Coaxial

Low Noise Amplifier

ZHL-0812MLN

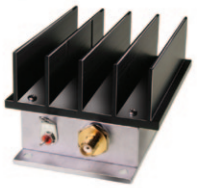
50Ω 800 to 1200 MHz

Features

- very low noise figure, 1.6 dB max.
- wideband, 800 to 1200 MHz
- high dynamic range

Applications

- UHF
- cellular
- PCS/GSM



Case Style: FJ893

Connectors	Model	Price	Qty.
SMA	ZHL-0812MLN	Contact Sales Dept.	

NON-CATALOG

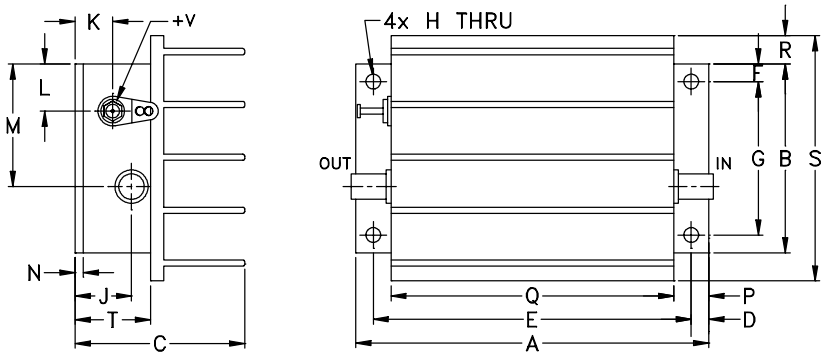
Electrical Specifications

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Units
Frequency Range		800		1200	MHz
Noise Figure	800-1200	—	—	1.6	dB
Gain	800-1200	28	—	—	dB
Gain Flatness	800-1200	—	—	±1.0	dB
Output Power at 1dB compression	800-1200	—	+20	—	dBm
Output third order intercept point	800-1200	—	+33	—	dBm
Input VSWR	800-1200	—	—	2.5	:1
Output VSWR	800-1200	—	—	2.5	:1
DC Supply Voltage		—	15	—	V
Supply Current		—	—	300	mA

Noise Figure specified at room temperature, increases to 2.3 dB max. at +65°C

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 65°C
Storage Temperature	-55°C to 100°C
DC Voltage	17V
Input RF Power (no damage)	0 dBm

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

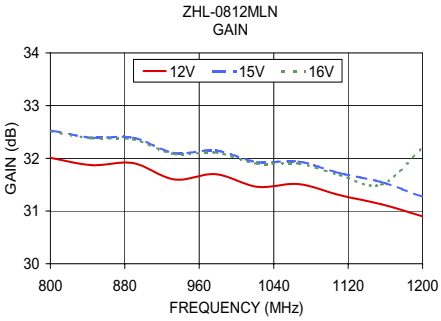
Outline Dimensions (inch / mm)

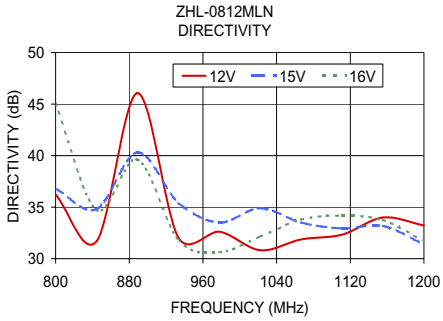
A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	wt
3.75	2.00	1.80	.19	3.375	.19	1.625	.144	.50	.40	.50	1.30	.10	.38	3.00	.30	2.60	.80	grams
95.25	50.80	45.72	4.83	85.73	4.83	41.28	3.66	12.70	10.16	12.70	33.02	2.54	9.65	76.20	7.62	66.04	20.32	220.0

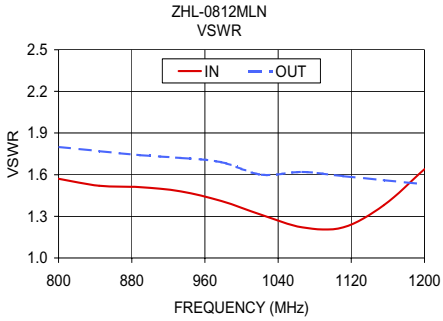
Notes: 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. **2.** Electrical specifications and performance data contained herein are based on Mini-Circuit's applicable established 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.

