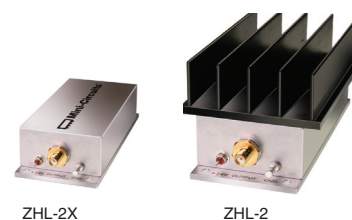


50Ω Medium High Power 10 to 1000 MHz**Features**

- wideband, 10 to 1000 MHz
- high IP3, +38 dBm typ.
- medium high power, 29 dBm min.

Applications

- VHF/UHF
- cellular
- instrumentation
- laboratory



CASE STYLE: T34

Connectors	Model
SMA	ZHL-2-S
SMA	ZHL-2X-S

Electrical Specifications

MODEL NO.	FREQ. (MHz)		GAIN (dB)		MAXIMUM POWER OUTPUT (dBm)		DYNAMIC RANGE		VSWR (:1) Max.		DC POWER	
	f _L	f _U	Min.	Flatness Max.	(1 dB Compr.) Min.	Input (no damage)	NF (dB) Typ.	IP3 (dBm) Typ.	In	Out	Volt (V) Nom.	Current (A) Max.
ZHL-2	10	1000	16	±1.0	+29	+15	9.0	+38	2.0	2.0	24	0.6
ZHL-2X*	10	1000	16	±1.0	+29	+15	9.0	+38	2.0	2.0	24	0.6

* Heat sink not included

Open load is not recommended, potentially can cause damage.

With no load derate max input power by 20 dB

To order without heat sink, add suffix X to model number. Alternative heat sinking and heat removal must be provided by the user to limit maximum temperature to 65°C, in order to ensure proper performance. For reference, this requires thermal resistance of user's external heat sink to be 1.35°C/W Max.

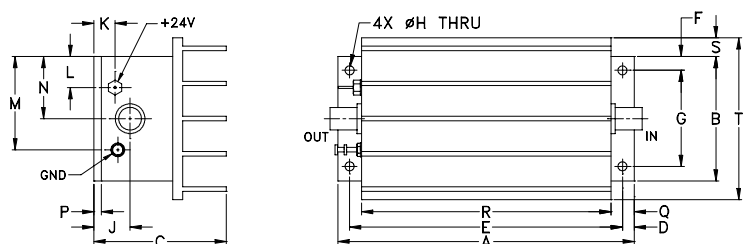
Maximum Ratings

Operating Temperature -20°C to 65°C

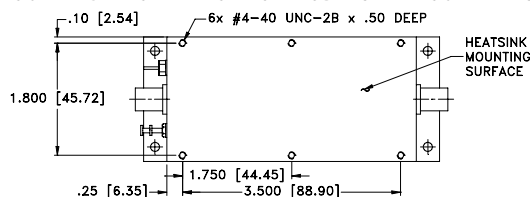
Storage Temperature -55°C to 100°C

DC Voltage +25V Max.

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

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
4.75	2.00	2.12	.19	4.375	.23	1.540	.144	.58	.34	.50	1.50	1.00	.12	.38	4.00	.30	2.60	grams*
120.65	50.80	53.85	4.83	111.13	5.84	39.12	3.66	14.73	8.64	12.70	38.10	25.40	3.05	9.65	101.60	7.62	66.04	440.0

