

# Coaxial High Power Amplifier

50Ω 5W 800 to 2000 MHz

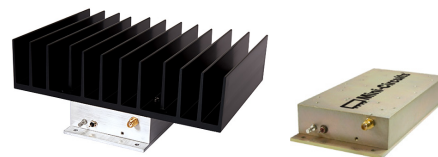
ZHL-5W-2G-S+  
ZHL-5W-2GX-S+

## Features

- High power, 5 Watt
- Low current consumption, 1.7A typ.
- High IP3, +44 dBm typ.
- Usable over 700 to 2200 MHz
- No damage with an open or short output load under full CW output power

## Applications

- Cellular
- PCN
- GSM
- ISM
- Lab Test



Generic photo used for illustration purposes only

Model No.	ZHL-5W-2G-S+	ZHL-5W-2GX-S+ <sup>▲</sup>
Case Style	DDD131	
Connectors	SMA	

### +RoHS Compliant

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

## Electrical Specifications

Parameter	ZHL-5W-2G-S+ ZHL-5W-2GX-S+ <sup>▲</sup>			Units
	Min.	Typ.	Max.	
Frequency Range	800		2000	MHz
Gain	40	45	50	dB
Gain Flatness	—	—	±2.1	dB
Output Power at 1dB compression	+36	+37	—	dBm
Saturated Output Power at 3dB compression	+37	+38	—	dBm
Noise Figure		8.0		dB
Output third order intercept point		+44		dBm
Input VSWR		1.7		:1
Output VSWR		1.5		:1
DC Supply Voltage	—	24	28	V
Supply Current <sup>1</sup>			2.5	A

1. Power Supply should be capable of delivering 3A at start up.

<sup>▲</sup> Heat sink not included. Alternative heat sinking and heat removal must be provided by the user to limit maximum base-plate temperature to 87°C, in order to ensure proper performance. For reference, this requires thermal resistance of user's external heat sink to be 0.46°C/W max.

## Maximum Ratings

Parameter	Ratings
Operating Temperature	-20°C to 65°C
Storage Temperature	-55°C to 100°C
Input RF Power (no damage)	+1 dBm

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

## 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.

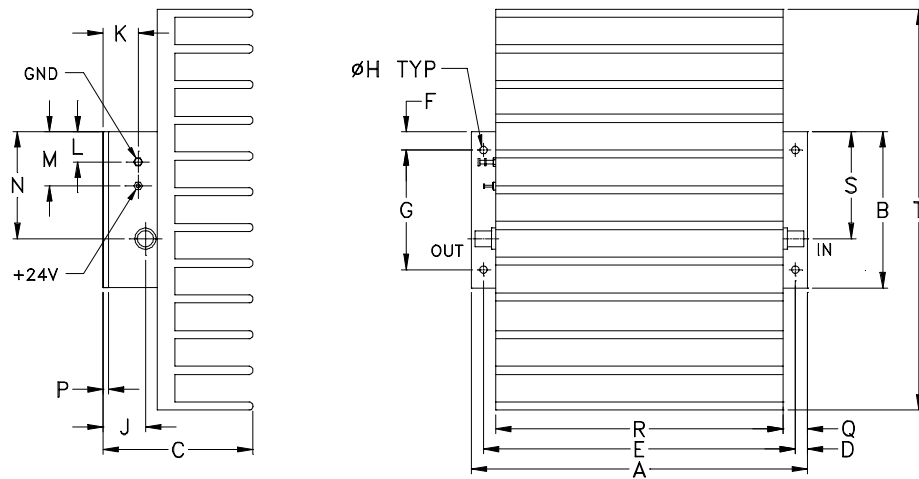
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C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. 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)

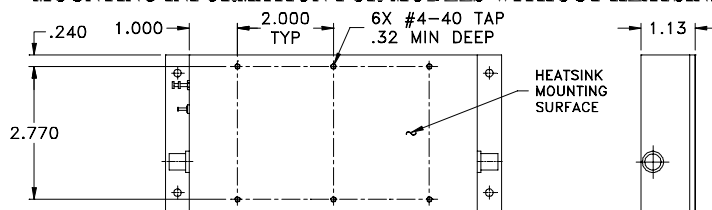


# ZHL-5W-2G-S+ ZHL-5W-2GX-S+

## Outline Drawing



### MOUNTING INFORMATION FOR MODELS WITHOUT HEATSINK



## Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	wt
7.00	3.25	3.13	.25	6.500	.38	2.500	.156	.88	.43	.62	1.00	2.63	.125	.50	6.00	2.23	8.35	grams*
177.80	82.55	79.50	6.35	165.10	9.65	63.50	3.96	22.35	10.92	15.75	25.40	66.80	3.18	12.70	152.40	56.64	212.09	1780
																		*510 grams without heatsink

