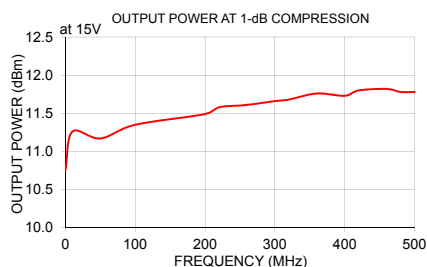
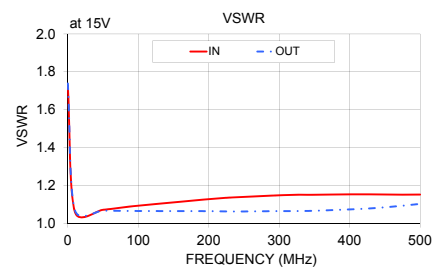
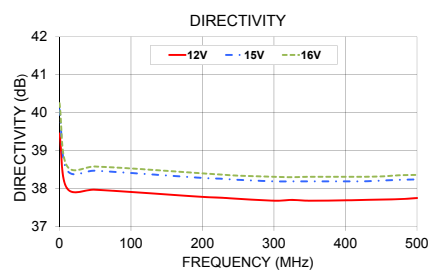
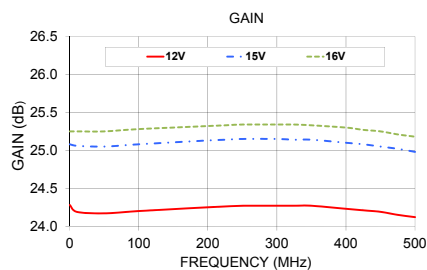
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NON-CATALOG

Typical Performance Data/Curves

ZFL-500

FREQUENCY (MHz)	GAIN (dB)			DIRECTIVITY (dB)			VSWR (:1) 15V		NOISE FIGURE (dB)	POUT at 1 dB COMPR. (dBm)
	12V	15V	16V	12V	15V	16V	IN	OUT		
0.05	24.28	25.08	25.25	39.45	40.09	40.25	1.73	1.74	—	10.75
10.00	24.19	25.06	25.25	38.02	38.50	38.61	1.06	1.07	4.24	11.26
50.00	24.17	25.05	25.25	37.97	38.47	38.58	1.07	1.07	4.04	11.17
100.00	24.20	25.08	25.28	37.91	38.41	38.53	1.09	1.07	4.08	11.35
200.00	24.25	25.13	25.32	37.78	38.28	38.40	1.13	1.06	4.12	11.49
225.00	24.26	25.14	25.33	37.76	38.26	38.37	1.14	1.06	4.16	11.58
250.00	24.27	25.15	25.34	37.73	38.23	38.34	1.14	1.06	4.20	11.61
300.00	24.27	25.15	25.34	37.68	38.19	38.31	1.15	1.06	4.24	11.66
325.00	24.27	25.14	25.34	37.70	38.19	38.30	1.15	1.07	4.24	11.68
350.00	24.27	25.14	25.33	37.68	38.19	38.31	1.15	1.07	4.21	11.76
400.00	24.23	25.10	25.30	37.69	38.19	38.31	1.15	1.07	4.31	11.73
425.00	24.21	25.08	25.27	37.70	38.19	38.31	1.15	1.08	4.29	11.80
450.00	24.19	25.05	25.25	37.71	38.21	38.32	1.15	1.08	4.30	11.82
475.00	24.15	25.02	25.21	37.72	38.23	38.35	1.15	1.09	4.29	11.78
500.00	24.12	24.98	25.18	37.75	38.24	38.36	1.15	1.10	4.25	11.78



