

80W pep –27dBc 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.

- 470 - 860 MHz
- 28 +32 Volt (30V nominal)
- P_{out} 80 Watt (CW)
- P_{out} 80 Watt p.s. Separate Amplification
- P_{out} 60 Watt p.s. Common Amplification
- P_{out} 20 Watt rms DVB
- Gain : 15 dB min.
- Connectorized version available
- APL corrector on board
- Devices: MRF373A or equivalent
- RoHs Compliant



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	8	A dc
T _{stg}	Storage Temperature Range	-30 + 100	°C
T _c	Operating Base Plate Temperature	0 + 75 ¹	°C
ψ	VSWR max	3:1 all phase angles	
	Max input power	See note ²	
	Max cw output power	80	Watt

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

Symbol	Parameter	Test Conditions	Value			Unit
			Min	Typ.	Max	
BW	Bandwidth	P _{out} = 80 W (CW)	470		860	MHz
G _p	Power gain	P _{ref} = 80 W (CW)	15	16	-	dB
P _{out} – 1dB	Power Output @ 1dB Compression	Referred to P _{out} = 5W (CW)	45	-	-	W
I _q *	Supply Current	P _{out} = 0 W – Total ³ *	-	-	1.5	A
I _{tot} *	@ P _{Max}		-		6	A
Ω	Input/Output	50 Ohm				Ohm
I _{rl}	Input return loss	P _{out} = 80 W CW	15	18	-	dB
Ψ	Load mismatch	P _{ref} = 80 W CW, f= 860MHz, load VSWR = 2:1, all phase angles	No degradation in P _{out}			
η	Drain Efficiency	P _{out} = 80 W (CW)	35	40	-	%
Gr	Gain Flatness	P _{ref} = 80 W CW, BW: 470-860MHz		±0.5	±1	dB
	P _{out} separate ampl.	Sync. Compression < 1dB without correction	80			Wps
	P _{out} common ampl.	P _{out} 60W ps common ampl. dual sound, with Red Field sound 1 @ -13dB and sound 2 @ -20dB without precorrection	-50	-52		dBc
	P _{out} DVB-T	P _{out} 20Wrms without precorrection	-27	-30		dBc

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

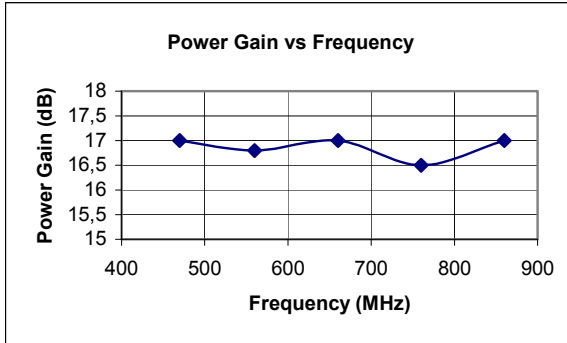
² The input power must not exceed +6dB, for 1 microsec., the nominal input power referred to the 1dBcp power output.

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.

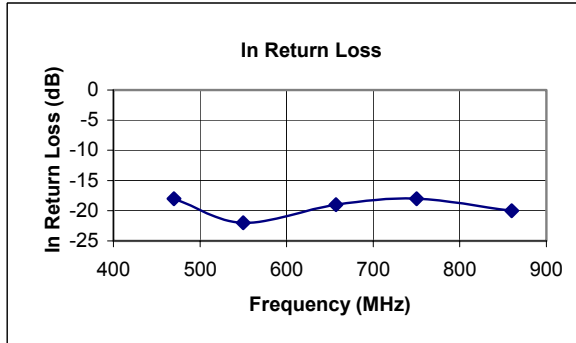
(Warning: Do not exceed the specified max I_q value).

* Depending of handling signal (analog /digital)

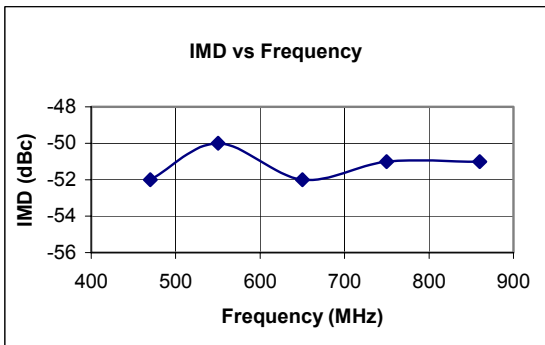
Contact Res-Ingenium, +39 0763 316333 Fax +39 0763316002- or visit www.res-ingenium.com for a complete listing.



