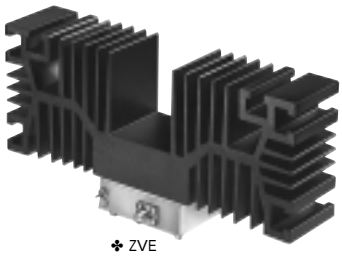
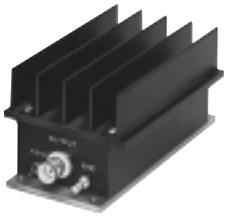
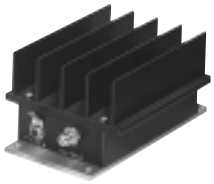
MEDIUM HIGH POWER 50 kHz to 8 GHz



✤ ZVE



ZHL-case T34



ZHL-case S32

ZHL-42

up to 1W (+30 dBm) output

	MODEL NO.	FREQ. (MHz) f_L-f_U	GAIN (dB) Min.	GAIN (dB) Flatness Max.	MAXIMUM POWER (dBm) Output (1 dB Comp.) Min.	MAXIMUM POWER (dBm) Input (no damage)	DYNAMIC RANGE NF (dB) Typ.	DYNAMIC RANGE IP3 (dBm) Typ.	VSWR Max. In	VSWR Max. Out	DC POWER Volt (V)	DC POWER Current (A)	CASE STYLE Note B	CONNECTION	PRICE $ ea. Qty. (1-9)
✤	ZVE-8G	2000-8000	30	±2.0	+30☆	+20	4	+40	2:1	2:1	12	1.2	BN333	—	1095.00
	ZHL-1A	2-500	16	±1.0	+28	+20	11	+38	2:1	2:1	24	0.60	S32	—	229.00
	ZHL-2	10-1000	16	±1.0	+29	+15	9	+38	2:1	2:1	24	0.60	T34	—	349.00
	ZHL-2-8	10-1000	27	±1.0	+29	+5	10	+38	2:1	2:1	24	0.60	T34	—	525.00
	ZHL-211	800-950	20	±0.4	+29	+15	8	+38	1.8:1	1.8:1	24	0.60	T34	—	295.00
▲	ZHL-2-12	10-1200	24	±1.0	+29*	+10	4✱	+38	2:1	2:1	24	0.75	T34	—	625.00
	ZHL-3A	0.4-150	24	±1.0	+29.5	+10	11	+38	2:1	2:1	24	0.60	S32	—	229.00
	ZHL-32A	0.05-130	25	±1.0	+29	+10	10	+38	2:1	2:1	24	0.60	S32	—	229.00
	ZHL-42	700-4200	30	±1.0✯	+28	+5	10	+38	2.5:1	2.5:1	15	0.88	U36	—	895.00
	ZHL-4240	700-4200	40	±1.5✯	+28	-5	8	+38	2.5:1	2.5:1	15	0.90	U36	—	1395.00
	ZHL-42W	10-4200	30	±1.5✯	+28**	0	8***	+38	2.5:1	2.5:1	15	0.88	U36	—	1095.00
	ZHL-4240W	10-4200	40	±1.5✯	+28**	-5	8***	+38	2.5:1	2.5:1	15	0.90	U36	—	1495.00

* +28.5 dBm maximum at 1000-1200 MHz
** +27 dBm at 10-700 MHz
*** Below 100 MHz NF increases to 15 dB at 10 MHz
✱ Below 100 MHz NF increases to 16 dB at 10 MHz
✯ Measured at 25°C.
☆ At +25°C, +30 dBm typ. at 54°C amb.