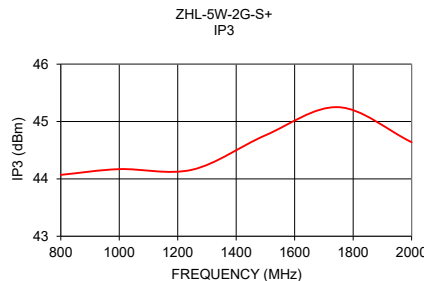
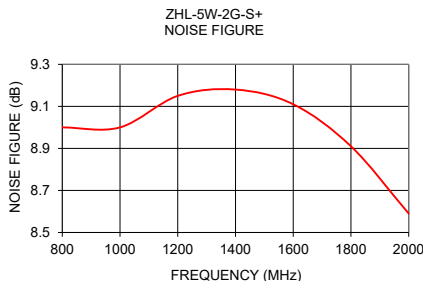
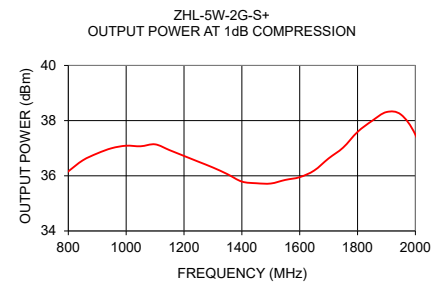
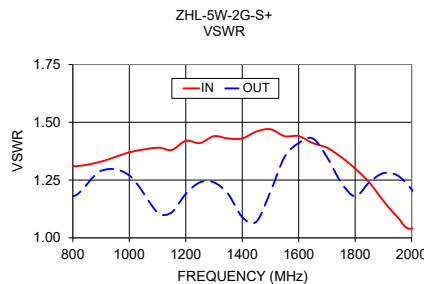
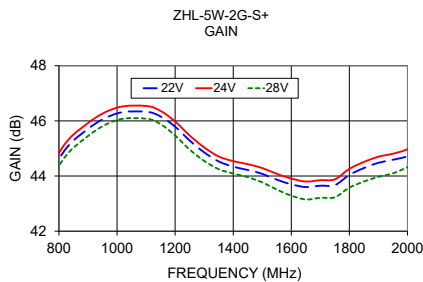
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## Typical Performance Data/Curves

FREQUENCY (MHz)	GAIN (dB)			VSWR (:1)		POUT at 1 dB COMPR. (dBm)	FREQUENCY (MHz)	IP3 (dBm)	NOISE FIGURE (dB)
	22V	24V	28V	IN	OUT				
800.00	44.61	44.83	44.36	1.31	1.18	36.16	800.00	44.07	9.00
900.00	45.71	45.92	45.45	1.33	1.29	36.81	1000.00	44.17	9.00
1000.00	46.27	46.48	46.03	1.37	1.27	37.09	1250.00	44.16	9.15
1100.00	46.33	46.54	46.08	1.39	1.11	37.14	1500.00	44.76	9.18
1200.00	45.79	45.98	45.47	1.42	1.19	36.72	1750.00	45.25	8.91
1300.00	44.86	45.04	44.55	1.44	1.24	36.30	2000.00	44.64	8.59
1350.00	44.53	44.71	44.25	1.43	1.19	36.06			
1400.00	44.34	44.54	44.09	1.43	1.09	35.79			
1450.00	44.22	44.43	43.96	1.46	1.07	35.73			
1500.00	44.08	44.29	43.77	1.47	1.20	35.72			
1550.00	43.87	44.08	43.51	1.44	1.35	35.85			
1600.00	43.70	43.91	43.29	1.44	1.41	35.95			
1650.00	43.60	43.80	43.15	1.41	1.43	36.19			
1700.00	43.65	43.85	43.21	1.39	1.35	36.63			
1750.00	43.67	43.88	43.23	1.35	1.24	37.02			
1800.00	44.04	44.26	43.58	1.30	1.18	37.59			
1850.00	44.29	44.51	43.80	1.24	1.24	37.99			
1900.00	44.48	44.70	43.97	1.16	1.28	38.31			
1950.00	44.59	44.81	44.10	1.09	1.27	38.22			
2000.00	44.72	44.97	44.32	1.04	1.21	37.49			



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