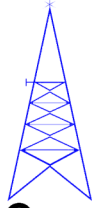


HD



Communications Corp.

HD30668

2-30MHz 50W Class A Class A/AB Amplifier

- ❖ Class A/AB 50W amplifier
- ❖ 2-30MHz bandwidth
- ❖ 50dB typical gain
- ❖ +/- 0.75dB typical gain flatness
- ❖ Temperature-compensated bias
- ❖ TTL disable
- ❖ Available with SMA connectors, heatsink and fan, or enclosed with DC supply



Shown with optional SMA connectors.

The HD30668 is a Class A/AB amplifier, excellent as a driver stage in military, commercial, industrial, or scientific systems. Its high gain allows it to be driven to full power from signal generator levels. It utilizes a combination of three active device technologies for optimum performance and ruggedness.

Specifications				
$V_{sup} = +28VDC, I_{DQ} = 1.05A, P_{out} = 50W, T_{base} = 25^{\circ}C, Z_{load} = 50\Omega$				
Parameter	Min	Typ	Max	Units
Freq. Range	2		30	MHz
P_{1dB}	50	See Figure 4		W
Input Power		-3	0	dBm
Gain	47	50		dB
Gain Flatness		+/-0.75	+/-1.5	dB
Drain Current		4.05	4.40	A
Efficiency	40	44		%
IRL		-30	-20	dB
f_2		-31	-23	dBc
f_3		-13	-10	dBc
IMD_3 50W PEP, $\Delta f = 100kHz$ See Fig. 2 for 10kHz		-39	-32	dBc
Dimensions	2.00 X 5.70 X 1.40 (50.80 X 144.78 X 35.56)			inch (mm)

Maximum Ratings

Operation beyond these ratings will void warranty.

Parameter	Value
V_{supply}	24-28VDC
Bias Current	1.5A
Drain Current	4.8A
Load Mismatch*	3:1
Baseplate Temperature	65°C
Storage Temp.	-40°C to 85°C

*All phase angles, 50W forward power, current limited to 4.8A for 5 seconds max.

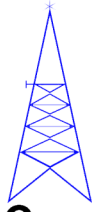
Option Ordering Info

Heatsink and fan	HD30668-HSF
Enclosure with DC supply and fan	HD30668
SMA connectors	HD30668-SMA

HD



Communications Corp.



HD30668

2-30MHz 50W Class A Class A/AB Amplifier

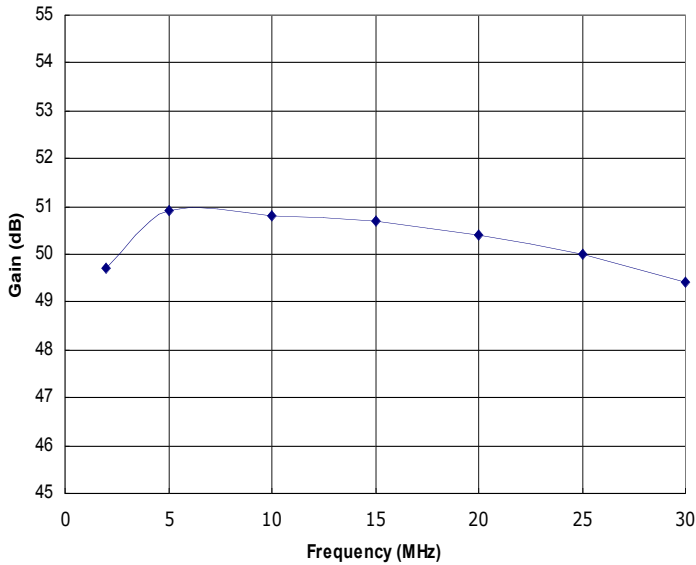


Figure 1: HD30668 Typical Gain @ $P_{out} = 50W$.

