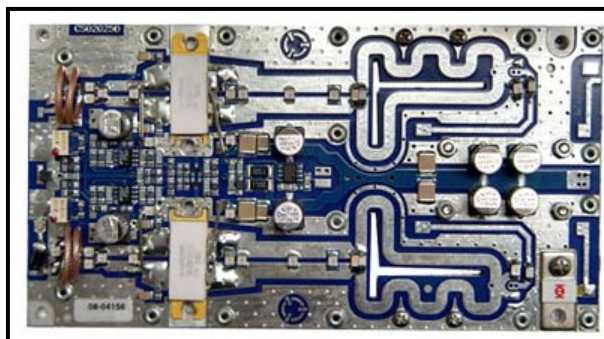


AMP 4800-vHF HIGH POWER AMPLIFIER MODULE FOR UHF TV BROADCAST

480W pep -27dBc min Tetrafet Technology Amplifier
Designed for analog and digital TV transposers and transmitters, this amplifier incorporates microstrip technology and push-pull TETRAFET to enhance ruggedness and reliability.

- 170 - 230 MHz
- (28 ÷ 32 Volt) 30 Nominal
- Input/Output 50Ω - 50Ω
- Pout : 480W pep -27 dBc min (two-tone test 6MHz spacing)
- Pout 250W CW
- Gain : 13.5 dB min; 14.5 dB typ
- Class AB
- Devices: D1030UK or equivalent
- Connectorized version available

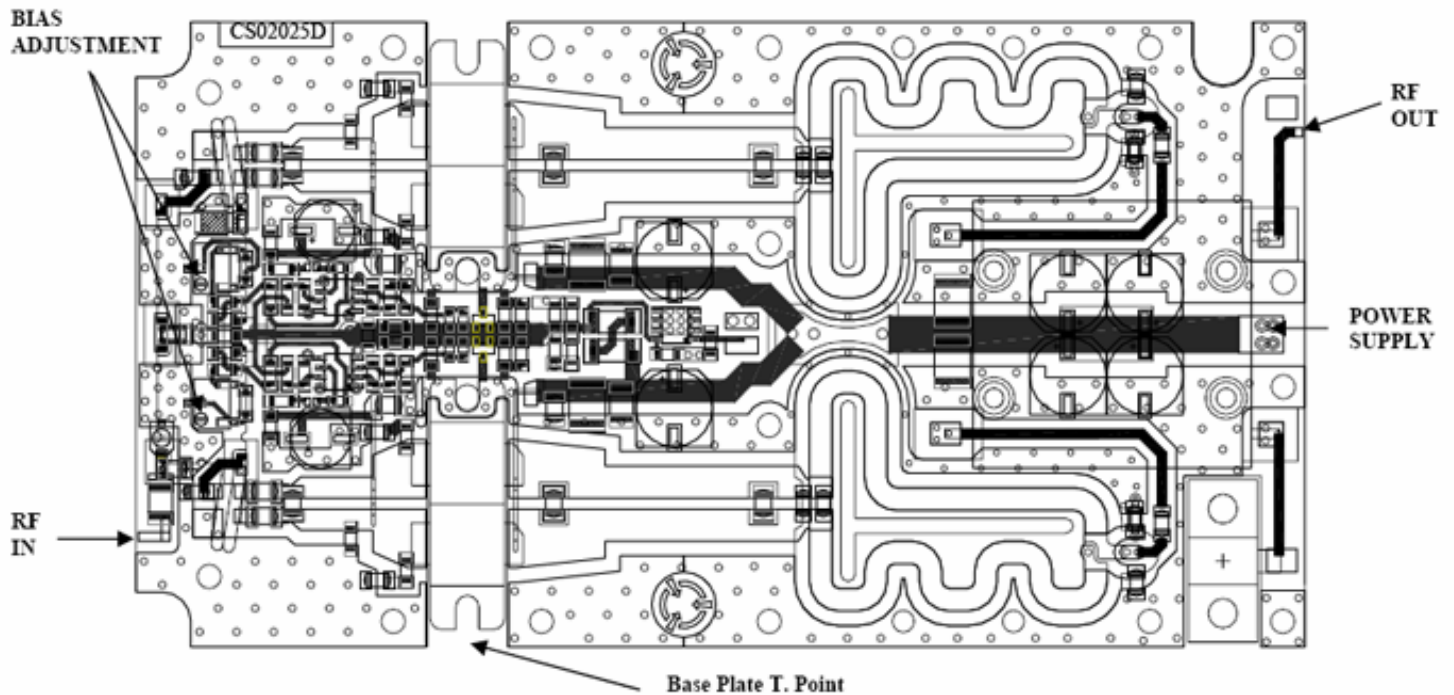


ABSOLUTE MAXIMUM RATINGS (Device Flange T = 70 °C)

Symbol	Parameter	Value	Unit
Vs	Voltage Supply	35	V dc
Is	Current Supply	25	A dc
Tstg	Storage Temperature Range	-20 + 80	°C
Tc	Operating Base Plate Temperature ¹	0 + 75 ²	°C
ψ	VSWR max	3:1 all phase angle	-
	Max input power	See note ³	-
	Max cw output power	250	Watt

ELECTRICAL SPECIFICATIONS (Base Plate T.= 45 °C, 50Ω loaded, Vd = 30 V)

