RF and Microwave Power Technology
BATTLE BORN AMPLIFIERS™

RFP30-88-50

30-88MHz 50W Class A/AB High Performance Amplifier

- **Class A/AB 50W amplifier**
- **30-88MHz bandwidth**
- **50dB typical gain**
- **+/- 0.8dB typical gain flatness**
- **Temperature-compensated bias**
- **TTL disable**
- **Available with heatsink and fan, or enclosed with DC supply and fan**

Representative image.

The RFP30-88-50 is a Class A/AB pallet amplifier, excellent as a standalone amplifier or as a driver stage in military, commercial, industrial, medical, 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, and is supplied with SMA input and output connectors.

Specifications

V_{sup} = +28VDC, I_{DQ} = 0.75A, P_{out} = 50W, T_{base} = 30°C, Z_{load} = 50Ω

Parameter	Min	Typ	Max	Units
Freq. Range	30		88	MHz
P_{1dB}	50	See Figure 4		W
Input Power		-3	0	dBm
Gain	47	50		dB
Gain Flatness		+/-0.8	+/-1.5	dB
Drain Current		4.0	4.6	A
Efficiency	39	45		%
IRL		-30	-20	dB
f_2		-25	-17	dBc
f_3		-17	-10	dBc
IMD_3 50W PEP, Δf=10kHz		-36	-28	dBc
Dimensions	2.10 X 5.80 X 1.20 (53.34 X 147.32 X 30.48)			inch (mm)

Maximum Ratings

Operation beyond these ratings will void warranty.

Parameter	Value
V_{supply}	24-28VDC
Bias Current	1.50A
Drain Current	4.8A
Load Mismatch*	3:1
Baseplate Temp.	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	RFP30-88-50-HSF
Enclosure with DC supply and fan (Mini-System)	RFPS30-88-50

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MADE IN AMERICA

Doc #100007, Rev B, 11-29-2017

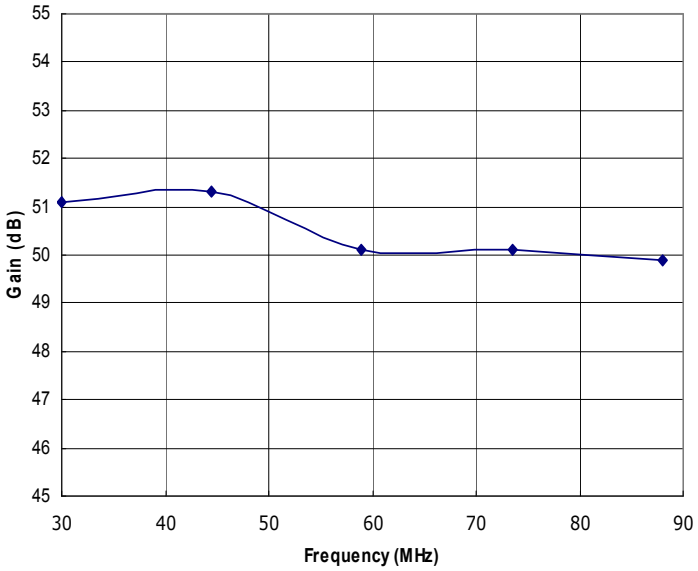


Figure 1: RFP30-88-50 Typical Gain @ P_{out} = 50W.

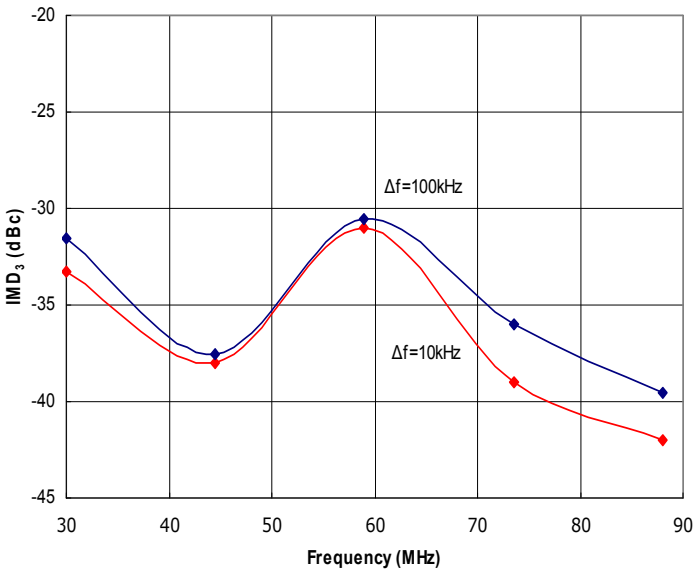


Figure 2: RFP30-88-50 Typical IMD_3, Δf=10kHz and 100kHz, @ P_{out} = 50W PEP. For improved linearity, see our RFP30-88-25 Class A amp.

