

# Coaxial High Power Amplifier

## ZHL-30W-252+

50Ω 30W 700 to 2500 MHz

### Features

- High power, 30Watt
- Low Current consumption, 5A typ.
- High IP3, +52 dBm typ.
- Useable over 500 to 2600 MHz
- Good gain flatness, ±1.0 dB typ.
- No damage with an open or short output load under full CW output power
- Shuts off when base plate temperature exceeds +80°C
- Accepts wide range of DC supply voltage +25V to +29V

### Applications

- Cellular
- PCN
- GSM
- ISM
- Lab Test

### Electrical Specifications

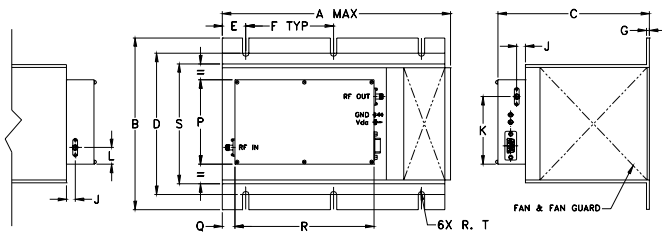
Parameter	ZHL-30W-252-S+			ZHL-30W-252X-S+ ▲			Units
	Min.	Typ.	Max.	Min	Typ.	Max.	
Frequency Range	700	—	2500	700	—	2500	MHz
Gain <sup>1</sup>	47	50	55	47	50	55	dB
Gain Flatness	—	—	±2.0	—	—	±2.0	dB
Output Power at 1dB compression	+43	+44	—	+43	+44	—	dBm
Saturated Output Power at 3dB compression	+44	+46	—	+44	+46	—	dBm
Noise Figure	—	5.5	—	—	5.5	—	dB
Output third order intercept point	—	+52	—	—	+52	—	dBm
Input VSWR	—	1.3	—	—	1.3	—	:1
Output VSWR	—	1.2	—	—	1.2	—	:1
DC Supply Voltage	—	28	29	—	28	29	V
Supply Current <sup>2</sup>	—	—	6.3	—	—	6.0	A

1. Small signal input power -35 dBm typ.

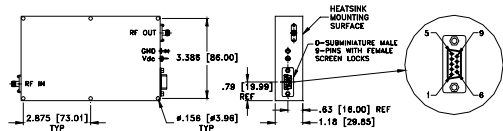
2. Power Supply should be capable of delivering 7.5A at start up.

▲ Heat sink and fan not included. Alternative heat sinking and heat removal must be provided by the user to limit maximum base-plate temperature to 85°C, in order to ensure proper performance. For reference, this requires thermal resistance of user's external heat sink to be 0.2°C/W max.

### Outline Drawing



#### MOUNTING INFORMATION FOR MODELS WITHOUT HEATSINK



### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	J	K	L	P	Q	R	S	T	wt
0.985	0.283	0.236	0.236	0.039	0.146	0.012	0.012	0.035	0.028	0.012	0.019	0.020	0.012	0.005	0.005
25.19	185.42	165.10	152.40	25.40	95.25	3.30	9.40	72.90	18.03	90.93	12.70	151.13	129.54	3.43	4265

\*580 grams without heatsink

### Maximum Ratings

Parameter	Ratings
Operating Temperature	-20°C to 60°C
Storage Temperature	-55°C to 100°C
Base Plate Temperature	85°C
Input RF Power (no damage)	0 dBm

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

### D-Sub Male Connector Pin Connections\*\*

Pin Function	Label on unit	Pin #	Color	Gauge
None	N/C1, N/C2 N/C4, N/C5	1,2,4,5	None	None
Thermal Shut-Off Indication: Shut-Off: 2 to 5V Not Shut-Off: 0 to 0.8V	TTL Out	3	Orange	26 AWG
DC Input (+)	Vdc	6,7	Red	18 AWG
Ground	GND	8,9	Black	18 AWG

