



Mini-Circuits

COAXIAL

High Power Amplifier

ZHL-0G62G5030+
ZHL-0G62G5030X+

50Ω 600 to 2500 MHz Broadband 30W SMA-Female

KEY FEATURES

- Broadband, 600 to 2500 MHz
- High Gain, 51 dB typ.
- High P1dB, +45 dBm, typ.
- High OIP3, +52 dBm typ.

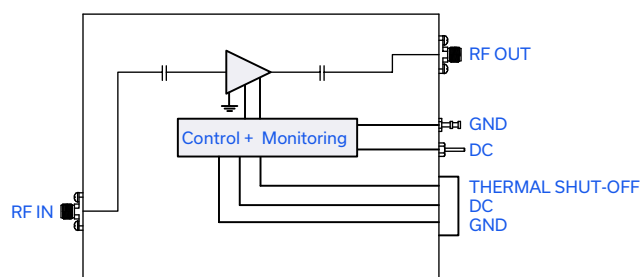


Generic photo used for illustration purposes only

APPLICATIONS

- Communication Systems
- R&D, Production, and OTA Test Systems
- Test & Measurement Equipment
- General Laboratory Applications

FUNCTIONAL DIAGRAM



PRODUCT OVERVIEW

The ZHL-0G62G5030(X)+ is a high power broadband amplifier providing more than 30W of output power with a typical small signal gain of 51dB over the 600 to 2500 MHz frequency band. The amplifier uses state-of-the-art semiconductor technology and can be used in a wide range of applications. A single supply voltage ensures ease of operation. The amplifier is made with a rugged aluminum housing and can be supplied with or without a heatsink.

ELECTRICAL SPECIFICATIONS AT $T_{\text{MOUNTING BASE}} = +25^{\circ}\text{C}$, $V_{\text{DC}} = +28\text{V}$

Parameter	Symbol	Condition	Min.	Typ.	Max.	Units
Frequency Range	f		600		2500	MHz
Small Signal Gain	G_{SS}	$P_{\text{IN}} = -50\text{dBm}$	45	51	55	dB
Small Signal Gain Flatness	$G_{\text{SS-FLAT}}$	$P_{\text{IN}} = -50\text{dBm}$		± 1.6	± 2.0	dB
Output Power at 1dB compression	$P_{1\text{dB}}$	$P_{\text{OUT-REF}} = +25\text{dBm}$	+43	+45		dBm
Output Power at 3dB compression	$P_{3\text{dB}}$	$P_{\text{OUT-REF}} = +25\text{dBm}$	+44	+47		dBm
Noise Figure	NF			7	10	dB
Output Third Order Intercept Point	OIP3	$P_{\text{OUT}} = +38\text{dBm/ton}$		+52		dBm
Input Return Loss	I-RL		9.5	16		dB
Output Return Loss	O-RL		9.5	21		dB
DC Supply Voltage	V_{DC}		27	28	29	V
Supply Current	I_{DC}	Without fan @ $P_{3\text{dB}}$		4.9	6.0	A
		With fan @ $P_{3\text{dB}}$		5.3	6.4	

Mini-Circuits

www.minicircuits.com P.O. Box 350166, Brooklyn, NY 11235-0003 (718) 934-4500 sales@minicircuits.com