ZRL

low noise, high IP3

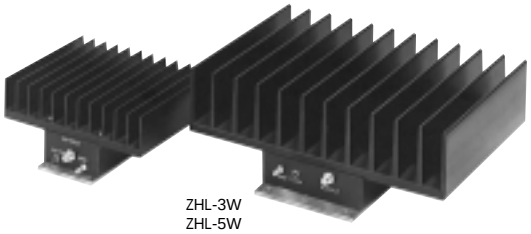
	MODEL NO.	FREQ. (MHz) f_L-f_U	GAIN (dB) Typ.	GAIN (dB) Min.	GAIN (dB) Flatness Typ.	GAIN (dB) Flatness Max.	MAXIMUM POWER (dBm) Output (1 dB Comp.) Min.	MAXIMUM POWER (dBm) Input (no damage)	DYNAMIC RANGE NF (dB) Typ.	DYNAMIC RANGE IP3 (dBm) Typ.	VSWR Max. In	VSWR Max. Out	DC POWER Volt (V)	DC POWER Current (A)	CASE STYLE Note B	CONNECTION	PRICE $ ea. Qty. (1-9)
■☆	ZHL-450-75	5-450	—	9.3	—	±0.7	+26	+20	3.5✦	+48	2.5:1	1.6:1	12	0.525	S32	—	149.95
■☆	ZHL-1010-75	50-1000	—	9.5	—	±0.7	+26	+20	3.5	+47	1.5:1	1.5:1	12	0.525	S32	—	149.95
▲☆	ZHL-1010	50-1000	—	9.5	—	±0.6	+26	+22	3.5	+46	2.0:1	2.0:1	12	0.525	S32	—	149.95
▲☆	ZHL-2010	50-1000	—	20	—	±0.8	+26	+11	3.7	+46	2.0:1	2.0:1	12	0.90	S32	—	169.95
▲☆	ZHL-3010	50-1000	—	30	—	±1.0	+26	-3	5.5	+46	2.5:1	2.0:1	12	1.0	S32	—	179.95
											Typ.						
	ZRL-400	**150-400**	30	27	±0.5	±1.0	+23.5	+10	2.5	+42	1.25:1	1.35:1	12	0.575	FJ893	—	119.95
		175-300	30	28	±0.25	±0.5	+23.5	+10	2.4	+42	1.20:1	1.30:1	12	0.575			
	ZRL-700	**250-700**	29	27	±0.5	±1.0	+23.5	+10	2.0	+46	1.20:1	1.10:1	12	0.575	FJ893	—	119.95
		300-500	29	27.5	±0.3	±0.7	+23.5	+10	2.0	+46	1.10:1	1.05:1	12	0.575			
	ZRL-1150LN	**500-1400**															
		500-700	31	27	±0.5	±1.0	+22	+10	1.1	+38	1.75:1	1.35:1	12	0.500	FJ893	—	119.95
		700-1000	32	27	±0.5	±1.0	+22	+10	0.8	+40	1.20:1	1.25:1	12	0.500			
		1000-1400	29	25	±2.0	—	+22	+10	1.1	+40	1.25:1	1.20:1	12	0.500			
	ZRL-1200	**650-1200**	27.5	25	±0.6	±1.0	+23.5	+10	2.0	+46	1.20:1	1.25:1	12	0.575	FJ893	—	119.95
		800-950	28	26	±0.4	±0.8	+23.5	+10	2.0	+46	1.20:1	1.20:1	12	0.575			
	ZRL-2150	**950-2150**	25	22.5	±1.1	±1.8	+17.5	+10	1.5	+33	1.30:1	1.20:1	12	0.300	FJ893	—	119.95
		1500-2000	25	23	±0.9	±1.5	+22	+10	1.3	+34	1.30:1	1.20:1	12	0.300			
	ZRL-2300	**1400-2300**	23.5	21	±0.7	±1.0	+23	+10	2.5	+46	1.20:1	1.16:1	12	0.575	FJ893	—	119.95
		1650-2150	24	22	±0.5	±0.8	+23	+10	2.3	+46	1.20:1	1.16:1	12	0.575			
	ZRL-2400LN	**1000-2400**															
		1000-1400	31	28	±1.6	±2.0	+21	+10	1.2	+45	1.50:1	1.35:1	12	0.500	FJ893	—	139.95
		1400-1900	27	24	±1.8	±2.2	+23	+10	1.0	+44	1.15:1	1.25:1	12	0.500			
		1900-2400	25	23	±1.0	±2.0	+23	+10	1.2	+45	1.20:1	1.30:1	12	0.500			
	ZRL-3500	700-1600	26	21	±2.2	±3.2	+21	+10	2.2	+43	1.40:1	1.30:1	12	0.575	FJ893	—	139.95
		1600-2600	21	16	±2.4	±3.5	+21	+10	2.4	+45	1.40:1	1.35:1	12	0.575			
		2600-3500	16	11	±2.4	±3.3	+21	+10	3.2	+45	1.30:1	1.30:1	12	0.575			

