



COAXIAL

# Low Noise Amplifier ZHL-1217MLN+

50Ω 1200 to 1700 MHz

## THE BIG DEAL

- Low Noise Figure, 1.5 dB max.
- High IP3, +36 dBm
- High Gain, 29 dB min.
- Good Gain Flatness, ±1.0 dB



Generic photo used for illustration purposes only

Model No.	ZHL-1217MLN+
Case Style	S32
Connectors	SMA

## APPLICATIONS

- GPS
- Mar sat
- Communication systems

**+RoHS Compliant**  
 The +Suffix identifies RoHS Compliance.  
 See our website for methodologies and qualifications

## PRODUCT OVERVIEW

ZHL-1217MLN+ is a coaxial, low-noise amplifier supporting applications from 1200 to 1700 MHz. This model provides a combination of low noise, high IP3 and high gain with excellent gain flatness. The amplifier operates on a +15V supply with low current consumption (380mA) and comes housed in an aluminum alloy case (3.75 x 2.0 x 1.8") with SMA connectors and heat sink for efficient cooling.

## KEY FEATURES

Feature	Advantages
Low Noise, (1.5 dB max)	Excellent noise figure performance increases signal to noise ratio
High OIP3, +36 dBm	Provides highly linear performance with excellent sensitivity and two-tone spur-free dynamic range.
High Gain, 29 dB min.	Reduces the number of gain stages, lowering component count and overall system cost.
Good Gain Flatness (±1.0 dB)	Provides consistent performance across its operating frequency, minimizing the need for external equalizing networks in wideband applications.

REV. B  
 ECO-017949  
 ZHL-1217MLN+  
 MCL NY  
 230524





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## ELECTRICAL SPECIFICATIONS

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Units
Frequency Range		1200		1700	MHz
Noise Figure	1200-1700	–	–	1.5	dB
Gain	1200-1700	29	–	–	dB
Gain Flatness	1200-1700	–	–	±1.0	dB
Output Power at 1dB compression	1200-1700	–	+22	–	dBm
Output third order intercept point	1200-1700	–	+36	–	dBm
Input VSWR	1200-1700	–	–	1.8	:1
Output VSWR	1200-1700	–	–	1.8	:1
DC Supply Voltage		–	+15	–	V
Supply Current		–	–	380	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