REV. OR
ECO-019297
ZHL-0G62G5030+
MCL NY
230922

PAGE 1 OF 5



Mini-Circuits

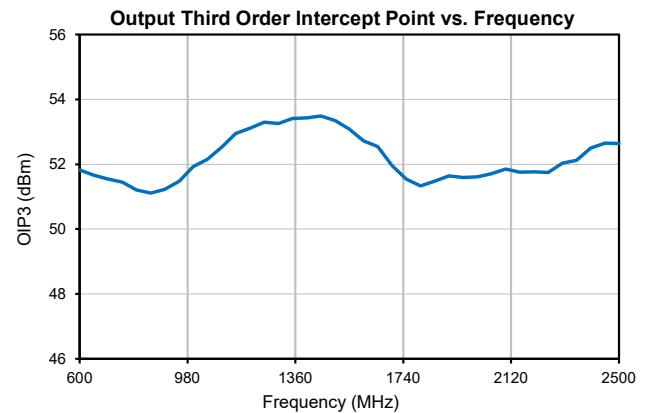
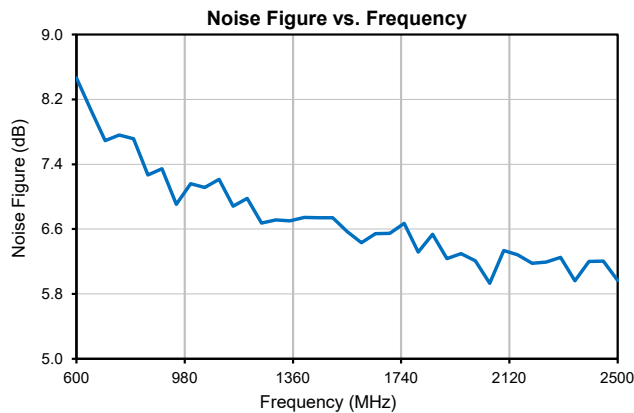
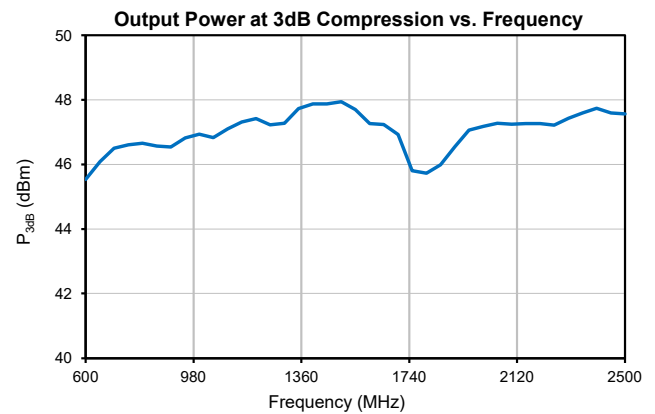
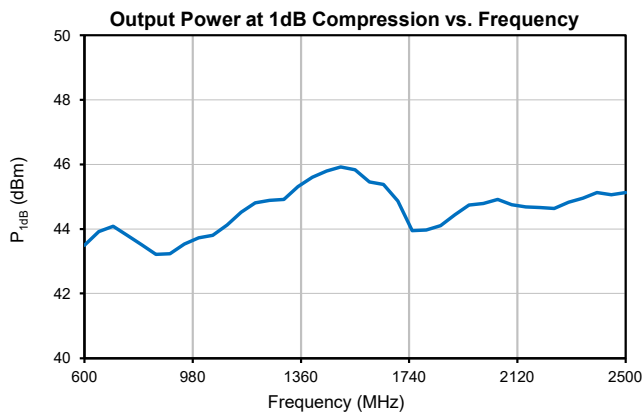
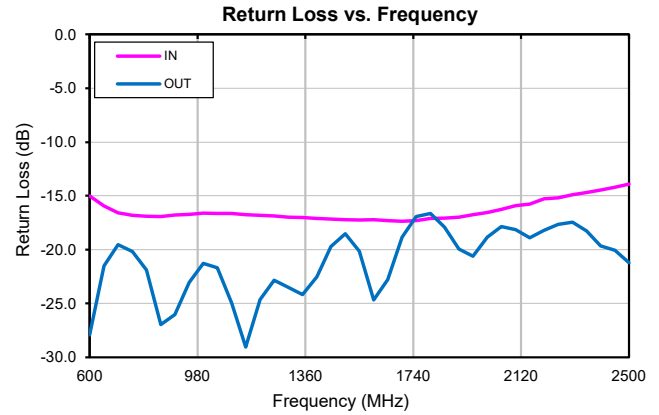
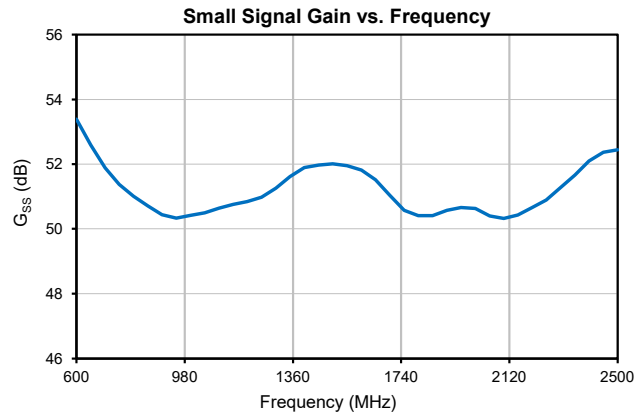
COAXIAL