Notes

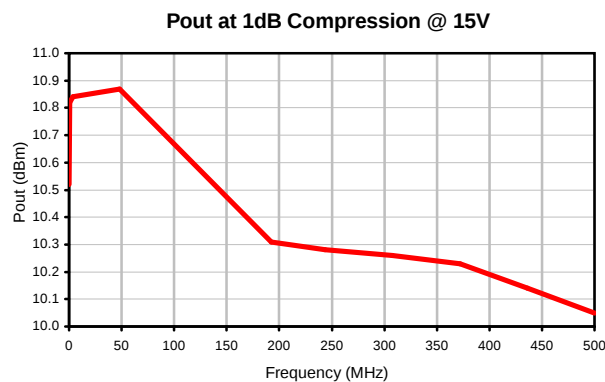
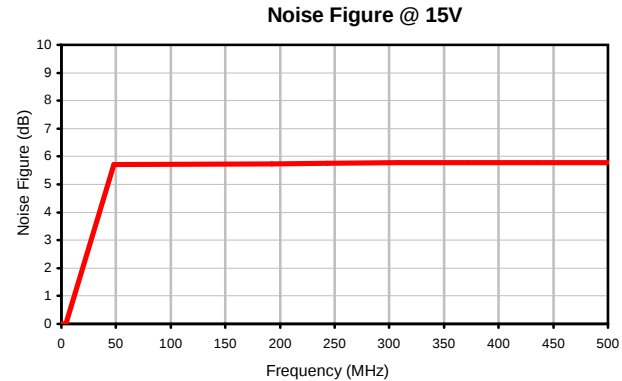
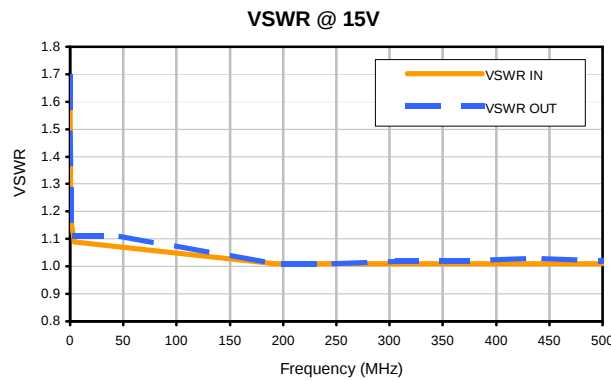
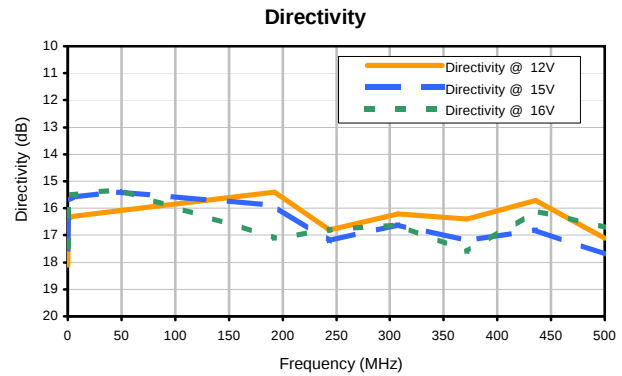
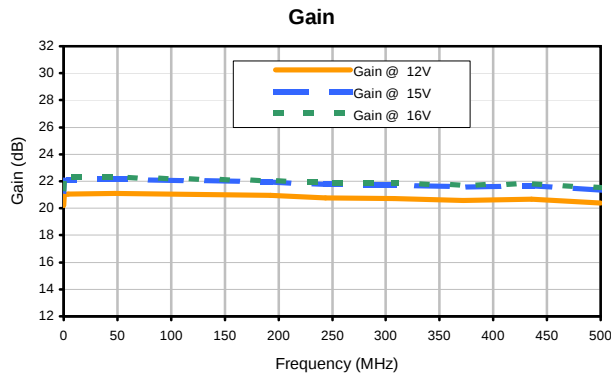
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Typical Performance Data

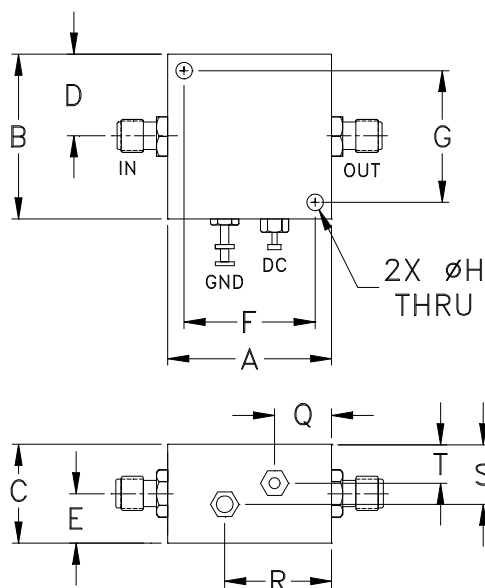
FREQUENCY (MHz)	GAIN (dB)			DIRECTIVITY (dB)			VSWR IN (:1) 15V	VSWR OUT (:1) 15V	NOISE FIGURE (dB) 15V	Pout at 1dB Comp. (dBm) 15V
	12V	15V	16V	12V	15V	16V				
0.1	20.18	21.24	21.41	18.10	17.50	17.40	1.59	1.69	-	10.52
0.3	21.00	22.06	22.23	16.40	15.70	15.60	1.17	1.11	-	10.82
3.9	21.03	22.08	22.27	16.30	15.60	15.50	1.09	1.11	-	10.84
47.9	21.08	22.13	22.30	16.10	15.40	15.30	1.07	1.11	5.72	10.87
192.3	20.96	21.93	22.07	15.40	15.90	17.10	1.01	1.01	5.74	10.31
243.6	20.79	21.74	21.90	16.80	17.20	16.80	1.01	1.01	5.76	10.28
307.7	20.74	21.70	21.84	16.20	16.60	16.60	1.01	1.02	5.77	10.26
371.8	20.58	21.55	21.70	16.40	17.20	17.60	1.01	1.02	5.77	10.23
435.9	20.69	21.65	21.80	15.70	16.80	16.10	1.01	1.03	5.78	10.14
500.0	20.40	21.36	21.52	17.10	17.70	16.70	1.01	1.02	5.79	10.05

Typical Performance Curves

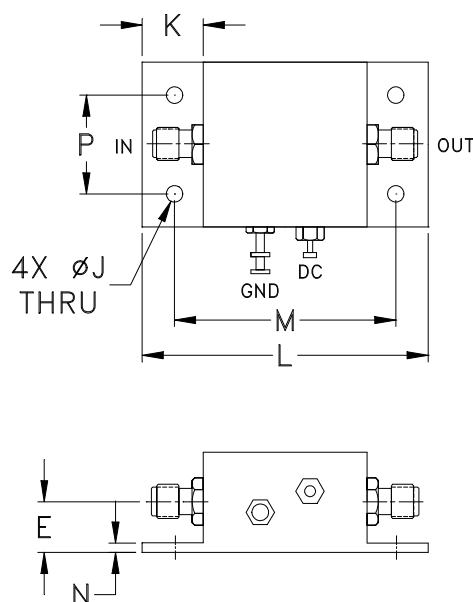


Outline Dimensions

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



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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