HD30840

Communications Corp.

40.68MHz 50W Class A/AB ISM Amplifier

- **Class A/AB 50W amplifier**
- **40.68MHz ISM band**
- **50dB typical gain**
- **Temperature-compensated bias**
- **>50% typical efficiency**
- **TTL disable**
- **Available with SMA connectors, heatsink and fan, enclosed with DC supply, or as a module**

Shown with optional SMA connectors.

The HD30840 is a high gain Class A/AB amplifier designed specifically for the 40.68MHz ISM band. It is ideal as a driver stage in industrial, commercial or scientific systems. It utilizes a combination of three active device technologies for optimum performance and ruggedness.

Specifications

V_{sup} = +28VDC, I_{DQ} = 0.75A, P_{out} = 50W, T_{base} = 25°C, Z_{load} = 50Ω

Parameter	Min	Typ	Max	Units
Freq. Range		40.68		MHz
P_{1dB}	50	60		W
Input Power		-3	0	dBm
Gain	47	50		dB
Gain Flatness		N/A		dB
Drain Current		3.4		A
Efficiency		53		%
IRL		-30	-20	dB
f_2		-27	-22	dBc
f_3		-14	-10	dBc
Dimensions	2.00 X 5.70 X 1.20 (50.80 X 144.78 X 30.48)			inch (mm)

Maximum Ratings

Operation beyond these ratings will void warranty.

Parameter	Value
V_{supply}	24-30VDC
Bias Current	1.0 A
Drain Current	4.7A
Load Mismatch*	3:1
Baseplate Temperature	70°C
Storage Temp.	-40°C to 85°C

*All phase angles, 50W forward power, current limited to 4.7A for 5 seconds max.

Option Ordering Info

Heatsink and fan	HD30840-HSF
Enclosure with DC supply and fan	HD30840
SMA connectors	HD30840-SMA
Module	HD30841

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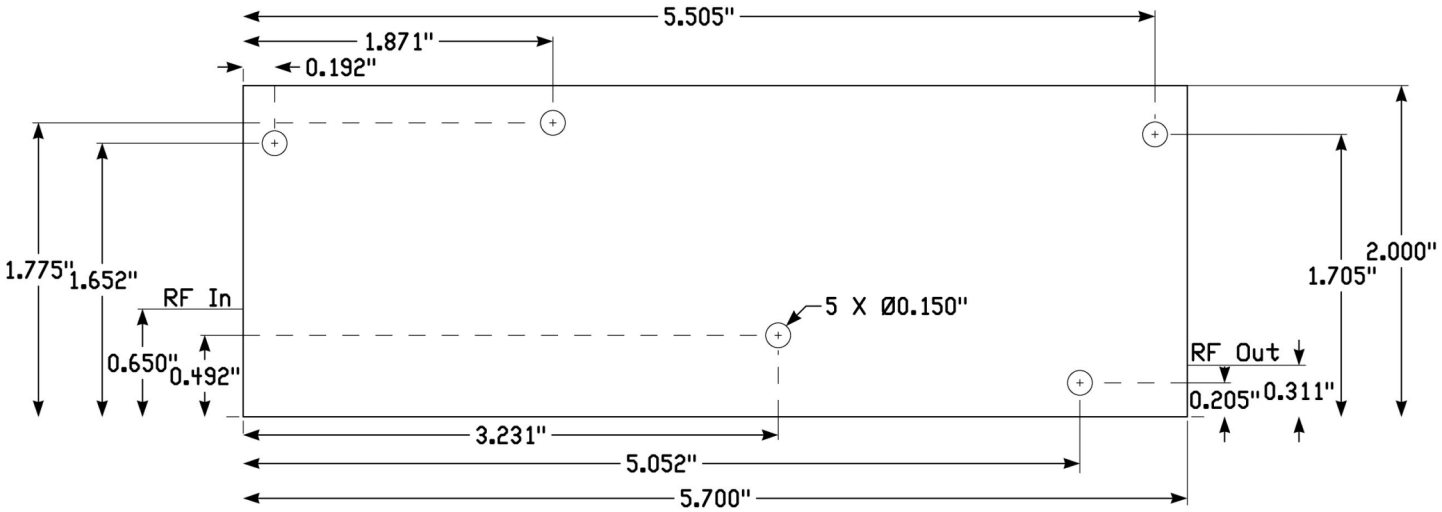
Amplifier Mounting Hole and RF Locations



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 us 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. Do not exceed 50W forward power, 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.

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
A	6-29-2015	Production release.