Coaxial

High Power Amplifier

ZHL-100W-242+

50Ω 100W 2000 to 2400 MHz

Features

- saturated power 100W typ.
- wide bandwidth, usable 1900 to 2450 MHz
- high gain, 50 dB typ.
- good gain flatness, ±1.0 dB typ.
- unconditionally stable
- self protected against excessive drive, high case temp., reverse polarity and shorting/unshorting
- can withstand short and open circuit at output while delivering 100 watts

Model No.	ZHL-100W-242+	▲ZHL-100W-242X+
Case Style	BT1689	
Connectors	IN-SMA, OUT-N-Type	

+RoHS Compliant

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

Applications

- high power test sets
- burn-in set-ups
- communications
- radar

Electrical Specifications at 25°C

Parameter	Condition (MHz)	ZHL-100W-242+ ▲ZHL-100W-242X+ Min.	Typ.	Max.	Units
Frequency Range		2000	—	2400	MHz
Gain[1]	2000-2400	45	50	55	dB
Gain Flatness[1]	2000-2400	—	±1.0	±1.7	dB
Output Power at 1dB compression	2000-2400	+48	+49.5	—	dBm
Output Power at 3dB compression	2000-2400	+48.5	+50	—	dBm
Noise Figure	2000-2400	—	7.8	10	dB
Output third order intercept point[2]	2000-2400	+53	+55	—	dBm
Input VSWR[1]	2000-2400	—	1.65	2.1	:1
Output VSWR[1]	2000-2400	—	1.25	2.0	:1
DC Supply Voltage		—	28[4]	30	V
Supply Current[3]		—	11	12	A

1. Small signal input power -15 dBm typ.
2. Two tones, 40 dBm/tone, 1 MHz spacing.
3. Power supply should be capable of delivering 20A at start up; 11 A current measurement at 100 W output.
4. Recommended Operating Voltage.

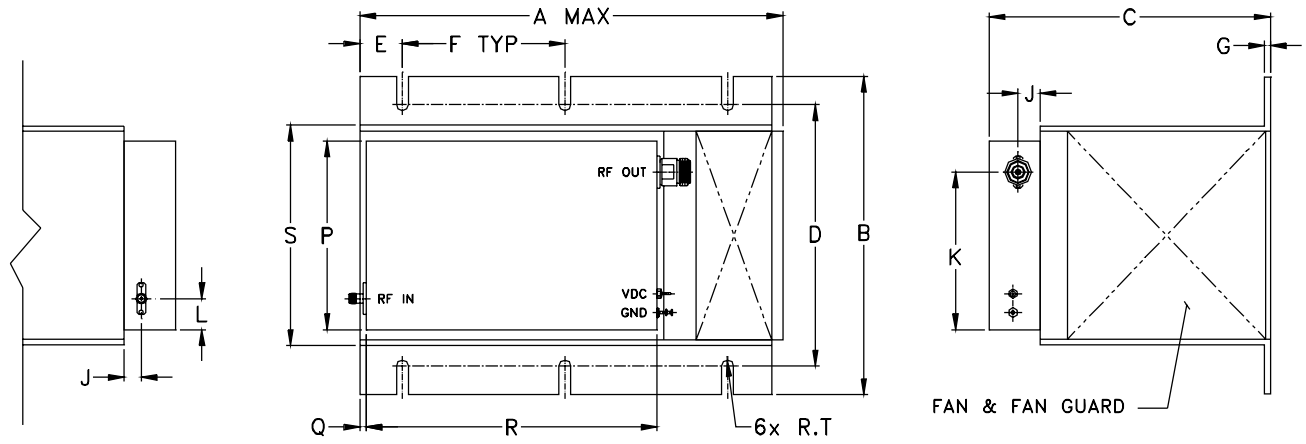
▲Heat sink and fan not included. Alternative heat sinking and heat removal must be provided by the user to limit maximum base-plate temperature to 60°C, in order to ensure proper performance. For reference, this requires thermal resistance of user's external heat sink to be 0.1°C/W max.

Maximum Ratings

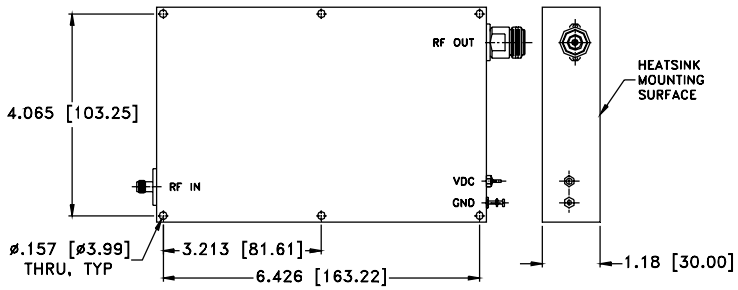
Parameter	Ratings
Operating Temperature	-20°C to 45°C
Base Plate Temperature	60°C
Storage Temperature	-55°C to 100°C
DC Voltage	30V
Input RF Power (no damage)	+7 dBm

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

Outline Drawing for models with heatsink



Outline Drawing for models without heatsink



Outline Dimensions (inch / mm)

A	B	C	D	E	F	G	J	K	L	P	Q	R	S	T	wt
9.85	7.3	6.5	6.00	.98	3.75	.13	.51	3.62	.72	4.33	.2	6.69	5.1	.136	grams*
250.19	185.42	165.10	152.40	24.89	95.25	3.30	12.95	91.95	18.29	109.98	5.08	169.93	129.54	3.45	4565

*880 grams without heatsink

FREQUENCY (MHz)	GAIN (dB)	DIRECTIVITY (dB)	VSWR (:1)		POUT at 1 dB COMPR. (dBm)	NOISE FIGURE (dB)	IP3 (dBm)
	28V	28V	IN	OUT	28V	28V	28V
2000	49.11	53.64	1.85	1.18	50.97	7.97	55.06
2060	49.62	37.81	1.72	1.23	50.76	7.88	56.72
2100	49.69	42.36	1.65	1.10	50.54	7.78	57.51
2160	49.67	35.50	1.60	1.06	50.24	7.72	56.86
2200	49.91	39.65	1.61	1.33	50.23	7.74	56.99
2260	50.85	34.67	1.64	1.29	50.06	7.71	57.51
2300	51.15	35.36	1.64	1.31	50.09	7.68	56.93
2360	50.74	34.30	1.58	1.18	50.03	7.69	55.91
2400	49.04	38.65	1.47	1.06	50.10	7.79	56.00