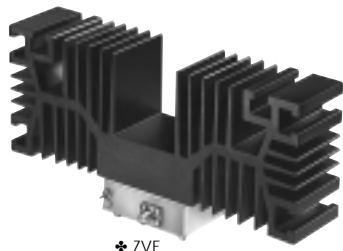


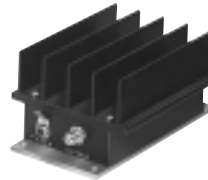
## MEDIUM HIGH POWER 50 kHz to 8 GHz



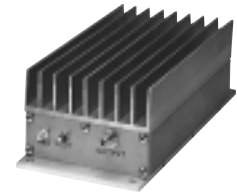
✦ ZVE



ZHL-case T34



ZHL-case S32



ZHL-42

up to 1W (+30 dBm) output

MODEL NO.	FREQ. (MHz) $f_L$ - $f_U$	GAIN (dB)		MAXIMUM POWER (dBm)		DYNAMIC RANGE		VSWR Max.		DC POWER		CASE STYLE Note B	PRICE \$ ea. Qty. (1-9)
		Min.	Flatness Max.	Output (1 dB Comp.) Min.	Input (no damage)	NF (dB) Typ.	IP3 (dBm) Typ.	In	Out	Volt (V)	Current (A)		
✦ 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

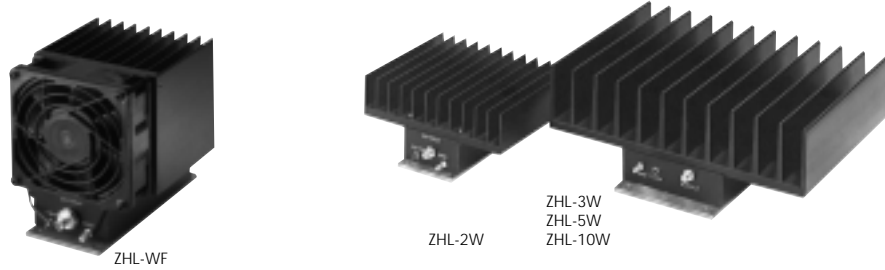
low noise, high IP3

MODEL NO.	FREQ. (MHz) $f_L$ - $f_U$	GAIN (dB)		MAXIMUM POWER (dBm)		DYNAMIC RANGE		VSWR Max.		DC POWER		CASE STYLE Note B	PRICE \$ ea. Qty. (1-9)		
		Typ.	Min.	Flatness Typ.	Max.	Output (1 dB Comp.) Min.	Input (no damage)	NF (dB) Typ.	IP3 (dBm) Typ.	In	Out			Volt (V)	Current (A)
■ 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
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	650-1400	32	27	±0.5	±1.0	+22	+10	0.8	+40	1.20:1	1.25:1	12	0.500		
	650-1000	29	25	±2.0	—	+22	+10	1.1	+40	1.25:1	1.20:1	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	+42	1.20:1	1.16:1	12	0.575	FJ893	— 119.95
	1650-2150	24	22	±0.5	±0.8	+23	+10	2.3	+42	1.20:1	1.16:1	12	0.575		
ZRL-2400LN	1000-2400	31	28	±1.6	±2.0	+21	+10	1.2	+45	1.50:1	1.35:1	12	0.500	FJ893	— 139.95
	1000-1400	27	24	±1.8	±2.2	+23	+10	1.0	+44	1.15:1	1.25:1	12	0.500		
	1400-1900	25	23	±1.0	±2.0	+23	+10	1.2	+45	1.20:1	1.30:1	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

# 50 & 75Ω

## High Power 1 to 1000 MHz



up to 5W (+37 dBm) output

MODEL NO.	FREQ. (MHz) $f_c - f_u$	GAIN (dB)		MAXIMUM POWER (dBm)		DYNAMIC RANGE		VSWR		DC POWER		CASE STYLE Note B	CONTOUR	PRICE \$ ea. Qty. (1-9)
		Min.	Flatness Max.	Output (1 dB Comp.)	Input (no damage)	NF (dB) Typ.	IP3 (dBm) Typ.	In	Out	Volt (V)	Current (A)			
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.

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