Symbol	Parameter	Test Conditions	Value			Unit
			Min	Typ.	Max	
BW	Bandwidth	Pout = 250 W (CW)	170		230	MHz
Gp	Power gain	Pref = 250 W (CW)	13.5	14.5	-	dB
Pout -1dB	Power Output @ 1dB Compression	Referred to Pout = 60W (CW) ⁴	450	500	-	W
Iq *	Quiescent Current	Pout = 0 W – Total * ⁵	-	-	6.0	A
Itot	@ PMax	300W Ps Black Level Video + Audio	-	-	22	A
Irl	Input return loss	Pout = 250 W CW	16	20	-	dB
Ψ	Load mismatch	Pref = 250 W CW, f= 230 MHz, load VSWR = 2:1, all phase angles	No degradation in Pout			
Gr	Gain Flatness	Pref = 250 W CW, BW: 170-230 MHz		±0.5	±1.0	dB
η	Drain Efficiency	Pout = 300 W ⁶ (CW)	40	45	-	%
	Pout separate ampl.	Sync. Compression < 1dB without correction	400	450		Wps
	Pout common ampl.	Red field IMD < -45 dBc without correction	360	380		Wps
	Pout DVB-T	Shoulder < -27 dB	80	100		Wrms
	Pout DAB	Pout 170Wrms without precorrection	-27	-30		



HEATSINK MOUNTING/HARDWARE

1. HEATSINK TOOLING

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

2. THERMAL COMPOUND

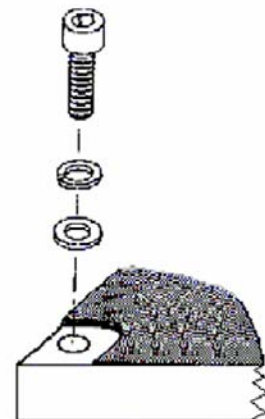
- Paste with silicones
- Thickness: optimum between 0.06 mm and 0.15 mm, on the whole back surface of the amplifier.

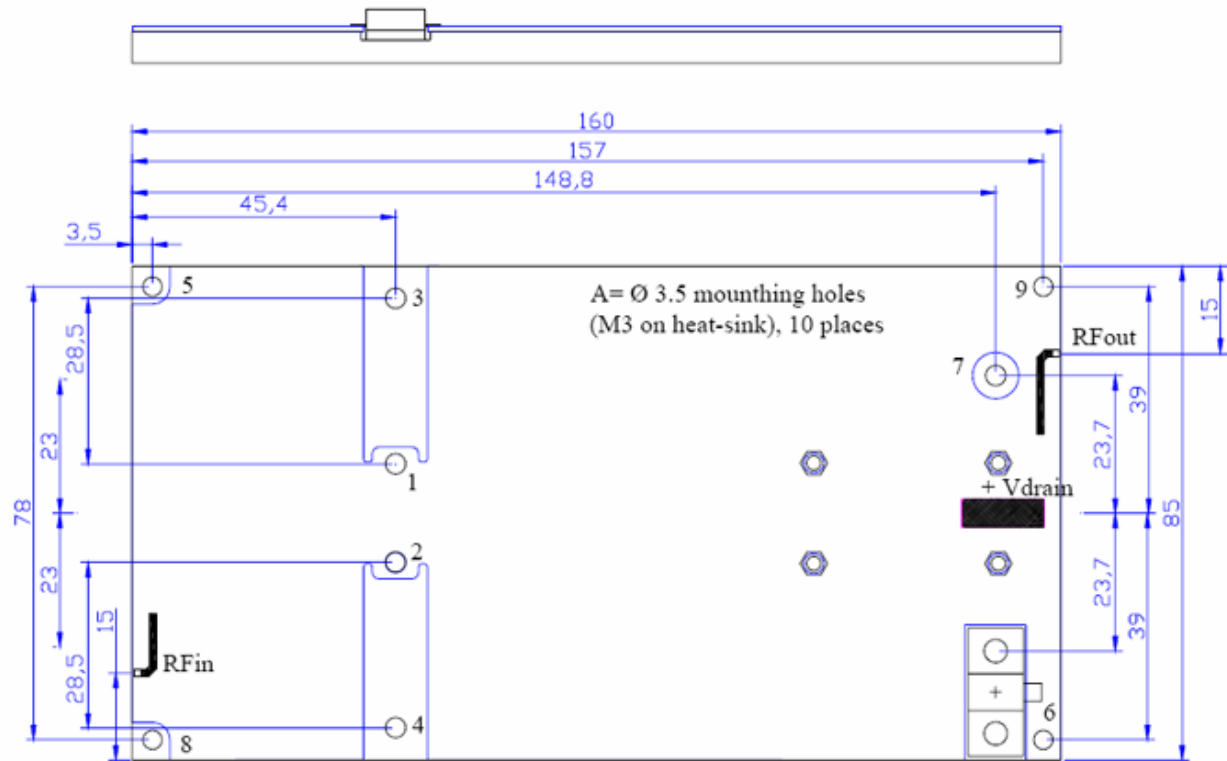
3. SCREWS

- 8 x M3 - Socket head cap screws.
- 8 Split lock washers WZ Ø3 + 8 Flat washers ZU Ø 3.
- The recommended Torque is 12 Kg . cm (10.5 in . lbs).

4. TIGHTENING ORDER

- See next figure:





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¹ A temperature sensor is mounted on the circuit to have an immediate working temperature measurement. The temperature can be measured by a Voltmeter on the “Temperature Measurement Point” (see picture on pag. 3), $10\text{mV} = 1\text{ }^\circ\text{C}$. **Warning:** the measured temperature refers to the Printed Circuit Board and not to the device flanges.

² **Warning:** The base plate temperature must be $75\text{ }^\circ\text{C}$ max, using an appropriate Heatsink.

³ The input power must not exceed +6dB, for 1 microsec. , the nominal input power referred to the 1dBcp power output.

⁴ Max 200W cw continuous work

⁵ 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 (See Application note

ING01). (**Warning:** Do not exceed the specified max Iq value).

* Depending of handling signal (analog /digital)

⁶ Do not keep the amplifier working at this Pout for more than one minute