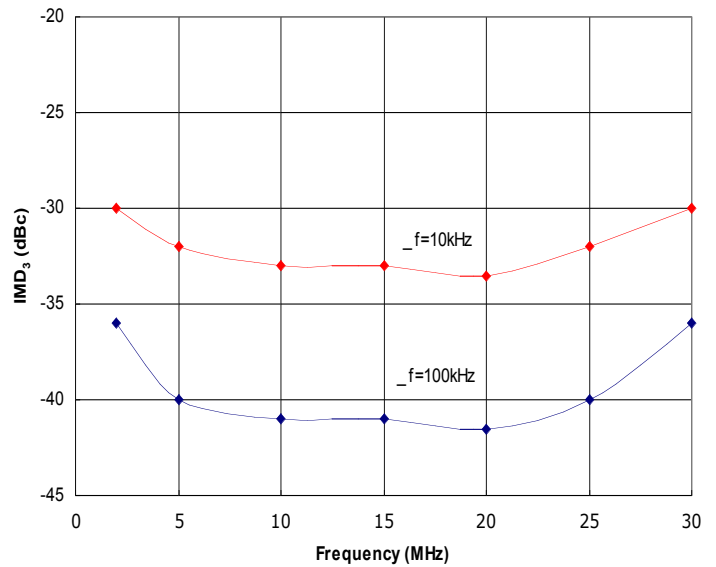


Figure 2: HD30668 Typical IMD₃ @ 50W PEP, $\Delta f = 10kHz$ and $\Delta f = 100kHz$. For even greater linearity, see our HD30670 Class A amp.

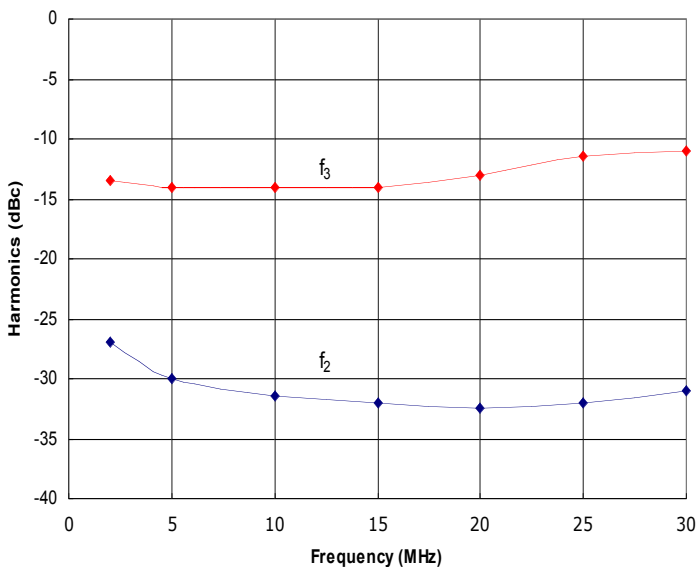


Figure 3: HD30668 Typical f_2 and f_3 @ $P_{out} = 50W$.

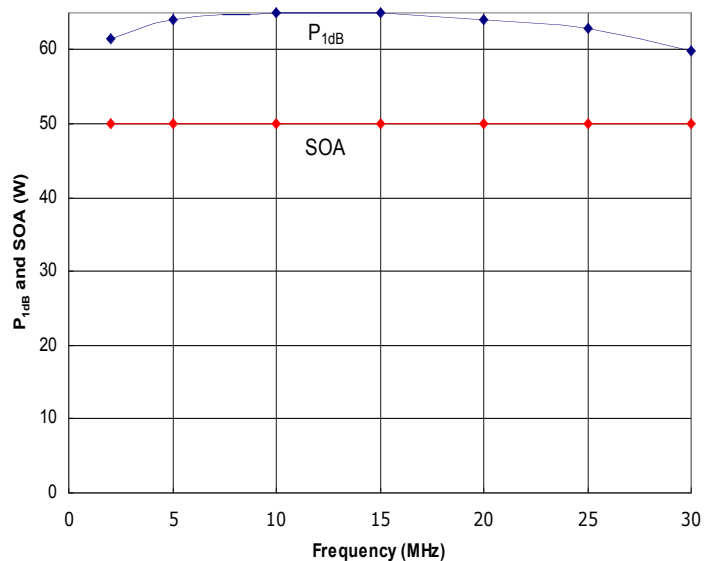
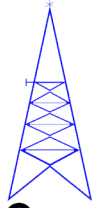


Figure 4: HD30668 Typical P_{1dB} and Safe Operating Area (SOA).