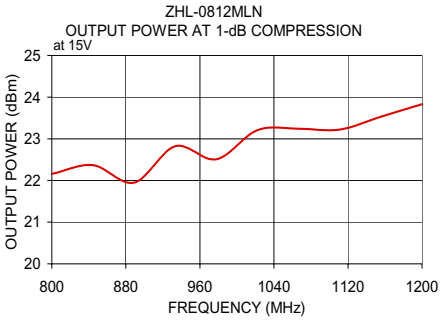
NON-CATALOG

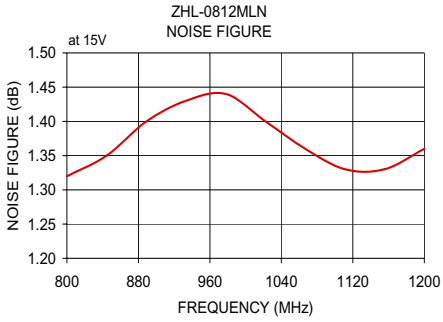
FREQUENCY (MHz)	GAIN (dB)			DIRECTIVITY (dB)			VSWR (:1)		NOISE FIGURE (dB)	POUT at 1 dB COMPR. (dBm)
	12V	15V	16V	12V	15V	16V	IN	OUT	15V	15V
800.00	32.01	32.53	32.51	36.23	36.79	45.05	1.57	1.80	1.32	22.16
844.44	31.87	32.39	32.38	31.70	34.82	34.73	1.52	1.77	1.35	22.37
888.88	31.91	32.39	32.36	46.06	40.30	39.61	1.51	1.74	1.40	21.95
933.33	31.60	32.10	32.08	32.05	35.42	31.82	1.48	1.72	1.43	22.82
977.77	31.70	32.15	32.11	32.61	33.50	30.62	1.41	1.69	1.44	22.51
1022.22	31.46	31.93	31.90	30.83	34.90	32.15	1.31	1.60	1.40	23.21
1066.66	31.51	31.94	31.90	31.87	33.51	33.80	1.22	1.62	1.36	23.24
1111.11	31.30	31.72	31.68	32.34	32.94	34.17	1.22	1.59	1.33	23.22
1155.55	31.13	31.55	31.50	34.00	33.17	33.74	1.38	1.56	1.33	23.53
1200.00	30.90	31.27	32.20	33.22	31.39	31.70	1.64	1.53	1.36	23.83











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Low Noise Amplifier ZHL-0812MLN

Typical Performance Data

FREQUENCY (MHz)	GAIN (dB)			DIRECTIVITY (dB)			VSWR IN (:1)	VSWR OUT (:1)	NOISE FIGURE (dB)	Pout at 1dB Comp. (dBm)
	12V	15V	16V	12V	15V	16V	15V	15V	15V	15V
800.0	32.01	32.53	32.51	36.23	36.79	45.95	1.57	1.80	1.36	22.16
844.4	31.87	32.39	32.38	31.70	34.82	34.73	1.52	1.77	1.40	22.37
888.9	31.91	32.39	32.36	46.06	40.30	39.61	1.51	1.74	1.44	21.95
933.3	31.60	32.10	32.08	32.65	35.42	31.92	1.48	1.72	1.42	22.82
977.8	31.70	32.15	32.11	32.61	33.50	30.62	1.41	1.69	1.39	22.51
1022.2	31.46	31.93	31.90	30.83	34.90	32.15	1.31	1.66	1.35	23.21
1066.7	31.51	31.94	31.90	31.67	33.51	33.80	1.22	1.62	1.33	23.24
1111.1	31.30	31.72	31.68	32.34	32.94	34.17	1.22	1.59	1.32	23.22
1155.6	31.13	31.55	31.50	34.00	33.17	33.74	1.38	1.56	1.39	23.53
1200.0	30.90	31.27	32.20	33.22	31.39	31.70	1.64	1.53	1.46	23.83