*325 grams without heatsink

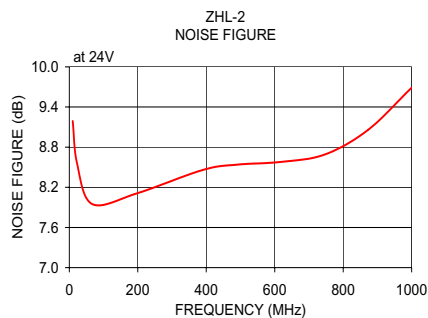
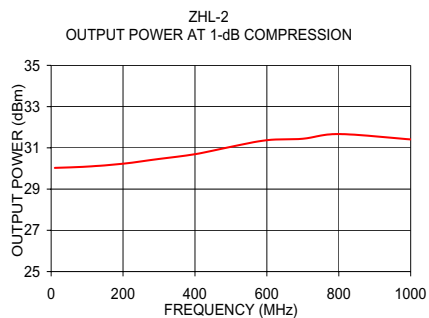
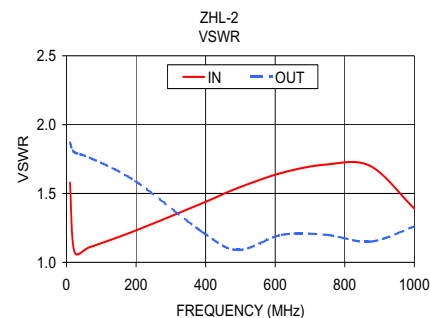
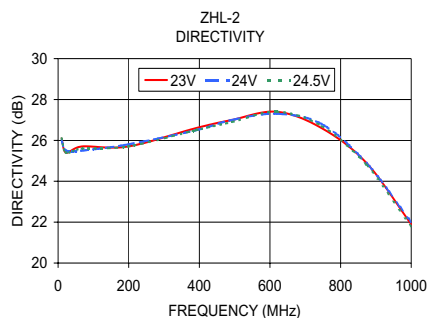
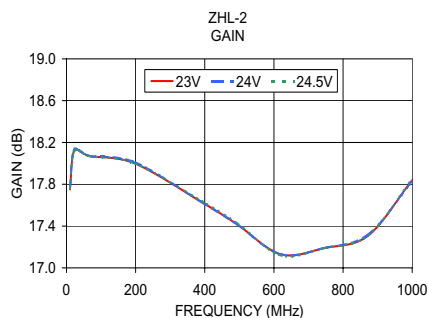
Notes

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.

B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.

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.jspwww.minicircuits.com P.O. Box 350166, Brooklyn, NY 11235-0003 (718) 934-4500 sales@minicircuits.comREV. E
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FREQ. (MHz)	GAIN (dB)			DIRECTIVITY (dB)			VSWR (:1)		NOISE FIGURE (dB)	FREQ. (MHz)	P _{OUT} at 1 dB COMPR. (dBm)
	23V	24V	24.5V	23V	24V	24.5V	IN	OUT			
10.00	17.75	17.77	17.76	26.10	26.00	26.10	1.58	1.87	9.19	10	30.03
22.60	18.12	18.13	18.12	25.40	25.50	25.40	1.08	1.80	8.56	100	30.09
66.80	18.07	18.07	18.07	25.70	25.50	25.60	1.11	1.76	7.95	200	30.23
197.60	18.00	18.01	18.00	25.70	25.80	25.70	1.23	1.59	8.11	300	30.46
390.80	17.63	17.63	17.64	26.60	26.50	26.50	1.43	1.22	8.46	400	30.69
492.30	17.42	17.42	17.43	27.00	27.00	26.90	1.54	1.09	8.54	500	31.05
619.20	17.13	17.13	17.12	27.40	27.30	27.40	1.65	1.20	8.58	600	31.37
746.20	17.19	17.19	17.19	26.60	26.80	26.70	1.71	1.20	8.69	700	31.44
873.10	17.31	17.32	17.31	24.90	24.90	24.80	1.70	1.15	9.06	800	31.67
1000.00	17.84	17.83	17.85	21.90	22.00	21.80	1.39	1.26	9.69	1000	31.41



Notes

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Typical Performance Data

FREQUENCY (MHz)	GAIN (dB)			DIRECTIVITY (dB)			VSWR IN (:1) 24V	VSWR OUT (:1) 24V	NOISE FIGURE (dB) 24V	Pout at 1dB Comp. (dBm) 24V
	23V	24V	24.5V	23V	24V	24.5V				
10.0	17.75	17.77	17.76	26.10	26.00	26.10	1.58	1.87	9.19	30.71
22.6	18.12	18.13	18.12	25.40	25.50	25.40	1.08	1.80	8.56	30.73
66.8	18.07	18.07	18.07	25.70	25.50	25.60	1.11	1.76	7.95	30.87
197.6	18.00	18.01	18.00	25.70	25.80	25.70	1.23	1.59	8.11	31.07
390.8	17.63	17.63	17.64	26.60	26.50	26.50	1.43	1.22	8.46	30.68
492.3	17.42	17.42	17.43	27.00	27.00	26.90	1.54	1.09	8.54	30.19
619.2	17.13	17.13	17.12	27.40	27.30	27.40	1.65	1.20	8.58	29.67
746.2	17.19	17.19	17.19	26.60	26.80	26.70	1.71	1.20	8.69	29.40
873.1	17.31	17.32	17.31	24.90	24.90	24.80	1.70	1.15	9.06	29.40
1000.0	17.84	17.83	17.85	21.90	22.00	21.80	1.39	1.26	9.69	29.28

REV. X1

ZHL-2

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IF/RF MICROWAVE COMPONENTS • ISO 9001 ISO 14001 AS 9100 CERTIFIED RoHS compliant

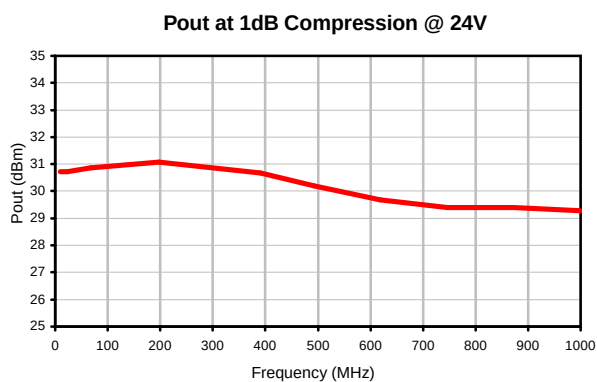
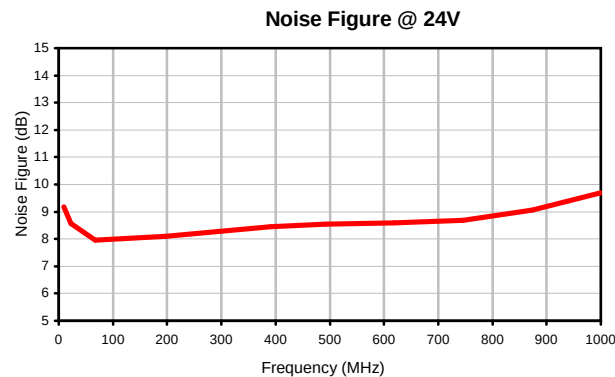
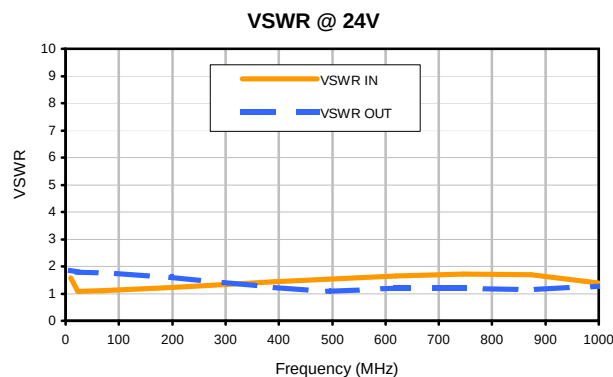
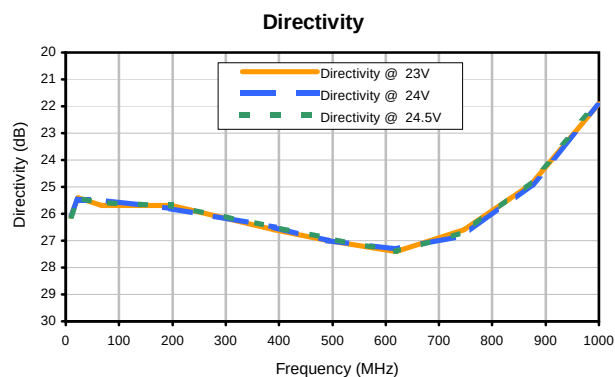
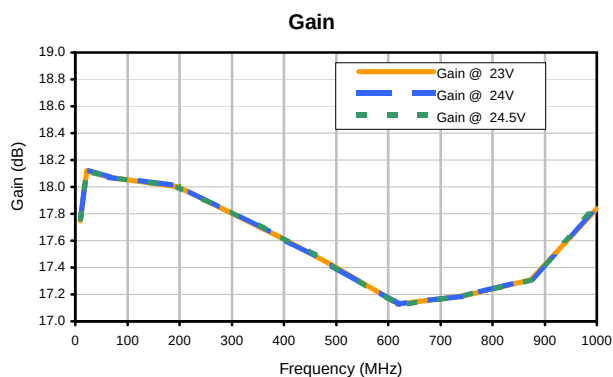
P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661



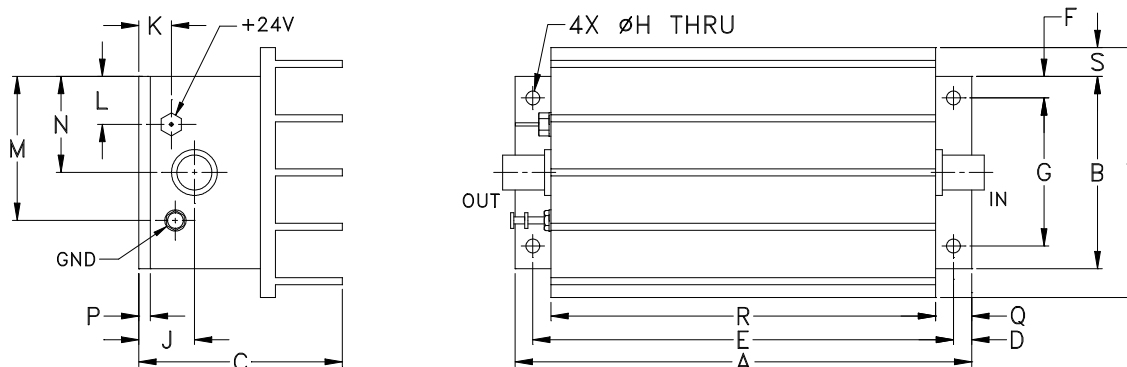
The Design Engineers Search Engine finds the model you need, Instantly • For detailed performance specs & shopping online see



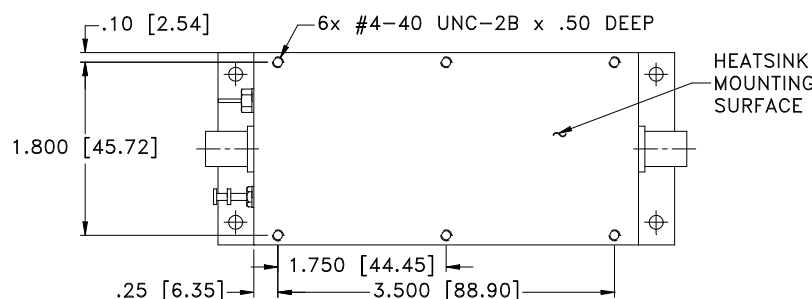
Typical Performance Curves



Outline Dimensions



MOUNTING INFORMATION FOR MODELS WITHOUT HEATSINK



CASE#	A	B	C	D	E	F	G	H	J	K	L	M	N
T34	4.75 (120.65)	2.00 (50.80)	2.12 (53.85)	.19 (4.83)	4.375 (111.13)	.23 (5.84)	1.540 (39.12)	.144 (3.66)	.58 (14.73)	.34 (8.64)	.50 (12.70)	1.50 (38.10)	1.00 (25.40)

CASE#	P	Q	R	S	T	WT. GRAMS	WT. WITHOUT HEATSINK GRAMS
T34	.12 (3.05)	.38 (9.65)	4.00 (101.60)	.30 (7.62)	2.60 (66.04)	440.0	325.0

Dimensions are in inches (mm). Tolerances: 2 Pl. $\pm .03$; 3 Pl. $\pm .015$

Notes:

- Case material: Aluminum alloy.
- Case finish and mounting bracket finish:
For RoHS Case Styles: Clear chemical conversion coating, non-chrome or trivalent chrome based.
- Heat sink finish: Black anodize.



P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 For detailed performance specs & shopping online see Mini-Circuits web site



The Design Engineers Search Engine Provides ACTUAL Data Instantly From MINI-CIRCUITS At: www.minicircuits.com

RF/IF MICROWAVE COMPONENTS



All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

Specification	Test/Inspection Condition	Reference/Spec
Operating Temperature	-20° to 65° C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 100° C Ambient Environment	Individual Model Data Sheet
Stabilization Bake	(non-operating) 125°C, 24 hours	- - -
Burn-in at Elevated Temp.	(DC on) 160 hours at 85° C	MIL-STD-202, Method 108
Thermal Shock	-55° to 100°C, 5 cycles	MIL-STD-202, Method 107, Condition A, except 100°C