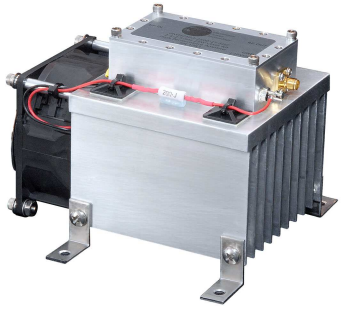
MWM2400-2500-25

2.4-2.5GHz 25W Class AB High Performance Amplifier

- **Class AB 25W ISM amplifier**
- **2.4-2.5GHz bandwidth**
- **High gain: >19dB typical**
- **+/- 0.3dB typical gain flatness**
- **Temperature-compensated bias**
- **50 ohms input/output**
- **Available with disable, heatsink and fan, or as a Mini-System**



Shown with optional heatsink and fan.

The MWM2400-2500-25 is a compact Class AB ISM amplifier module, excellent as a driver or pre-driver in high power RF energy systems. It utilizes a latest generation LDMOS transistor, offering high gain, ruggedness, and greater than 50% typical efficiency.

Specifications

V_{sup} = +28VDC, I_{DQ} = 0.25A, P_{out} = 25W, T_{base} = 25°C, Z_{load} = 50Ω

Parameter	Min	Typ	Max	Units
Freq. Range	2400		2500	MHz
P_{1dB}	25	30		W
Input Power		24.5	27	dBm
Gain	17	19.5		dB
Gain Flatness		+/-0.3	+/-0.6	dB
Drain Current		1.6	1.8	A
Efficiency	50	56		%
IRL		-16	-10	dB
f_2		-28	-21	dBc
f_3		-57	-47	dBc
Dimensions	1.98 X 3.30 X 1.00 (50.29 X 83.82 X 25.40)			inch (mm)

Maximum Ratings

Operation beyond these ratings will void warranty.

Parameter	Value
V_{supply}	24-28VDC
Bias Current	0.30
Supply Current	2.1A
Load Mismatch*	3:1
Housing Base Temperature	70°C
Storage Temp.	-40°C to 85°C

*All phase angles, 25W forward power, current limited to 2.1A.

Option Ordering Info

Disable	MWM2400-2500-25-DIS
Heatsink and fan	MWM2400-2500-25-HSF
Mini-System	MWMS2400-2500-25

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Doc #100058, Rev A, 10-8-2016

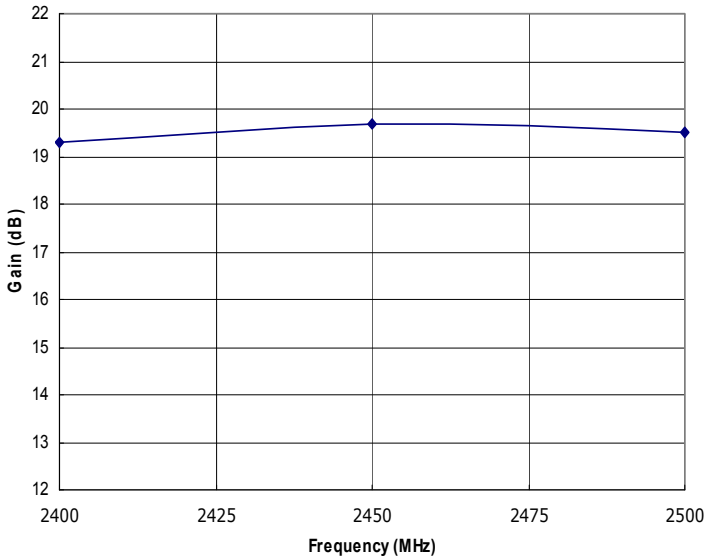

Figure 1: MWM2400-2500-25 Typical Gain @ P_{out}=25W.

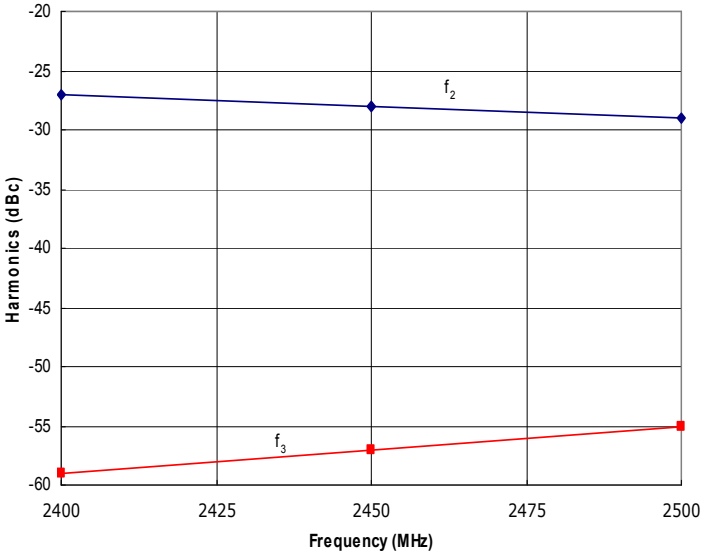

Figure 2: MWM2400-2500-25 Typical f_2 and f_3 @ P_{out}=25W.