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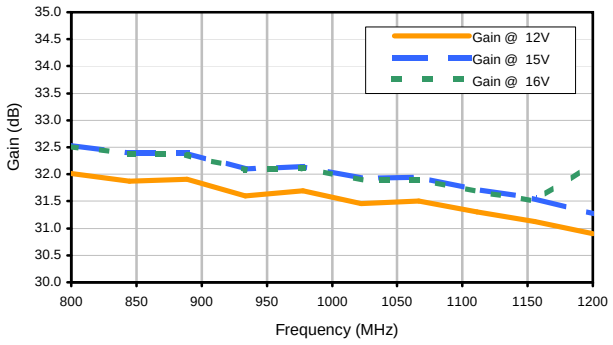
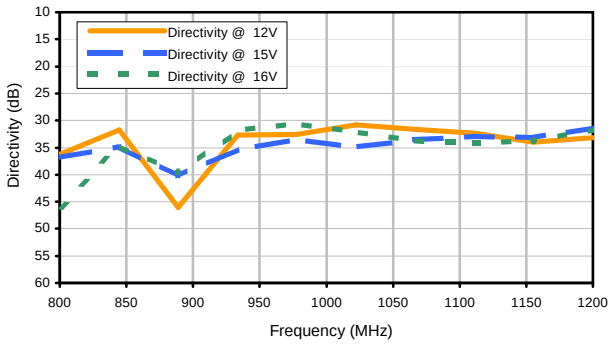
Typical Performance Curves