✦ NF gradually increases from 3.5 dB at 50 MHz to 10 dB typ. at 10 MHz

050718

HIGH POWER 1 to 1000 MHz

ZHL-WF



ZHL-2W ZHL-3W ZHL-5W ZHL-10W

up to 5W (+37 dBm) output

MODEL NO.	FREQ. (MHz)	GAIN (dB)		MAXIMUM POWER (dBm)		DYNAMIC RANGE		VSWR		DC POWER		CASE STYLE	CONNECTION	PRICE $ ea. Qty. (1-9)
	f_L-f_U	Min.	Flatness Max.	Output (1 dB Comp.)	Input (no damage)	NF (dB) Typ.	IP3 (dBm) Typ.	In	Out	Volt (V)	Current (A)	Note B		
ZHL-03-5WF	60-300	30	±1.0	+36	+10	4	+47	1.4:1	1.5:1	24	2.8	CP641	—	495.00
ZHL-1-2W	5-500	29	±1.0	+33	+10	12	+44	2:1	2:1	24	0.9	T35	—	525.00
ZHL-1000-3W	500-1000	38	±1.0*	+35**	0	9	+45	2:1	2.5:1	24	2.25	DDD338	—	695.00
ZHL-5W-1	5-500	40	±1.7	+37	0	4	+49	2:1	2.5:1	24	3.3	DDD131	—	995.00
ZHL-900-10W	480-900	19	±1.0	+38	+25	10	+50	2:1	2:1	24	5.5	DDD338	—	1995.00

* 1.5 dB over temperature range -20 to +65 deg. C.
** +37 dBm typical

NOTES:
☆ High IP3, very high IP2, 68-83 dBm typ.
✤ Hermetically sealed with field replaceable connectors.
▲ Available only with SMA connectors
■ Denotes 75 ohm model, for coax connector models 75 ohm BNC connectors are standard.
B. Connector types and case mounted options, case finishes are given in section 0, see "Case styles & outline drawings".
C. Prices and specifications subject to change without notice.
D. For Quality Control Procedures see Table of Contents, Section 0, "Mini-Circuits Guarantees Quality" article. For Environmental Specifications see Amplifier Selection Guide.
1. Absolute maximum power, voltage and current rating:
1a. 12V amps, 13 VDC (except ZVE-8G, 18VDC)
ZRL models, 17VDC, all ZRL models internally voltage regulated for 6.5 to 17V DC input voltage range, consult factory.
1b. 15V amps, 20 VDC
1c. 24V amps, 25 VDC (except ZHL-1A, 24.5 VDC; ZHL-03-5WF, 28 VDC)
2. Open load is not recommended, potentially can cause damage. With no load, derate max input power by 20 dB.

NSN GUIDE

MCL NO.	NSN
ZHL-1A	6130-01-088-2322
ZHL-1A(BNC)	5996-01-123-0792
ZHL-1A(SMA)	5996-01-201-4500
ZHL-2-12	5996-01-400-0753
ZHL-3A	5895-01-194-1718
ZHL-32A	5895-01-238-7973
ZHL-42(SMA)	5996-01-253-2397
ZHL-1042J	5996-01-412-3038
ZHL-2010(SMA)	5996-01-494-6112
ZHL-4240	5996-01-263-5871
ZHL-5W-1	6625-01-339-2539

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