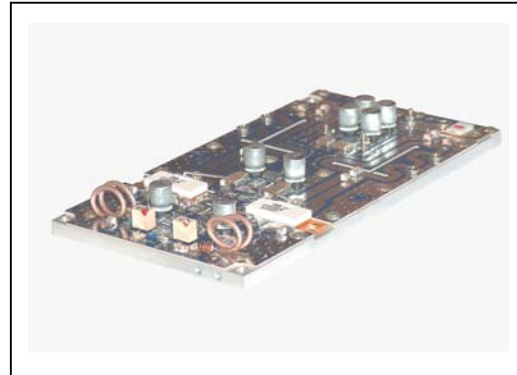


480W pep –27dBc min Tetrafet Technology Amplifier

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
- P_{out} : 480W pep –27 dBc min (two-tone test 6MHz spacing)
- P_{out} 250W CW
- Gain : 13.5 dB min; 14.5 dB typ
- Class AB
- Devices: D1030UK or equivalent
- Connectorized version available



Dimensions (LxWxH) 160x5.5x85mm

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	Voltage Supply	35	V dc
I _S	Current Supply	25	A dc
T _{stg}	Storage Temperature Range	-20 + 80	°C
T _c	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 (continuous work)	250	Watt

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

Symbol	Parameter	Test Conditions	Value			Unit
			Min	Typ.	Max	
BW	Bandwidth	P _{out} = 250 W (CW)	170		230	MHz
G _p	Power gain	P _{ref} = 250 W (CW)	13.5	14.5	-	dB
P _{out} – 1dB	Power Output @ 1dB Compression	Referred to P _{out} = 60W (CW)	450	500	-	W
I _q *	Quiescent Current	P _{out} = 0 W – Total * ⁴	-	-	6.0	A
I _{tot}	@ P _{Max}	350W Ps Black Level Audio + Video	-	-	22	A
I _{rl}	Input return loss	P _{out} = 250 W CW	16	20	-	dB
ψ	Load mismatch	P _{ref} = 250 W CW, f = 230MHz, load VSWR = 2:1, all phase angles	No degradation in P _{out}			
Gr	Gain Flatness	P _{ref} = 250 W CW, BW: 170-230MHz		±0.5	±1	dB
η	Drain Efficiency	P _{out} = 300 W ⁵ (CW)	40	45	-	%
	P _{out} separate ampl.	Sync. Compression < 1dB without correction	400	450		Wps
	P _{out} common ampl.	Red field IMD < -45 dBc without correction	360	380		Wps
	P _{out} DVB-T	Shoulder < -27 dB	80	100		Wrms
	P _{out} DAB	P _{out} 170Wrms without precorrection	-27	-30		

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 pin 1 (see picture on pag. 3), 1mV = 1 °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 °C max, using an appropriate Heatsink.

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

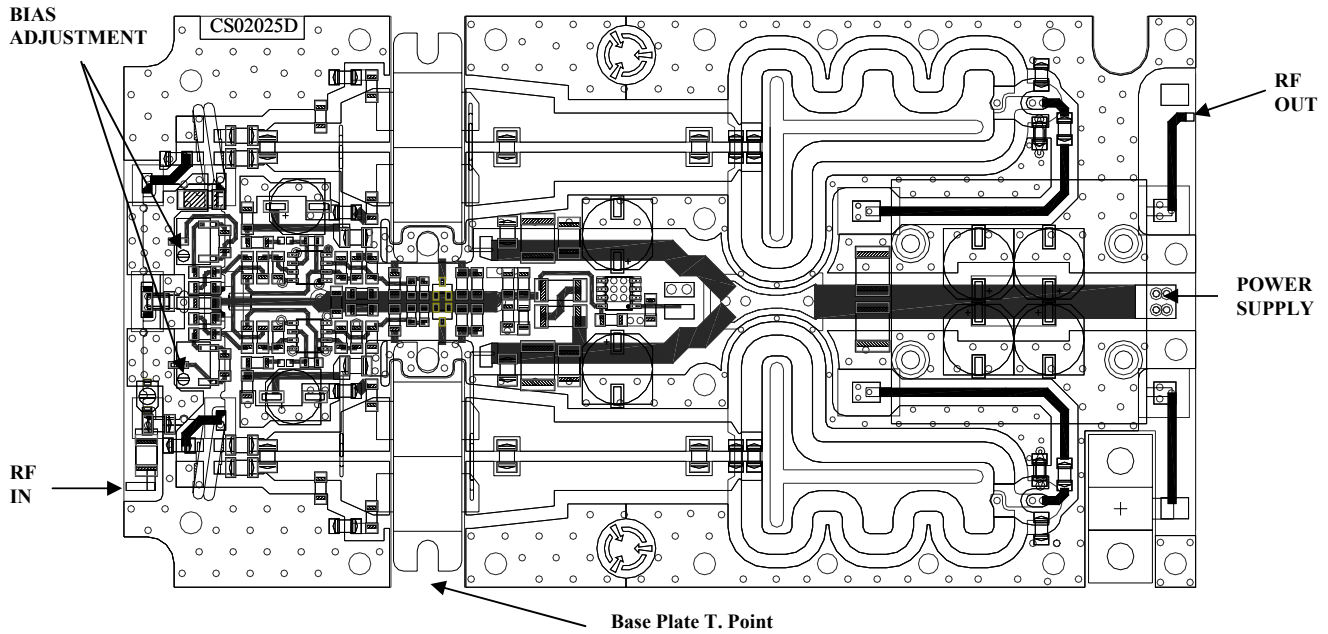
⁴ The Quiescent Current is set at typical value, in factory. This parameter can be adjusted by the final user depending on the applied signal and/or frequency and output power (See Application note ING01). (**Warning:** Do not exceed the specified max I_q value).