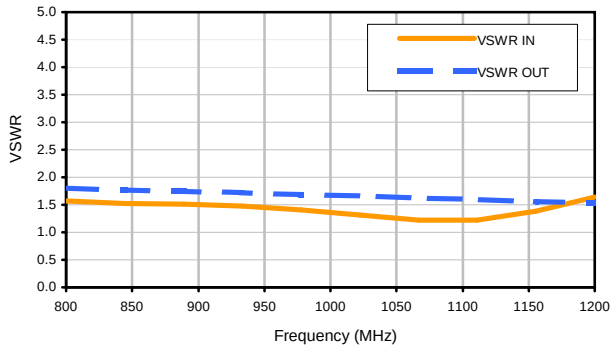
Gain



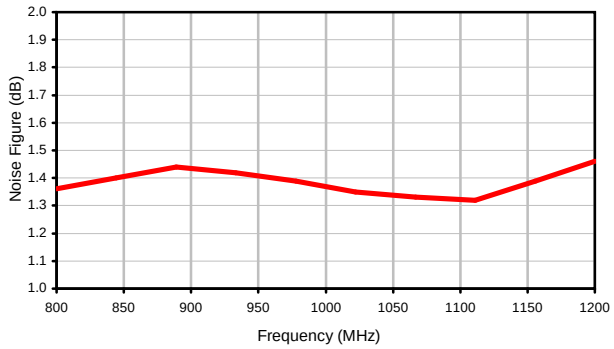
Directivity



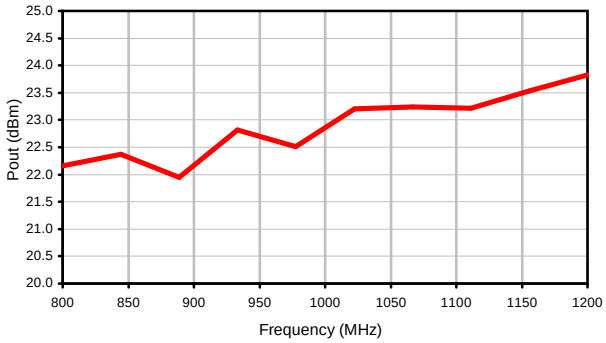
VSWR @ 15V



Noise Figure @ 15V



Pout at 1dB Compression @ 15V



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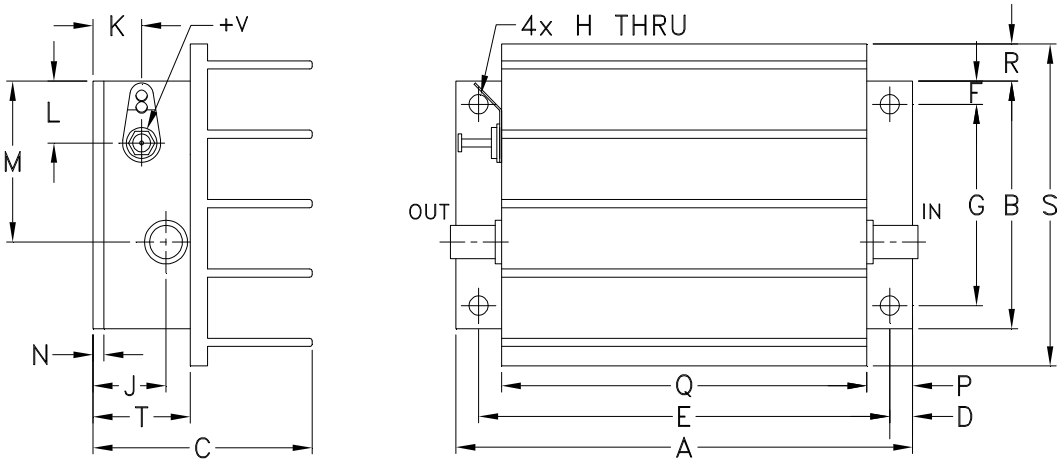
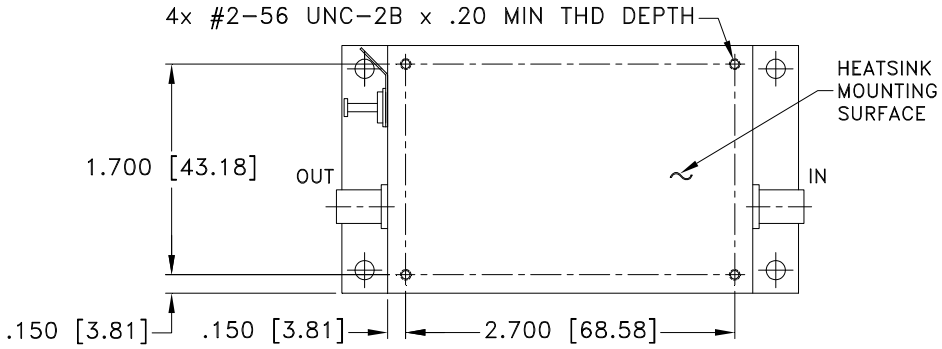
Case Style S

S32

Outline Dimensions



MOUNTING INFORMATION FOR MODELS WITHOUT HEATSINK



CASE#	A	B	C	D	E	F	G	H	J	K	L	M	N
S32	3.75 (95.25)	2.00 (50.80)	1.80 (45.72)	.19 (4.83)	3.375 (85.73)	.19 (4.83)	1.625 (41.28)	.144 (3.66)	.50 (12.70)	.40 (10.16)	.50 (12.70)	1.30 (33.02)	.10 (2.54)

CASE#	P	Q	R	S	T	WT. GRAMS	WT. WITHOUT HEATSINK GRAMS
S32	.38 (9.65)	3.00 (76.20)	.30 (7.62)	2.60 (66.04)	.80 (20.32)	220.0	150.0

Dimensions are in inches (mm). Tolerances: 2 Pl. ± .03; 3 Pl. ± .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. Heat sink finish: Black anodize.

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Mini-Circuits

Environmental Specifications ENV23T3

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 65° 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

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