High Power Amplifier

ZHL-0G62G5030+
ZHL-0G62G5030X+

50Ω 600 to 2500 MHz Broadband 30W SMA-Female

TYPICAL PERFORMANCE DATA AT $T_{\text{MOUNTINGBASE}} = +25^{\circ}\text{C}$, $V_{\text{DC}} = +28\text{V}$, 50 OHM





ABSOLUTE MAXIMUM RATINGS

Parameter	Ratings
Operating Temperature	ZHL-0G62G5030+ T_{AMBIENT} : -20 °C to +60 °C
	ZHL-0G62G5030X+ $T_{\text{MOUNTING BASE}}$: -20 °C to +80 °C
Storage Temperature	-55°C to +100°C
No damage with an open or short at P_{3dB} for 2 hours	
RF Input Power (no damage)	0 dBm
DC Operating Voltage	± 29 V

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

D-SUB MALE CONNECTOR PIN CONNECTIONS¹

Pin Function	Label on unit	Pin #	Color	Gauge
None	N/C1, N/C2, N/C3 N/C4, N/C5	1,2,4,5	None	None
<u>Thermal Shut-Off Indication</u> Shut-Off: +2 to +5V Not Shut-Off: 0 to +0.8V	TTL Out	3	Orange	26 AWG
DC Input (+)	Vdc	6,7	Red	18 AWG
Ground	GND	8,9	Black	18 AWG

1. Each amplifier will come packaged with an additional D-Sub connector for mating with the amplifier

DETERMINING MAXIMUM THERMAL RESISTANCE OF USERS' EXTERNAL HEAT SINK

$\text{MAXIMUM THERMAL RESISTANCE} = \frac{\text{MAXIMUM OPERATING CASE TEMP} - \text{MAXIMUM USER AMBIENT TEMP}}{\text{POWER DISSIPATION}}$	
Example:	MAXIMUM MOUNTING BASE TEMP = +80 °C (CHECK MAXIMUM RATINGS TABLE FOR THIS VALUE) MAXIMUM USER AMBIENT TEMP = +60 °C (USER DEFINED) POWER DISSIPATION = 144 WATTS (CHECK MAXIMUM RATINGS TABLE FOR THIS VALUE) THEN MAXIMUM ALLOWABLE THERMAL RESISTANCE = 0.14 °C/W



