

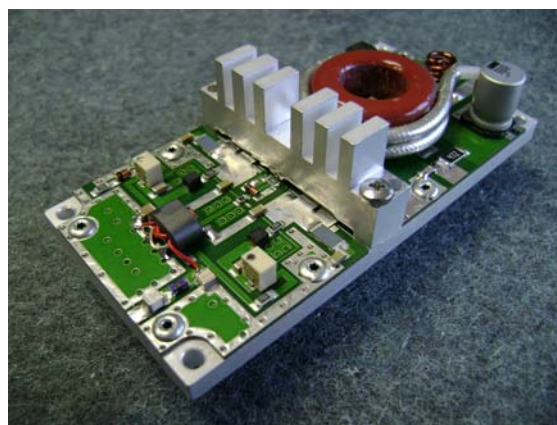
PRELIMINARY



550 W - FM Amplifier

Designed for FM radio transposers and transmitters, this amplifier incorporates microstrip technology and LDMOS device to enhance ruggedness and reliability. The FM550-108 has the smallest footprint available on the market for > 500W output power and can be considered the state of art of the FM pallet amplifiers.

- 87.5 ÷ 108 MHz
- 48 Volts
- Input/Output 50 Ω
- Pout : 550 W min
- I quiescent 200mA
- Gain : 20 dB typ
- Class B
- Devices: MRF6V2300NR1 or equivalent
- Configuration Push pull
- Connectorized version available on request



Dimension (L x W x H): 101 x 45 x 38mm [4" x 1.8" x 1.5"]

This picture is a mere example, it does not bind the provided product

ABSOLUTE MAXIMUM RATINGS (Device Flange T = 70 °C)

Symbol	Parameter	Value	Unit
V _s	Drain Voltage Supply	63	V dc
I _s	Supply Current	24	A dc
VSWR	Load Mismatch (all phase angles, T _c =40°C, I _d =10A)	3:1	
T _{stg}	Storage Temperature Range	-30 + 100	°C
T _c	Operating Temperature	-10 +60	°C

ELECTRICAL SPECIFICATIONS (Base Plate T. = 45 °C, 50 Ω loaded, V_d = 48 V)

ELECTRICAL CHARACTERISTICS				
Characteristics	Min	Typ.	Max	Unit
Operating Frequency Range	87.5		108	MHz
Fundamental Output Power	550			W
Power Input		5.5	7.0	W
Power Gain (550W output)	19	20		dB
I Drain		14	15.5	A
Collector Efficiency (Load 50 Ω)	75	82		%
Input VSWR		1.3:1	1.7:1	
Insertion Phase Variation (Unit to Unit)		±10		Degrees
Power Gain Variation (Unit to Unit)		±1		dB
F2 Second Harmonic	-27	-30		dB
F3 Third Harmonic		-40		dB

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PHYSICAL LAYOUT AND HEATSINK MOUNTING/HARDWARE

1. HEATSINK TOOLING

- Planarity: typical value 0.8μ
- Roughness: better than 0.03 mm

2. THERMAL COMPOUND

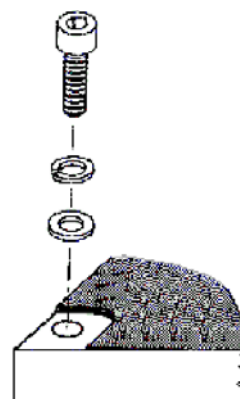
- Paste with silicones
- Thickness: optimum between 0.06 mm and 0.15 mm, on the whole back surface of the amplifier.

3. SCREWS

- M3 hexagon socket head cap screws or equivalent.
- The recommended Torque is 0.9 N-m for M3 or 4-40 type screws as indicated on Freescale Semiconductor Application Note AN3263 Rev. 0.
- The screw tightening must be done at ambient temperature.

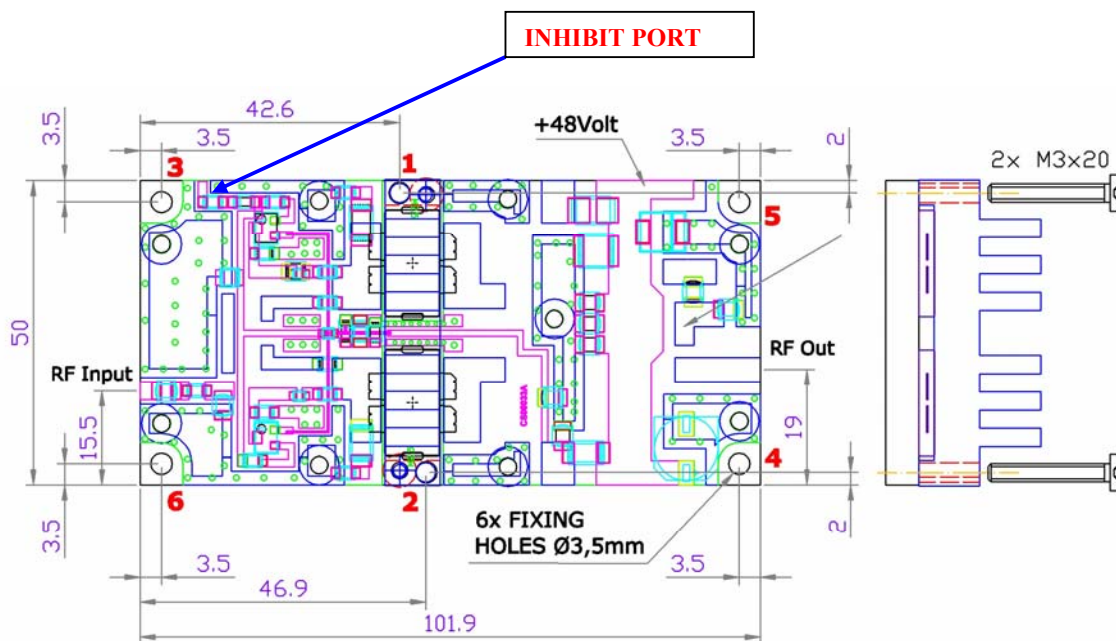
4. TIGHTENING ORDER

- See next figure:



WARNING: when mounting this mechanical component, please add thermal compound between its bottom part and the device surface, as described in point 2 of this paragraph.

NOTE: ensure a minimum air flow on the components surface of the pallet.



WARNING: Do not apply any negative voltage to the *inhibit port*. It can be only grounded to reduce the output power. To mute the amplifier cut the input signal.

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