* Depending of handling signal (analog /digital)

⁵ Do not keep the amplifier working at this P_{out} for more than one minute

Contact Res-Ingenium, +39 0763 316333 Fax +39 0763316002- or visit www.res-ingenium.com for a complete listing.

THV450C Layout and Connections⁶



HEATSINK MOUNTING/HARDWARE

1. HEATSINK TOOLING

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

2. THERMAL COMPOUND

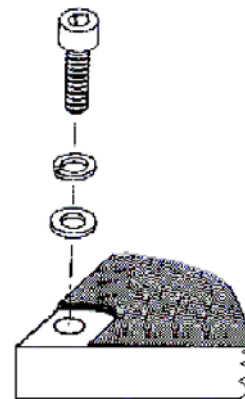
- Paste with silicones
- Thickness: optimum between 0.06 mm and 0.15 mm, on the whole back surface of the amplifier.

3. SCREWS

- 8 x M3 - Socket head cap screws.
- 8 Split lock washers WZ Ø3 + 8 Flat washers ZU Ø3.
- The recommended Torque is 12 Kg/cm for M3 type screws and 10 Kg/cm for M2.5 type screws.

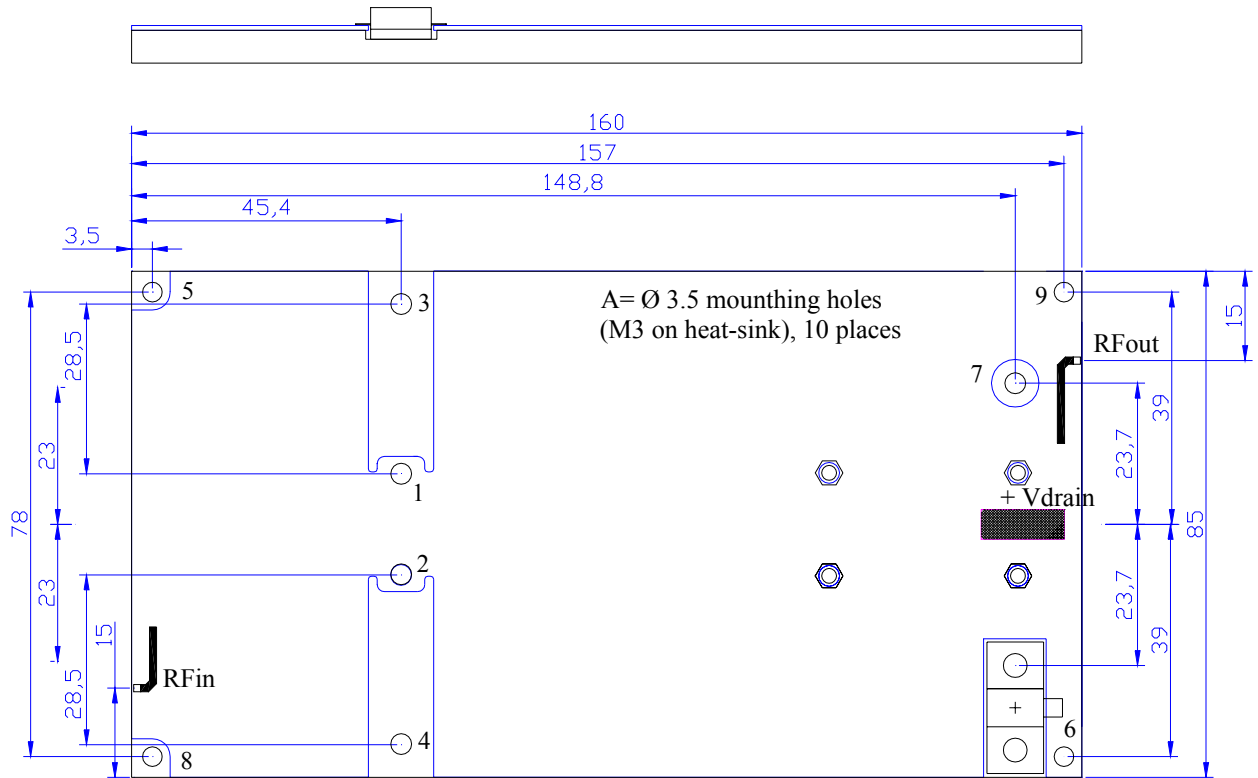
4. TIGHTENING ORDER

- See next figure:



⁶ RES-Ingenium provides the pallet without unbalance load resistors (input 50 Ohm 20W/output 50 Ohm 100W. Dimensions: 13 x 6.3mm, about, 1 hole).

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*Dimensions in mm.

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