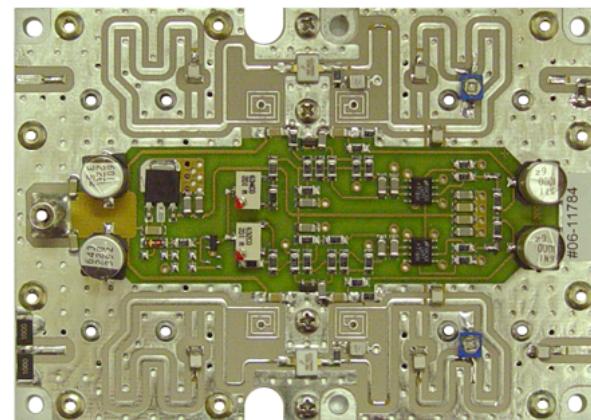




10W LDMos Technology Amplifier

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

- 170 - 230 MHz
- (28 ±32 V) 30V Nominal
- Input/Output 50 Ω - 50 Ω
- Pout : 10W CW
- 10Wps separate amplification
- 6Wps common amplification
- 2.5Wrms DAB
- 2.0 Wrms DVB
- Gain : 20 dB min
- Class AB - *very linear*
- Devices: MRF282SR1 or equivalent
- Connectorized version available



Dimensions (LxWxH) 120x78x30 mm (4.72"x3.07"x1.18")

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

Symbol	Parameter	Value	Unit
V _s	Voltage Supply	35	V dc
I _s	Current Supply	4	A dc
T _{stg}	Storage Temperature Range	-30 + 100	°C
T _c	Operating base plate Temperature	0 + 7	°C
Ψ	VSWR max	3:1 all phase angle	-
	Max input power	See note ²	-

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

Symbol	Parameter	Test Conditions	Value			Unit
			Min	Typ.	Max	
BW	Bandwidth	Pout = 10 W (CW)	170	-	230	MHz
G _p	Power gain	Pref = 10 W (CW)	19	-	22	dB
P _{out} - 1dB	Power Output @ 1dB Compression	Reference to P _{out} = 1W (CW)	9	14	-	W
I _q *	Quiescent Current	Pout = 0 W - Total ³ *	-	-	0,6	A
I _{tot} *	@ P_{Max}		-	-	1.5	A
I _{rl}	Input return loss	Pout = 10W CW	16	20	-	dB
Ψ	Load mismatch	Pref = 10W CW, f= 230MHz, load VSWR = 2:1, all phase angles				No degradation in Pout
Gr	Gain Flatness	Pref = 10W CW, BW: 170-230MHz	-	-	±0,5	dB
η	Drain Efficiency	Pout = 10W (CW)	25	-	-	%

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

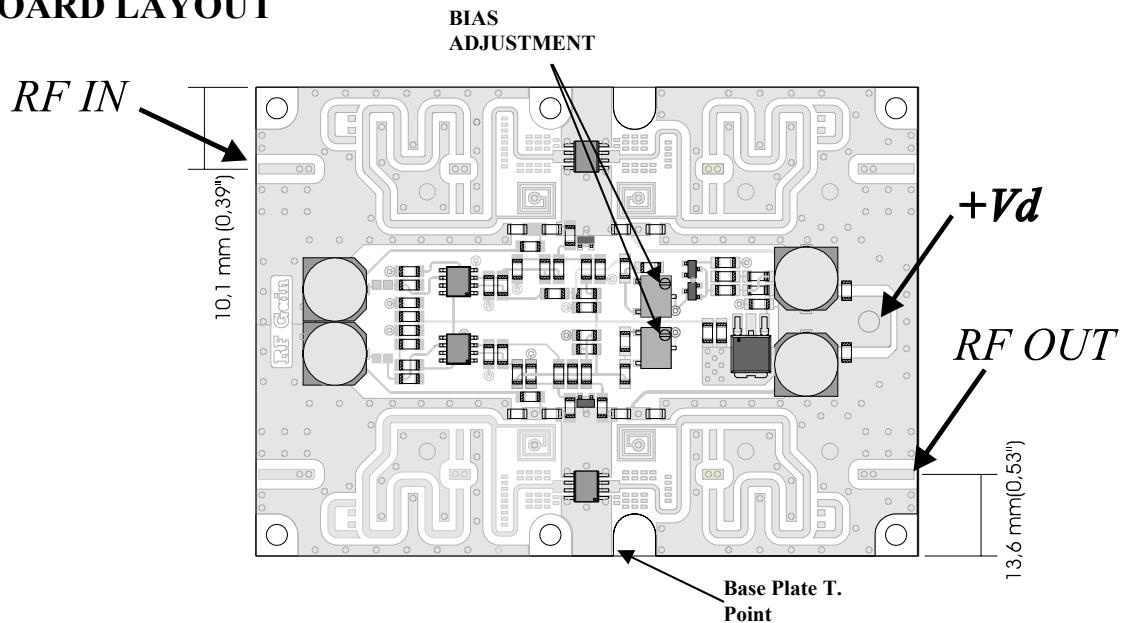
² The input power must not exceed +6dB, for 1 microsec., the nominal input power referred to the 1dB_{cp} power output.

³ 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_q value).

* Depending of handling signal (analog/digital)



PC BOARD LAYOUT



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

- M3 -Cross head screws
- 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:

