

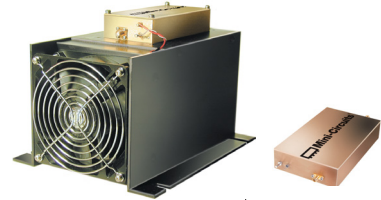
Coaxial High Power Amplifier

ZHL-10W-2G+

50Ω 10W 800 to 2000 MHz

Features

- High power, 10 Watt
- Low Current consumption, 4A typ.
- High IP3, +50 dBm typ.
- Usable over 700 to 2200 MHz
- No damage with an open or short output load under full CW output power



Model No.	ZHL-10W-2G+	ZHL-10W-2GX+
Case Style	BT1204	
Connectors	SMA	

Applications

- Cellular
- PCN
- GSM
- ISM
- Lab Test

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

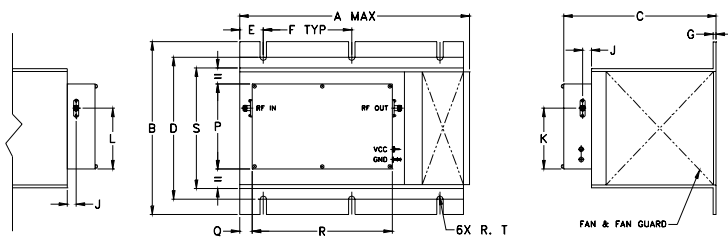
Electrical Specifications

Parameter	ZHL-10W-2G+			ZHL-10W-2GX+			Units
	Min.	Typ.	Max.	Min	Typ.	Max.	
Frequency Range	800		2000	800		2000	MHz
Gain	40	43	49	40	43	49	dB
Gain Flatness			±2.0			±2.0	dB
Output Power at 1dB compression	+39	+40		+39	+40		dBm
Saturated Output Power at 3dB compression	+40	+41		+40	+41		dBm
Noise Figure		7.0			7.0		dB
Output third order intercept point		+50			+50		dBm
Input VSWR		1.3			1.3		:1
Output VSWR		1.3			1.3		:1
DC Supply Voltage		24	28		24	28	V
Supply Current ¹			5.0			5.0	A

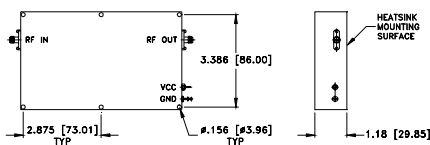
1. Power Supply should be capable of delivering 6A at start up.

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 75°C, in order to ensure proper performance. For reference, this requires thermal resistance of user's external heat sink to be 0.08°C/W max.

Outline Drawing



MOUNTING INFORMATION FOR MODELS WITHOUT HEATSINK



Maximum Ratings

Parameter	Ratings
Operating Temperature	-20°C to 65°C
Storage Temperature	-55°C to 100°C
Base Plate Temperature	75°C
Input RF Power (no damage)	+1 dBm

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

Outline Dimensions (inch mm)

A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	wt
9.85	7.3	6.5	6.00	1.00	3.75	.13		.37	2.56	2.56			3.58	.5	5.95	5.1	.135	grams
250.19	185.42	165.10	152.40	25.40	95.25	3.30		9.40	65.02	65.02			90.93	12.70	151.13	129.54	3.43	4265

*580 grams without heatsink

Notes

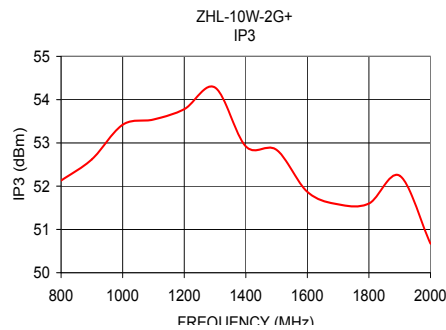
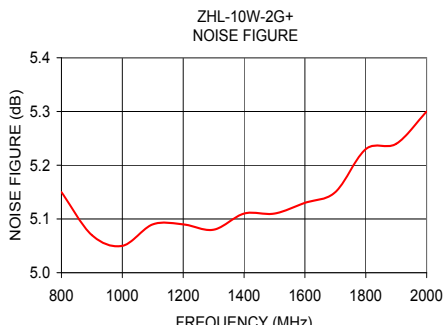
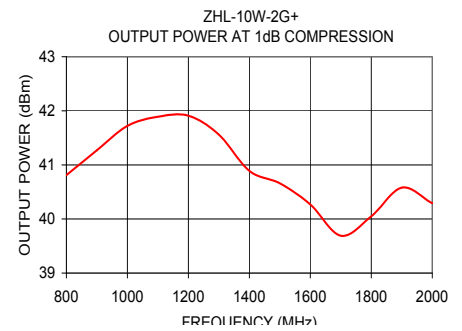
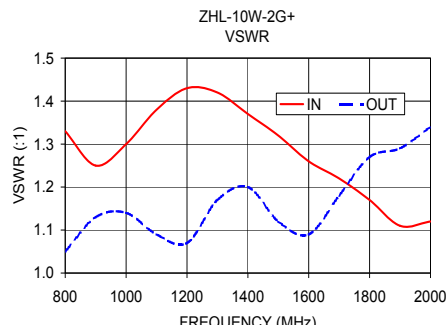
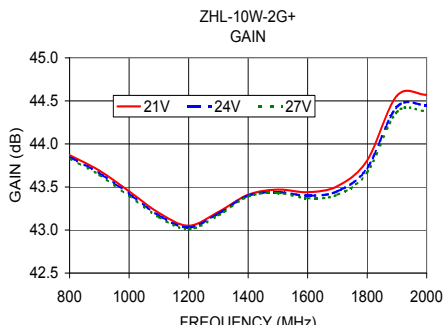
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FREQUENCY (MHz)	GAIN (dB)			VSWR (:1)		NOISE FIGURE (dB)	POUT at 1 dB COMPR. (dBm)	IP3 (dBm)
	21V	24V	27V	IN	OUT			
800.00	43.87	43.85	43.83	1.33	1.05	5.15	40.81	52.13
900.00	43.69	43.66	43.64	1.25	1.13	5.07	41.27	52.62
1000.00	43.45	43.42	43.40	1.30	1.14	5.05	41.72	53.42
1100.00	43.20	43.17	43.15	1.38	1.09	5.09	41.89	53.54
1200.00	43.05	43.03	43.01	1.43	1.07	5.09	41.91	53.78
1300.00	43.21	43.19	43.17	1.42	1.17	5.08	41.56	54.28
1400.00	43.41	43.40	43.39	1.37	1.20	5.11	40.89	52.92
1500.00	43.47	43.44	43.43	1.32	1.12	5.11	40.66	52.84
1600.00	43.44	43.40	43.37	1.26	1.09	5.13	40.27	51.87
1700.00	43.51	43.45	43.41	1.22	1.18	5.15	39.69	51.58
1800.00	43.81	43.72	43.67	1.17	1.27	5.23	40.05	51.60
1900.00	44.56	44.43	44.37	1.11	1.29	5.24	40.58	52.24
2000.00	44.57	44.45	44.38	1.12	1.34	5.30	40.29	50.67



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Amplifier

ZHL-10W-2G+

Typical Performance Data

FREQUENCY (MHz)	GAIN (dB) 24V	DIRECTIVITY (dB) 24V	VSWR IN (:1) 24V	VSWR OUT (:1) 24V	NOISE FIGURE (dB) 24V	Pout at 1dB Comp. (dBm) 24V	Output IP3 (dBm) 24V
800.0	43.85	44.70	1.33	1.05	5.15	40.81	52.13
900.0	43.66	47.50	1.25	1.13	5.07	41.27	52.62
1000.0	43.42	47.10	1.30	1.14	5.05	41.72	53.42
1100.0	43.17	53.40	1.38	1.09	5.09	41.89	53.54
1200.0	43.03	47.00	1.43	1.07	5.09	41.91	53.78
1300.0	43.19	46.10	1.42	1.17	5.08	41.56	54.28
1400.0	43.40	52.70	1.37	1.20	5.11	40.89	52.92
1500.0	43.44	49.40	1.32	1.12	5.11	40.66	52.84
1600.0	43.40	43.90	1.26	1.09	5.13	40.27	51.87
1700.0	43.45	50.50	1.22	1.18	5.15	39.69	51.58
1800.0	43.72	44.80	1.17	1.27	5.23	40.05	51.60
1900.0	44.43	39.40	1.11	1.29	5.24	40.58	52.24
2000.0	44.45	46.10	1.12	1.34	5.30	40.29	50.67

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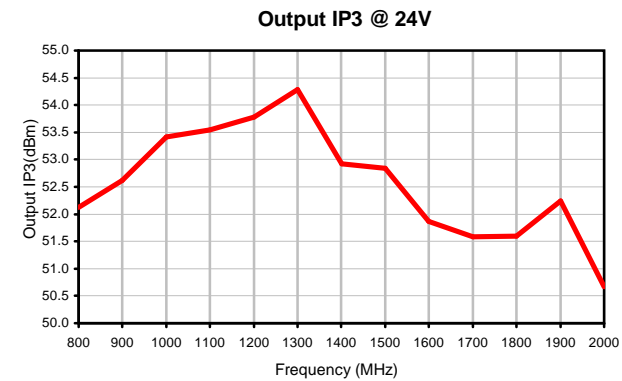
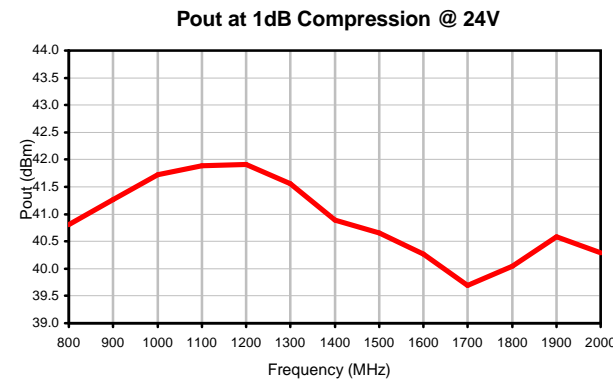
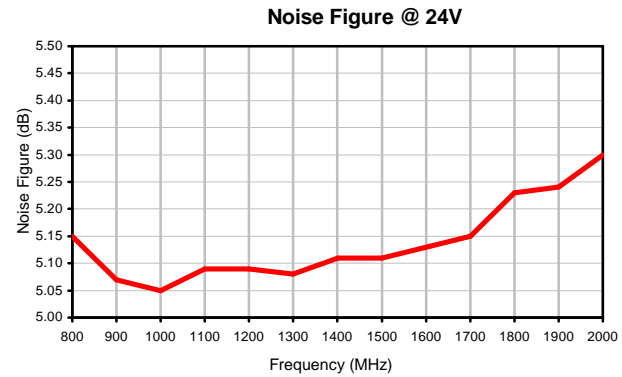
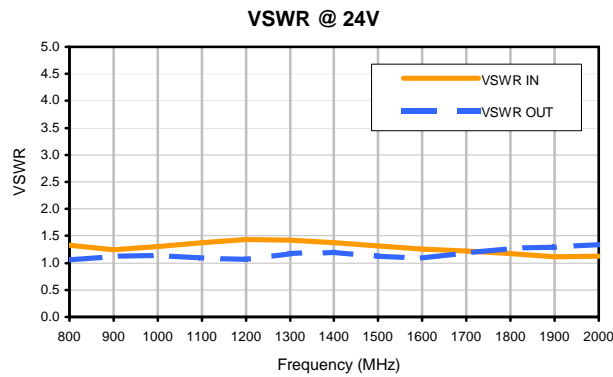
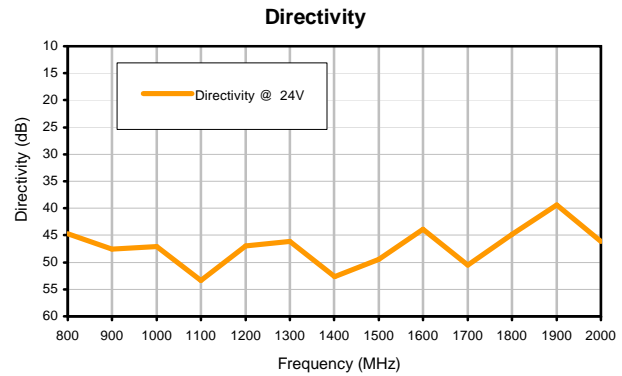
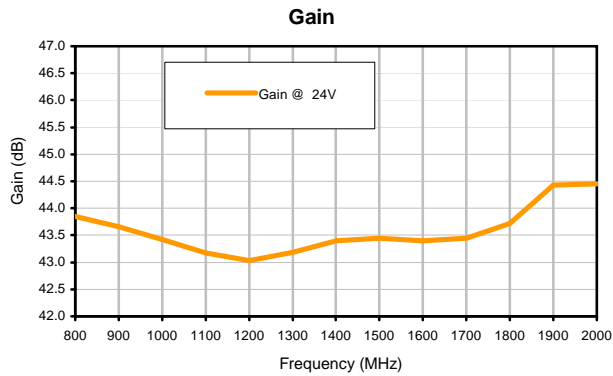
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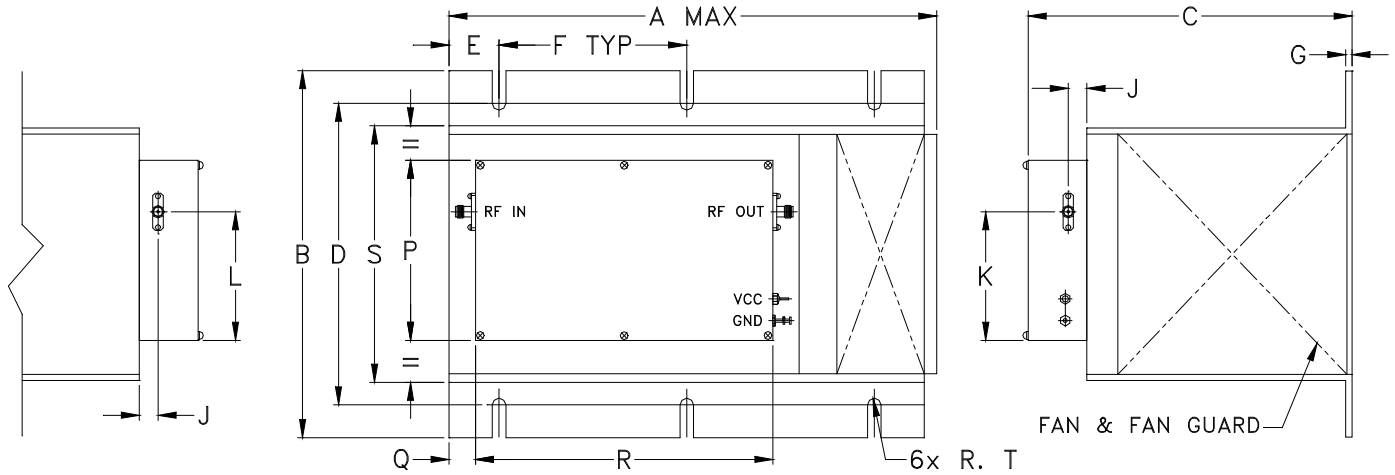
The Design Engineers Search Engine finds the model you need, Instantly • For detailed performance specs & shopping online see



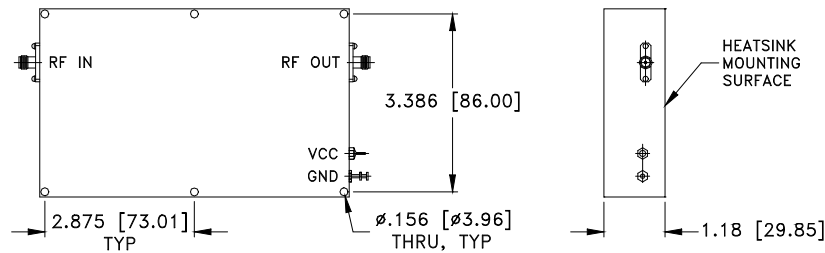
Typical Performance Curves



Outline Dimensions



MOUNTING INFORMATION FOR MODELS WITHOUT HEATSINK.



CASE#	A	B	C	D	E	F	G	H	J	K	L	M	N
BT1204	9.85 (250.19)	7.3 (185.42)	6.5 (165.10)	6.00 (152.40)	1.00 (25.40)	3.75 (95.25)	.13 (3.30)	- -	.37 (9.40)	2.56 (65.02)	2.56 (65.02)	- -	- -

CASE#	P	Q	R	S	T	WT, GRAM	WT WITHOUT HEATSINK, GRAM
BT1204	3.58 (90.93)	.5 (12.70)	5.95 (151.13)	5.1 (129.54)	.135 (3.43)	4265	580

Dimensions are in inches (mm). Tolerances: 1 Pl. $\pm .1$; 2 Pl. $\pm .03$; 3 Pl. $\pm .015$

Notes:

- Case material: Aluminum alloy.
- Finish:
For RoHS Case Styles: Clear Chemical conversion coating, non-chrome or trivalent chrome based.
- Heatsink finish: Black anodize.
- Refer to the individual model data sheet for the type of connectors available.
- Recommended screws for mounting model without heat sink on 3/32" thick sheet: #6-32, 1.50" Length.



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



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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