HD



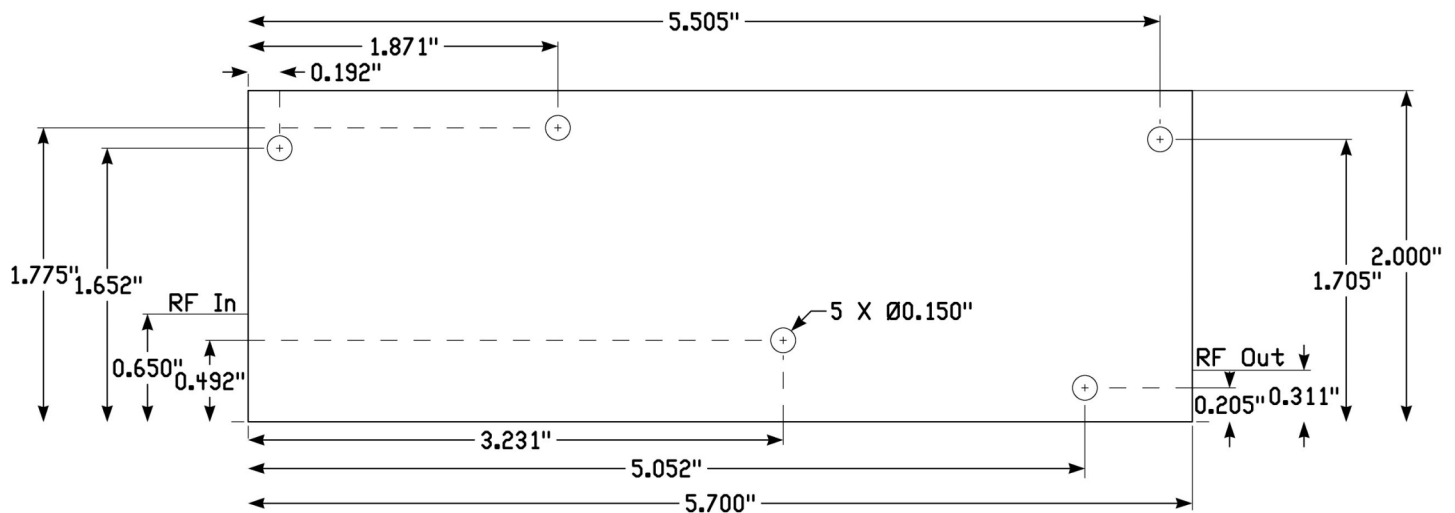
Communications Corp.



HD30668

**2-30MHz 50W Class A
Class A/AB Amplifier**

Amplifier Mounting Hole and RF Locations



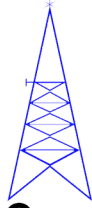
Instructions for Amplifier Use

- 1) If not supplied with a heatsink, apply a layer of high quality thermal grease (Wakefield Type 120 or equivalent) to the underside of the amplifier baseplate. Thinner is better, but ensure that when mounted to your heatsink, contact across the *entire* baseplate is made. Gaps and air bubbles will significantly reduce cooling, leading to possible amplifier damage. Use five #6-32 screws to mount the amplifier to your heatsink.
- 2) Guarantee sufficient airflow through the heatsink fins to keep the maximum baseplate temperature at or less than that specified in the Maximum Ratings section. Contact sales@rfcomp.com for details on how to qualify your heatsink's performance, if needed.
- 3) Connect a proper signal source to the RF IN connector (or via cable to RF IN pad), and desired load to the RF OUT connector (or via cable to RF OUT pad). Torque connectors, if present, to industry standards for the type supplied with the amplifier.
- 4) Connect DC V_{supply} to the terminal provided. Solder a ground wire to the GND pad. Ensure that the connections are of proper polarity, and within the voltage range in the Maximum Ratings section.
- 5) Apply DC power and sufficient RF drive to achieve desired output level. Ensure that the Safe Operating Area (SOA) power level indicated in Figure 4 is not exceeded, or amplifier damage may occur, and will void the warranty.
- 6) To disconnect the amplifier, first remove the RF drive, then DC power, then the RF connections.

HD



Communications Corp.



HD30668

**2-30MHz 50W Class A
Class A/AB Amplifier**

Contact us at sales@rfcomp.com with any questions, or for special options, testing requirements, and/or operating conditions not specified in this document.

Document Control

Revision	Date	Notes
Pre	4-26-2015	Preliminary release.
A	6-7-2015	Initial production release.