COAXIAL

High Power Amplifier

ZHL-0G62G5030+
ZHL-0G62G5030X+

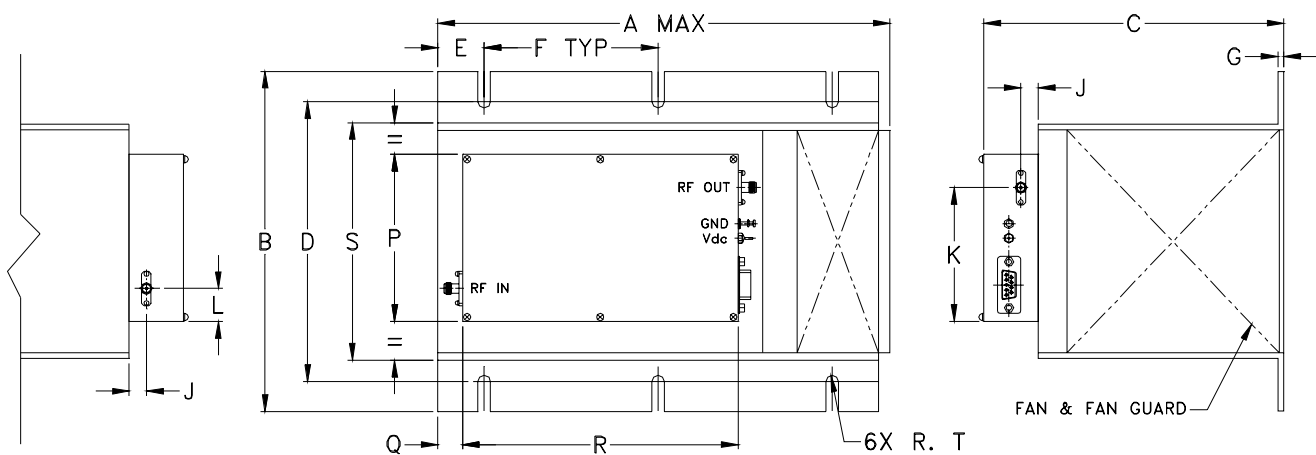
Mini-Circuits

50Ω 600 to 2500 MHz Broadband 30W SMA-Female

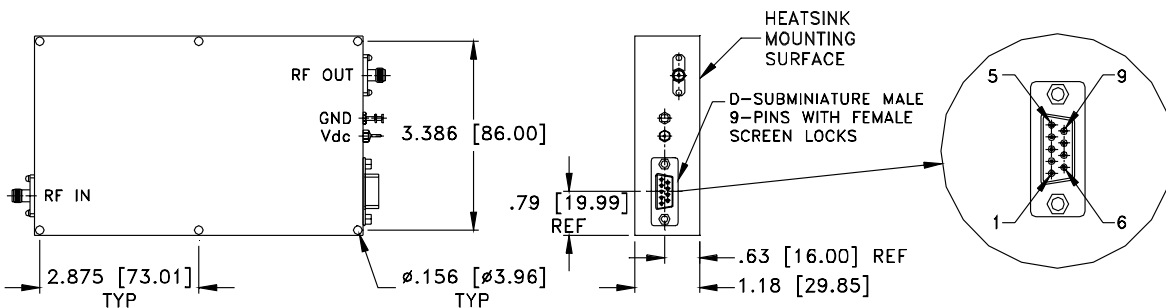
COAXIAL CONNECTIONS

IN (RF IN)	SMA-Female
OUT (RF OUT)	SMA-Female

CASE STYLE DRAWING WITH HEATSINK (ZHL-0G62G5030+)



CASE STYLE DRAWING WITHOUT HEATSINK (ZHL-0G62G5030X+)

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	1.00	3.75	.13	.37	2.87	.71	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	72.90	18.03	90.93	12.70	151.13	129.54	3.43	4265

*580 grams without heatsink

Mini-Circuits

www.minicircuits.com P.O. Box 350166, Brooklyn, NY 11235-0003 (718) 934-4500 sales@minicircuits.com

PAGE 4 OF 5



COAXIAL

High Power Amplifier

ZHL-0G62G5030+
ZHL-0G62G5030X+

50Ω 600 to 2500 MHz Broadband 30W SMA-Female

ADDITIONAL INFORMATION IS AVAILABLE ON OUR DASHBOARD.

Performance Data	Table
	Graphs
	S-Parameter (S2P Files) Data Set (.zip file)
RoHs Status	Compliant
Environmental Ratings	ENV23T15

ORDERING INFORMATION

Model No. Links	ZHL-0G62G5030+	ZHL-0G62G5030X+
Option	With heatsink	Without heatsink
Product Marking	ZHL-0G62G5030+	ZHL-0G62G5030X+
Case Style	BT1344	
Connector	IN (SMA-Female) / OUT (SMA-Female)	

NOTES

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