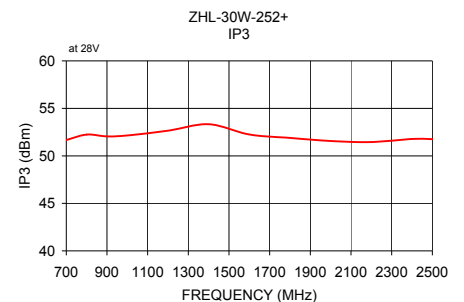
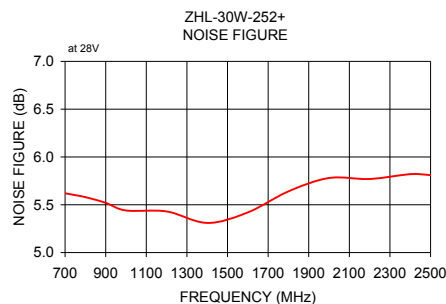
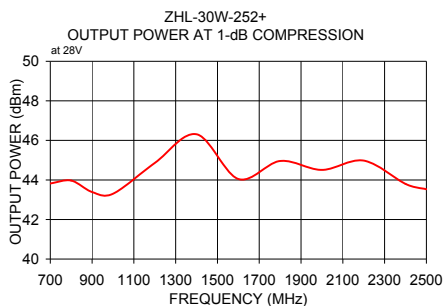
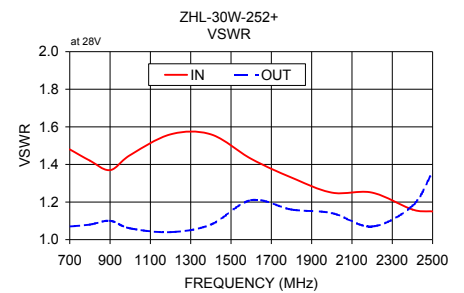
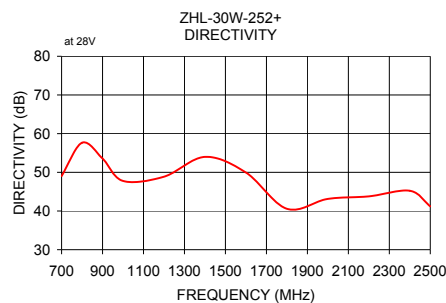
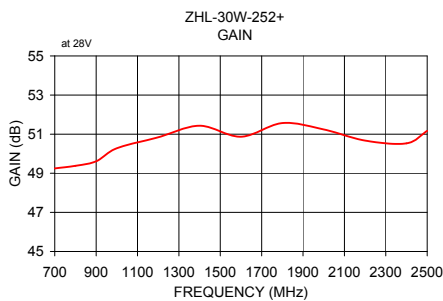
\*\*Each amplifier includes an additional D-Sub connector for mating with the amplifier.

### 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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FREQUENCY (MHz)	GAIN (dB)	DIRECTIVITY (dB)	VSWR (:1)		NOISE FIGURE (dB)	P <sub>OUT</sub> at 1 dB COMPR. (dBm)	OUTPUT IP <sub>3</sub> (dBm)
	28V	28V	IN	OUT	28V	28V	28V
700.00	49.25	49.04	1.48	1.07	5.62	43.82	51.67
800.00	49.38	57.64	1.42	1.08	5.58	43.97	52.24
900.00	49.61	53.57	1.37	1.10	5.52	43.39	52.05
1000.00	50.28	47.78	1.45	1.06	5.44	43.30	52.15
1200.00	50.84	48.87	1.56	1.04	5.43	44.86	52.65
1400.00	51.43	54.00	1.56	1.08	5.31	46.31	53.33
1600.00	50.87	49.94	1.43	1.21	5.42	44.05	52.25
1800.00	51.57	40.56	1.33	1.16	5.64	44.96	51.89
2000.00	51.24	43.12	1.25	1.14	5.78	44.51	51.56
2200.00	50.67	43.78	1.25	1.07	5.77	44.98	51.45
2400.00	50.53	45.23	1.16	1.18	5.82	43.80	51.78
2500.00	51.17	41.20	1.15	1.36	5.81	43.53	51.76



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