

RFP40.68-400XR

40.68MHz 400W Class A/AB High Performance Amplifier

- ❖ **Class A/AB 400W XR-rated amplifier**
- ❖ **40.68MHz ISM band**
- ❖ **59dB typical gain**
- ❖ **68% typical output stage efficiency**
- ❖ **Temperature-compensated bias**
- ❖ **50 ohms input/output**
- ❖ **Includes disable pad and SMA/N connectors**



The RFP40.68-400XR is a high power, high gain Class A/AB pallet amplifier. Its XR rating ensures ruggedness for driving mismatched loads in demanding 40.68MHz ISM applications. With a 0dBm input power requirement, it eliminates the need for a separate driver, making it a very cost effective solution for medium power systems applications. It is supplied on a nickel plated copper baseplate with SMA input and N output connectors.

| Specifications | | | | |
|--|--|-------|------|--------------|
| $V_{supply} = +48VDC, I_{DQ} = 1.25A, P_{out} = 400W, T_{base} = 50^{\circ}C, Z_{load} = 50\Omega$ | | | | |
| Parameter | Min | Typ | Max | Units |
| Freq. Range | 39 | 40.68 | 43 | MHz |
| Output Power | 375 | 400 | | W |
| Input Power | | -3 | 0 | dBm |
| Gain | 56 | 59 | | dB |
| Gain Flatness | | N/A | | dB |
| Drain Current (Overall PA) | | 12.6 | 13.5 | A |
| Efficiency | 62 | 66 | | % |
| IRL | | -20 | -14 | dB |
| f_2 | | -37 | -30 | dBc |
| f_3 | | -11 | -8 | dBc |
| Dimensions | 3.00 X 6.50 X 1.90 (76.20 X 165.10 X 48.26) | | | inch (mm) |

| Maximum Ratings | |
|--|---------------|
| Operation beyond these ratings may damage amplifier. | |
| Parameter | Value |
| V_{supply} | 46-50VDC |
| Bias Current | 2.0A |
| Drain Current | 15A |
| Load Mismatch* | 10:1 |
| Baseplate Temperature | 65°C |
| Storage Temperature | -40°C to 85°C |

*All phase angles, 400W forward power, current limited to 15A for 3 seconds max.

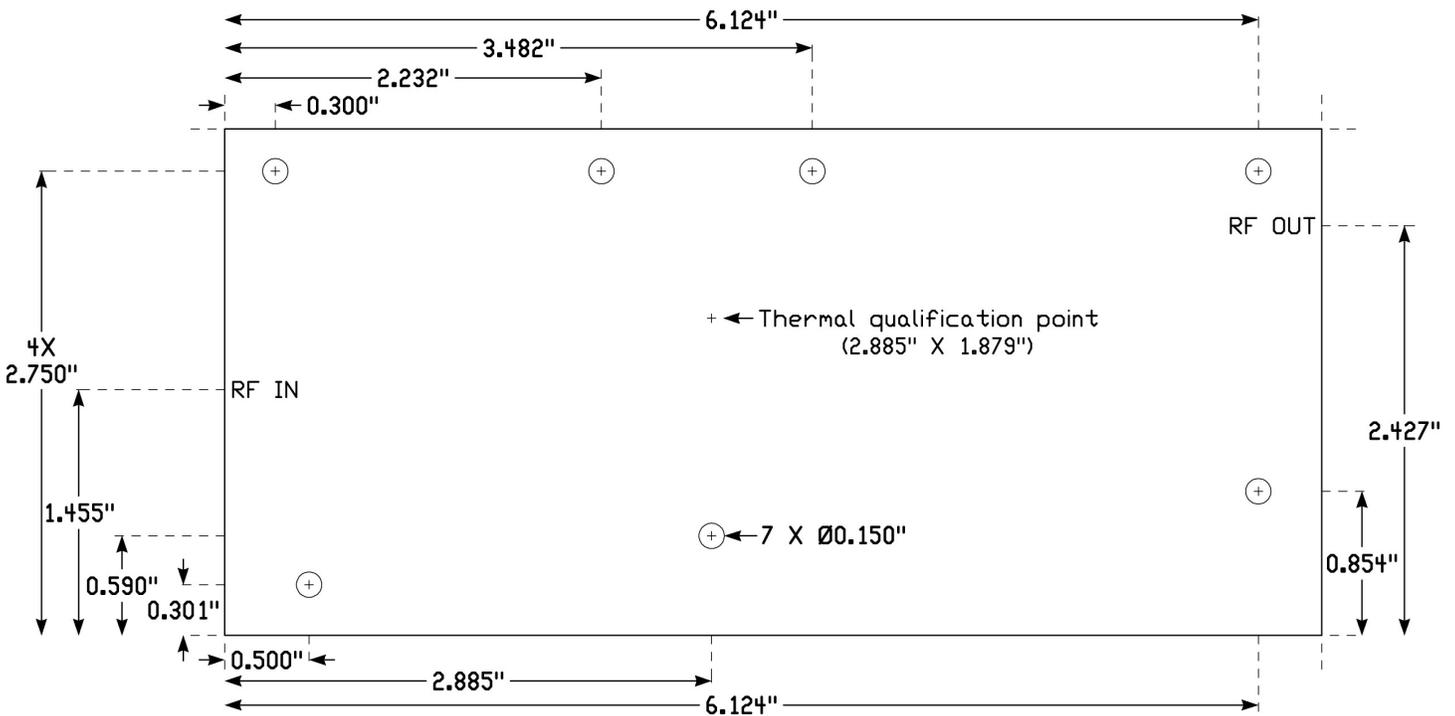
| Option Ordering Info |
|--|
| Contact RFMPT to discuss special requirements. |

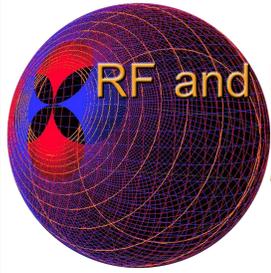
RF and Microwave Power Technology, LLC • 2380 Solitude Drive • Reno, NV 89511 USA
 (775) 842-3280 • sales@rfmpt.com • www.rfmpt.com
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Amplifier Mounting Hole and RF Locations





Instructions for Amplifier Use

- 1) Apply a layer of high quality thermal grease (Wakefield Type 120 or better) 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 seven #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. Refer to the drawing on Page 2 for the point at which to perform thermal qualification testing. 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 types supplied with the amplifier.
- 4) Connect DC V_{supply} and Ground wires to the terminal and pad provided. 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 400W forward power or the Load Mismatch specification on Page 1, 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 |
|----------|---------|------------------|
| A | 6-29-17 | Initial release. |
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