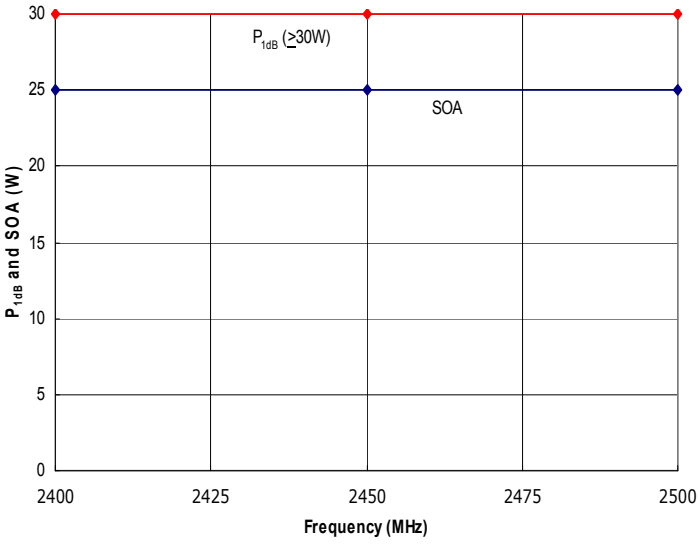

Figure 3: MWM2400-2500-25 Typical P_{1dB} and Safe Operating Area (SOA). Do not exceed the SOA shown above without first contacting RFMPT to discuss your application.

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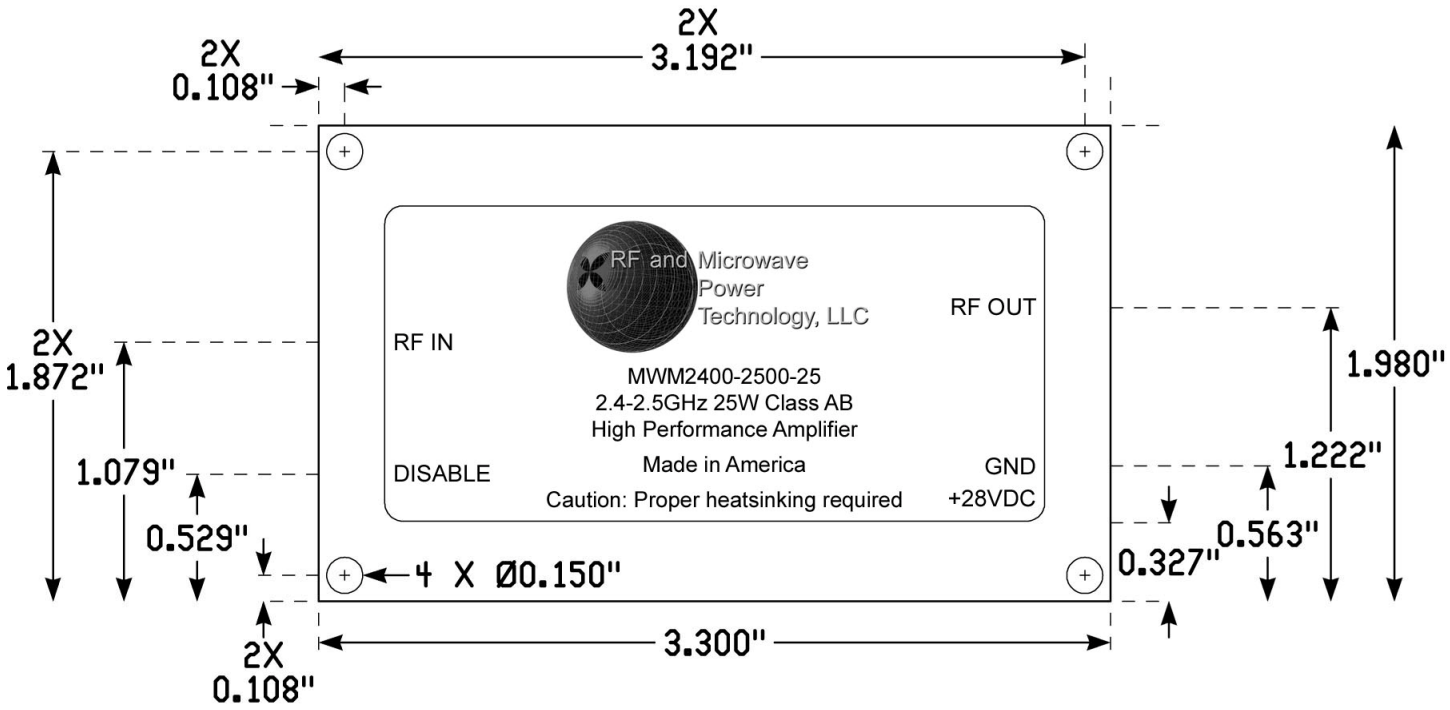
Amplifier Mounting Hole and Signal Locations



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Important Note:
Do not apply DC power to this amplifier with the RF IN or RF OUT connectors unterminated. The abundance of 2.4GHz signals in the environment could cause undesired amplifier operation if they are allowed to enter the amplifier through an unterminated port.

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 housing. Thinner is better, but ensure that when mounted to your heatsink, contact across the *entire* module base is made. Gaps and air bubbles will significantly reduce cooling, leading to possible amplifier damage. Use four #6-32 screws to mount the amplifier to your heatsink.
2) Guarantee sufficient airflow through the heatsink fins to keep the maximum housing base 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} and Ground wires to the terminals provided. 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 25W output power without first contacting RFMPT to discuss your application.
6) To disconnect the amplifier, first remove the RF drive, then DC power, then the RF connections.

Contact the factory at support@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	5-30-2016	Preliminary release.
A	10-8-16	Production release. Updated picture and data, and added mounting pattern.

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