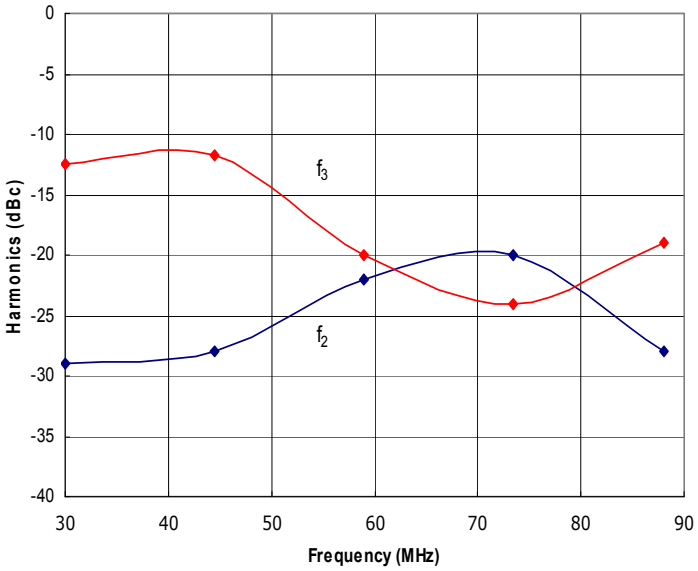


Figure 3: RFP30-88-50 Typical f_2 and f_3 @ P_{out} = 50W.

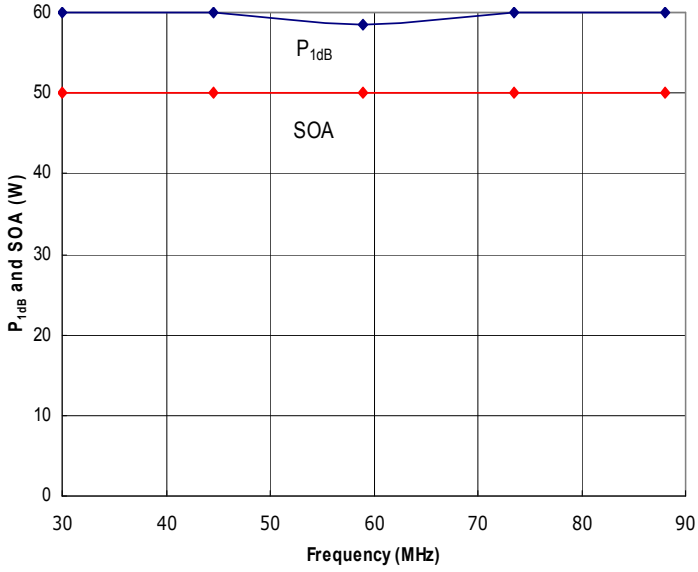
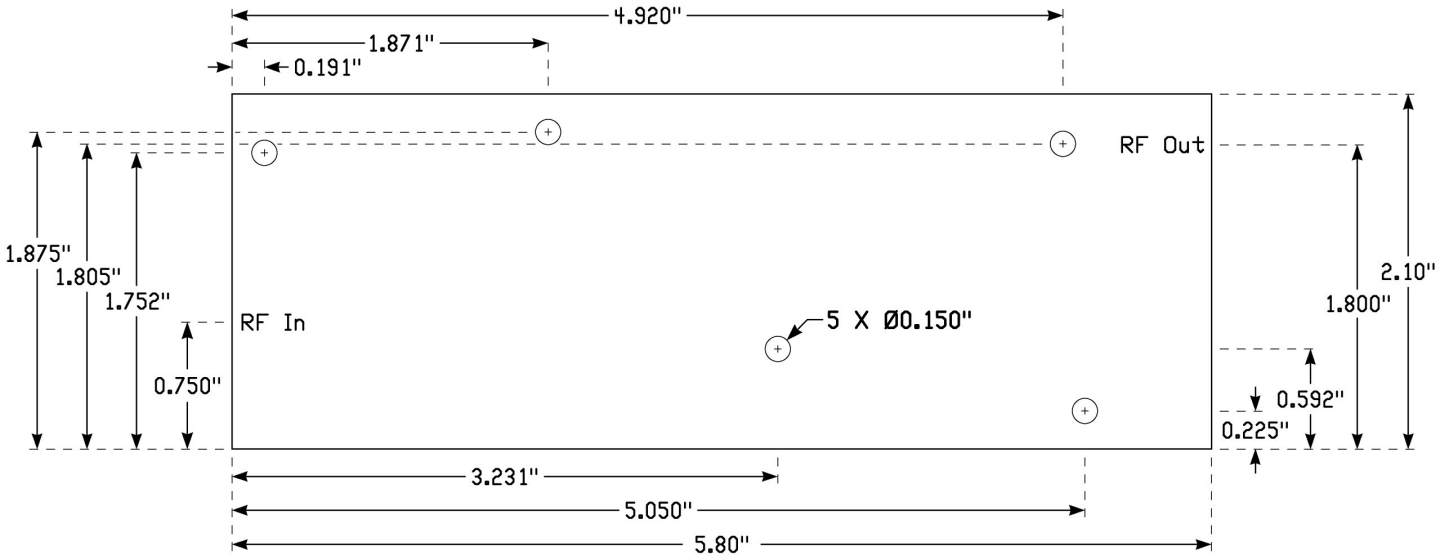


Figure 4: RFP30-88-50 Typical P_{1dB} and Safe Operating Area (SOA).

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 RFMPT for details on how to qualify your heatsink's performance, if needed.
3) Connect a proper signal source to the RF IN connector, and desired load to the RF OUT connector. Torque connectors 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.

Contact the factory at sales@rfmpt.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	6-29-2015	Production release.
B	11-29-2017	Updated mechanical specifications, options, company name and logo.