## ABSOLUTE 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.



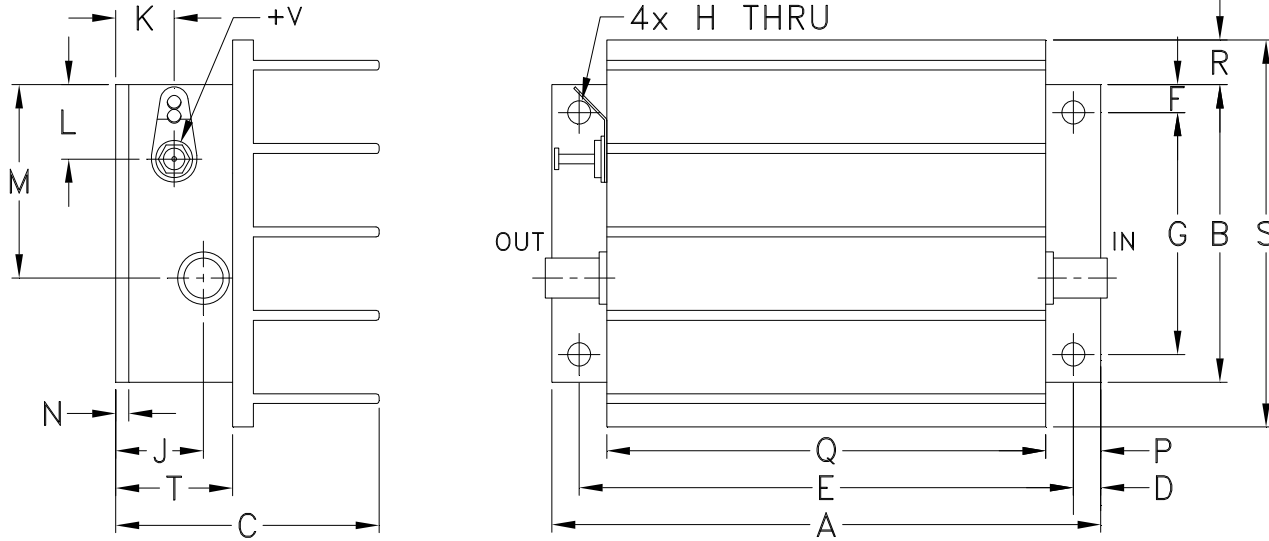


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## OUTLINE DRAWING



## 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	
																		wt. w/o heat sink	150



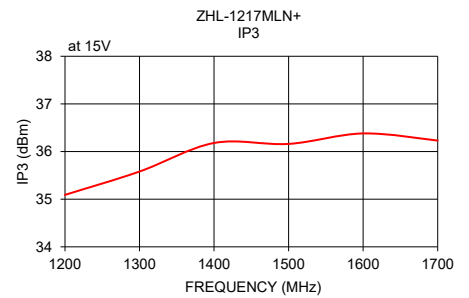
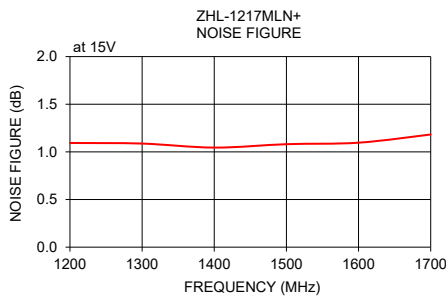
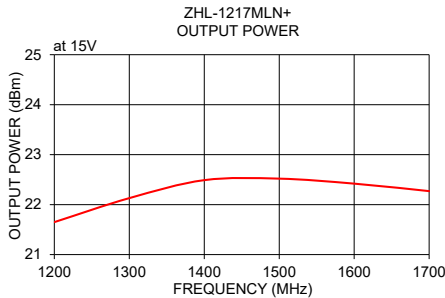
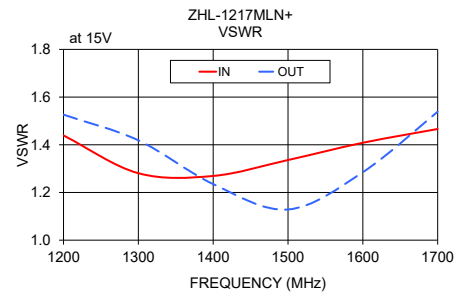
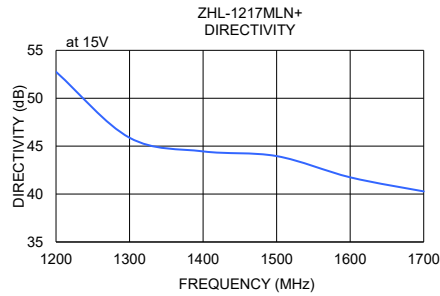
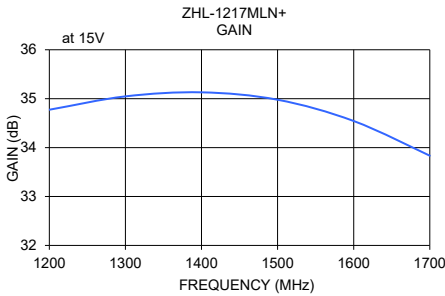
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## TYPICAL PERFORMANCE DATA/CURVES

FREQ. (MHz)	GAIN (dB)	DIRECTIVITY (dB)	VSWR (:1)		NOISE FIGURE (dB)	POUT at 1 dB COMPR. (dBm)	OUTPUT IP3 (dBm)
	15V	15V	IN	OUT	15V	15V	15V
1200	34.77	52.76	1.44	1.53	1.09	21.65	35.09
1300	35.05	45.88	1.28	1.42	1.09	22.13	35.58
1400	35.13	44.45	1.27	1.24	1.04	22.49	36.18
1500	34.98	43.96	1.34	1.13	1.08	22.52	36.16
1600	34.54	41.75	1.41	1.29	1.10	22.42	36.38
1700	33.83	40.28	1.47	1.54	1.18	22.27	36.23



### 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.
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