

**RFP13.56-100**

**13.56MHz 100W Class A/AB  
High Performance ISM Amplifier**

- ❖ **Class A/AB 100W amplifier**
- ❖ **13.56MHz ISM band**
- ❖ **52dB typical gain**
- ❖ **Temperature-compensated bias**
- ❖ **TTL disable**
- ❖ **Available with heatsink and fan, or enclosed with DC supply and fan**



Representative image.

The RFP13.56-100 is a high gain Class A/AB amplifier designed specifically for the 13.56MHz ISM band. It is ideal as a driver stage in high power industrial, commercial or scientific systems. It utilizes a combination of three active device technologies for optimum performance and ruggedness, and is supplied with SMA input and output connectors.

<b>Specifications</b>				
$V_{sup} = +28VDC, I_{DQ} = 0.9A, P_{out} = 100W, T_{base} = 35^{\circ}C, Z_{load} = 50\Omega$				
Parameter	Min	Typ	Max	Units
Freq. Range		13.56		MHz
$P_{1dB}$	100	120		W
Input Power		-2	0	dBm
Gain	50	52		dB
Gain Flatness		N/A		dB
Drain Current		7.1	7.3	A
Efficiency	49	50		%
IRL		-25	-14	dB
$f_2$		-32	-26	dBc
$f_3$		-13	-11	dBc
Dimensions	2.10 X 5.80 X 1.40 (53.34 X 147.32 X 35.56)			inch (mm)

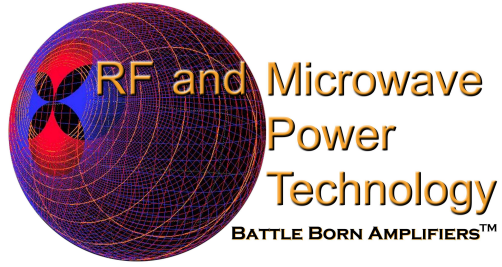
<b>Maximum Ratings</b>	
Operation beyond these ratings will void warranty.	
Parameter	Value
$V_{supply}$	24-28VDC
Bias Current	1.4A
Drain Current	8.2A
Load Mismatch*	3:1
Operating Baseplate Temperature	+5°C to +65°C (Non-condensing)
Storage Temperature	-40°C to +85°C

\*All phase angles, 100W forward power, current limited to 8.2A for 10 seconds max.

<b>Option Ordering Info</b>	
Heatsink and fan	RFP13.56-100-HSF
Enclosure with DC supply and fan (Mini-System)	RFPS13.56-100

RF and Microwave Power Technology, LLC • 2380 Solitude Drive • Reno, NV 89511 USA  
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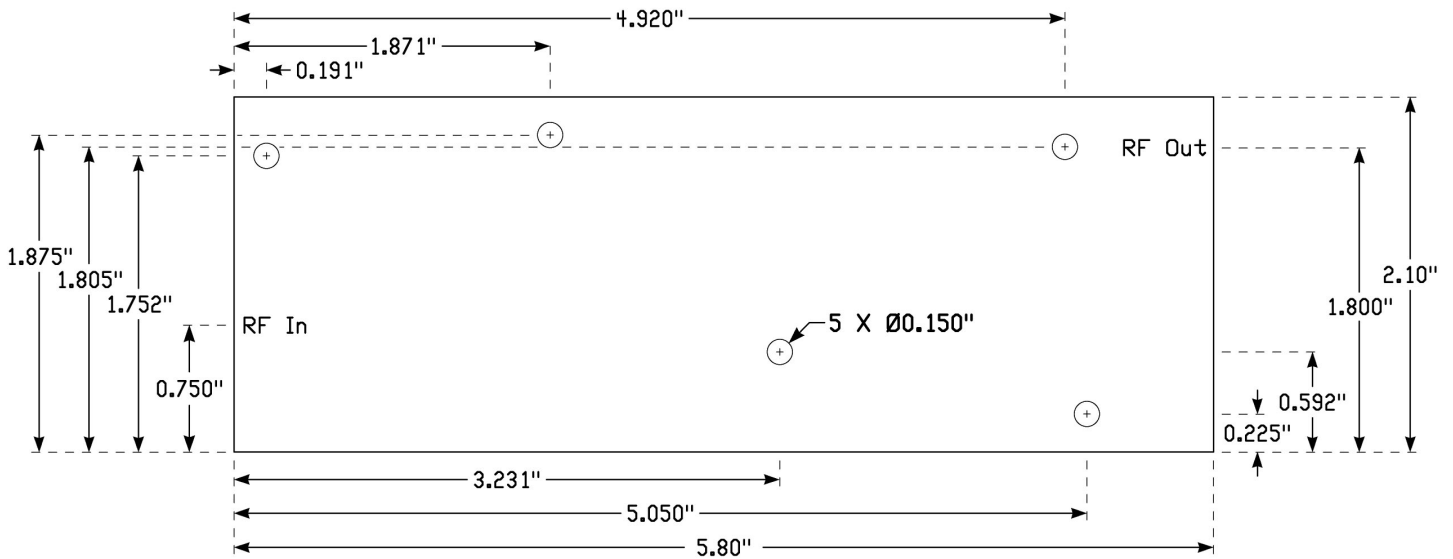




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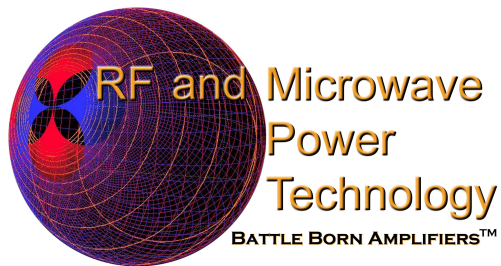
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**Amplifier Mounting Hole and RF Locations**



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**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 directly under the output transistor 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, then sufficient RF drive to achieve desired output level. Do not exceed 100W forward power, or amplifier damage may occur, and will void the warranty.
- 6) Disable is active high at +5VDC, and disables bias to the driver and output transistors. The MMIC is powered whenever Vcc is applied to the amplifier.
- 7) To disconnect the amplifier, first remove the RF drive, then DC power, then the RF connections.

Contact the factory at [sales@rfmpt.com](mailto: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
A	6-21-2018	Initial release.

