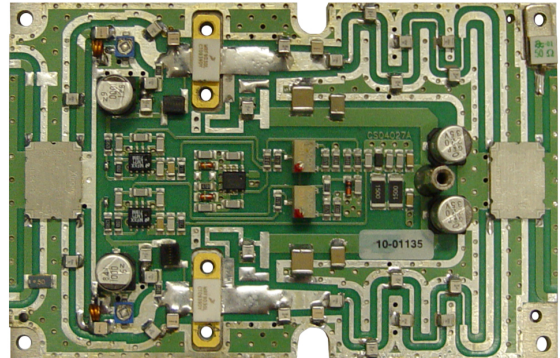


# AMP-80W-CW

## 0.5 ÷ 1GHz 80W Power Amplifier

Designed for analog and digital applications, this amplifier incorporates microstrip technology and single end LDMos Devices to enhance ruggedness and reliability.

- 0.5 ÷ 1GHz
- 28 ±32 Volt (30V Nominal)
- Input/Output: 50Ω - 50Ω
- P<sub>out</sub> 80 Watt (CW)
- Gain : 15 dB min.
- Class AB
- Devices: MRF9030 or equivalent
- Connectorized version available
- RoHS Compliant



Dimensions: 122,2 X 78, X 25 mm

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

Symbol	Parameter	Value	Unit
V <sub>S</sub>	Voltage Supply	35	V dc
I <sub>S</sub>	Current Supply	5	A dc
T <sub>stg</sub>	Storage Temperature Range	-30 + 100	°C
T <sub>c</sub>	Operating Case Temperature	0 + 75 <sup>1</sup>	°C
ψ	VSWR max	3:1 all phase angles	

### ELECTRICAL SPECIFICATIONS (Base Plate T. = 45 °C, 50Ω loaded, V<sub>d</sub> = 30 V)

Symbol	Parameter	Test Conditions	Value			Unit
			Min	Typ.	Max	
BW	Bandwidth	P <sub>Out</sub> = 80 W (CW)	0.5		1	GHz
G <sub>p</sub>	Power gain	P <sub>ref</sub> = 80 W (CW)	14	15	-	dB
P <sub>out</sub> - 1dB	Power Output @ 1dB Compression	Referred to P <sub>input</sub> = 5W (CW)	80	-	-	W
I <sub>q</sub> *	Supply Current	P <sub>Out</sub> = 0 W - Total *	-	-	2	A
I <sub>tot</sub> *	@ P <sub>Max</sub>		-		6.5	A
Ω	Input/Output	50 Ohm				Ohm
I <sub>rl</sub>	Input return loss	P <sub>Out</sub> = 80 W CW	15	18	-	dB
□	Load mismatch	P <sub>ref</sub> = 80 W CW, f= 1GHz, load VSWR = 2:1, all phase angles	No degradation in P <sub>out</sub>			
Gr	Gain Flatness	P <sub>ref</sub> = 25 W CW, BW: 0.5-1GHz		±0.5	±1.25	dB
η	Drain Efficiency	P <sub>Out</sub> = 80 W (CW)	35	45	-	%

<sup>1</sup> Warning: The base plate temperature must be 75 °C max, using an appropriate Heatsink.

\* Depending of handling signal (analog /digital)

NOTES: The input power must not exceed +6dB, for 1 microsec. , the nominal input power referred to the 1dBep power output; the Quiescent Current is set at typical value, in factory. This parameter can be adjusted by the final user depending on the applied signal and/or frequency and output power. (Warning: Do not exceed the specified max I<sub>q</sub> value).



## PC BOARD LAYOUT and HEATSINK MOUNTING/HARDWARE

### HEATSINK MOUNTING/HARDWARE

#### 1. HEATSINK TOOLING

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

#### 2. THERMAL COMPOUND

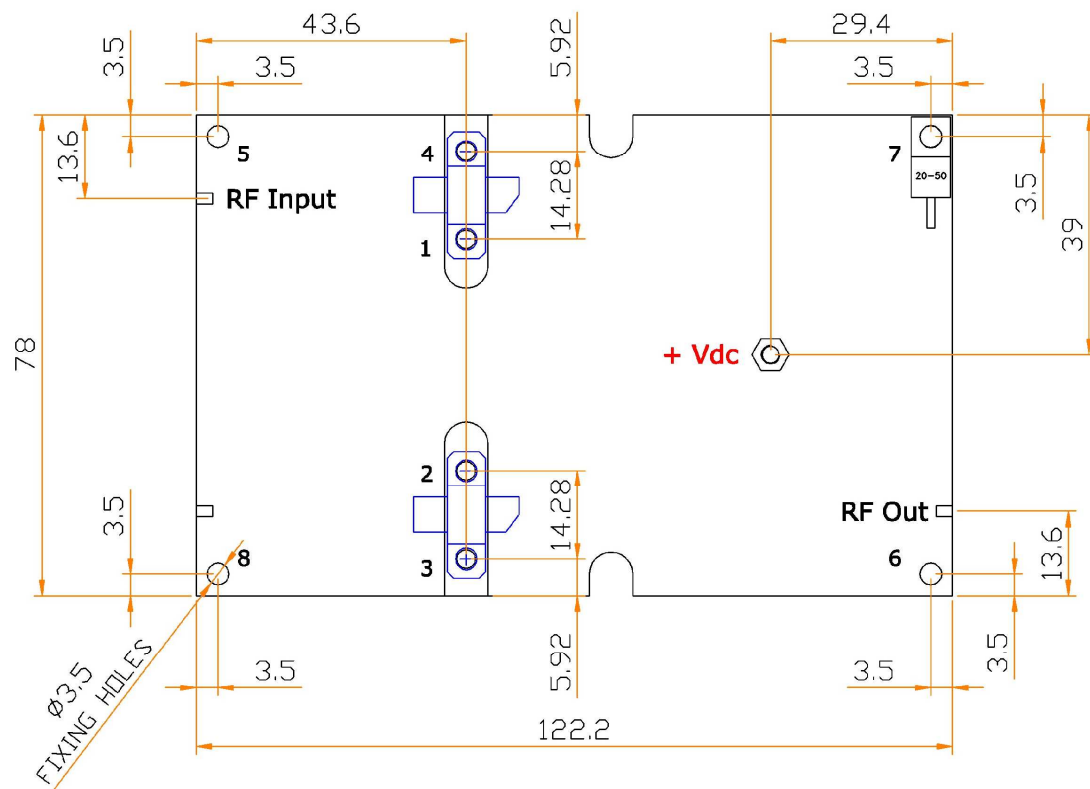
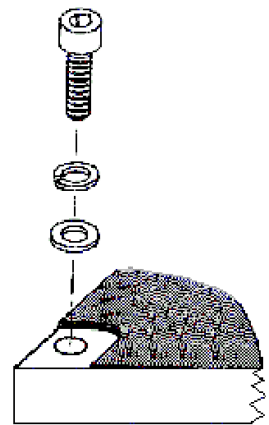
- Paste with silicones
- Thickness: optimum between 0.06 mm and 0.15 mm, on the whole back surface of the amplifier.

#### 3. SCREWS

- 4 x M3 -Cross head screws (position 5, 6, 7, 8) – 4 x M2.5 (position 1, 2, 3, 4).
- The recommended Torque is 12 Kg/cm for M3 type screws and 10 Kg/cm for M2.5 type screws.

#### 4. TIGHTENING ORDER

- See next figure:



Dimensions in mm