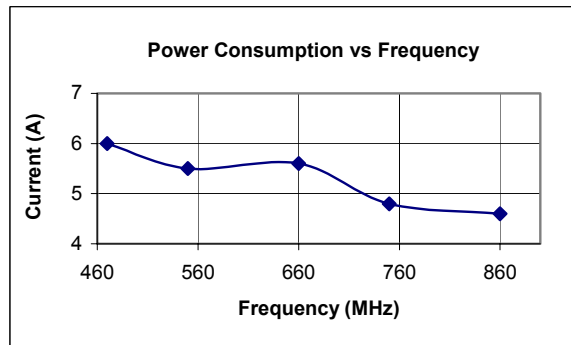
Test Condition: Vd 30V, Idq 2 x 500mA, Pout 60W ps



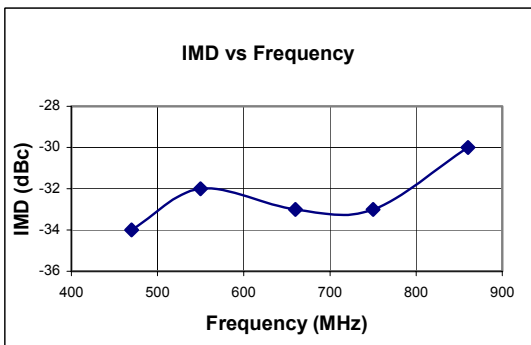
Test Condition: Vd 30V, Idq 2 x 500mA, Pout Low Level



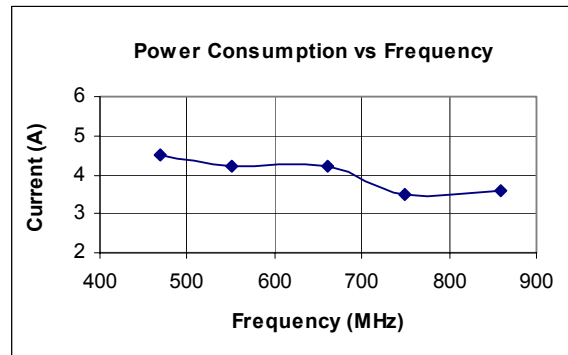
Test Condition: Vd 30V, Idq 2 x 500mA, Pout 60W ps (red field with sound 1 @-13dB and sound 2 @-20dB)



Test Condition: Vd 30V, Idq 2 x 500mA, Pout 60W ps with black field

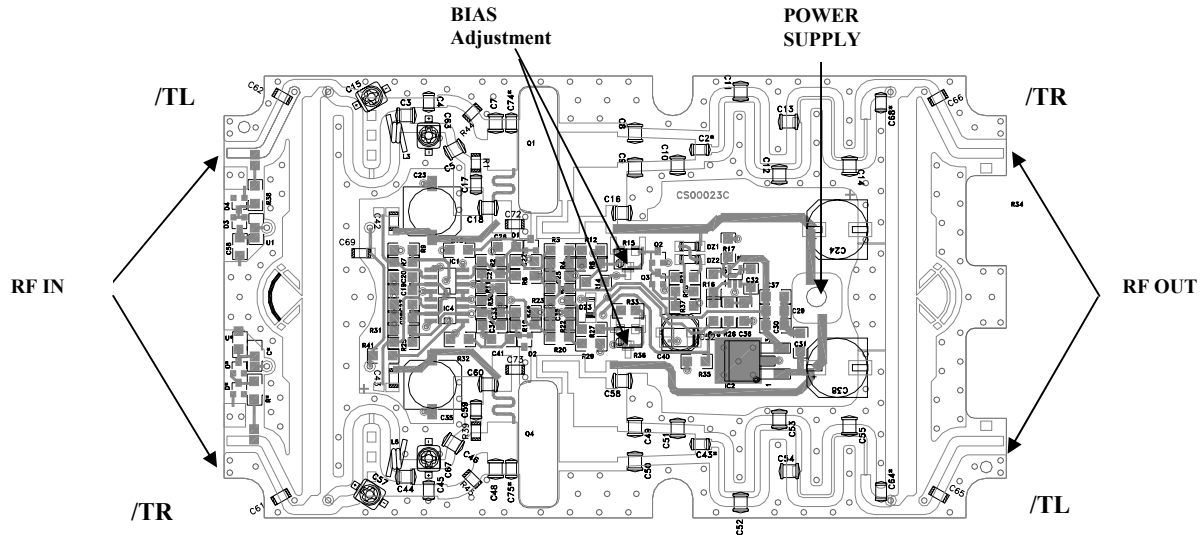


Test Condition: Vd 30V, Idq 2 x 500mA, Pout 20Wrms DVB-T signal



Test Condition: Vd 30V, Idq 2 x 500mA, Pout 20Wrms DVB-T signal

LDU60-R Layout and Connections



NOTE. In response to customer request, this pallet has been designed to allow two different positions of IN/OUT connections: /TL = connection on the left side, /TR = connection on the right side.

HEATSINK MOUNTING/HARDWARE

1. HEATSINK TOOLING

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

2. THERMAL COMPOUND

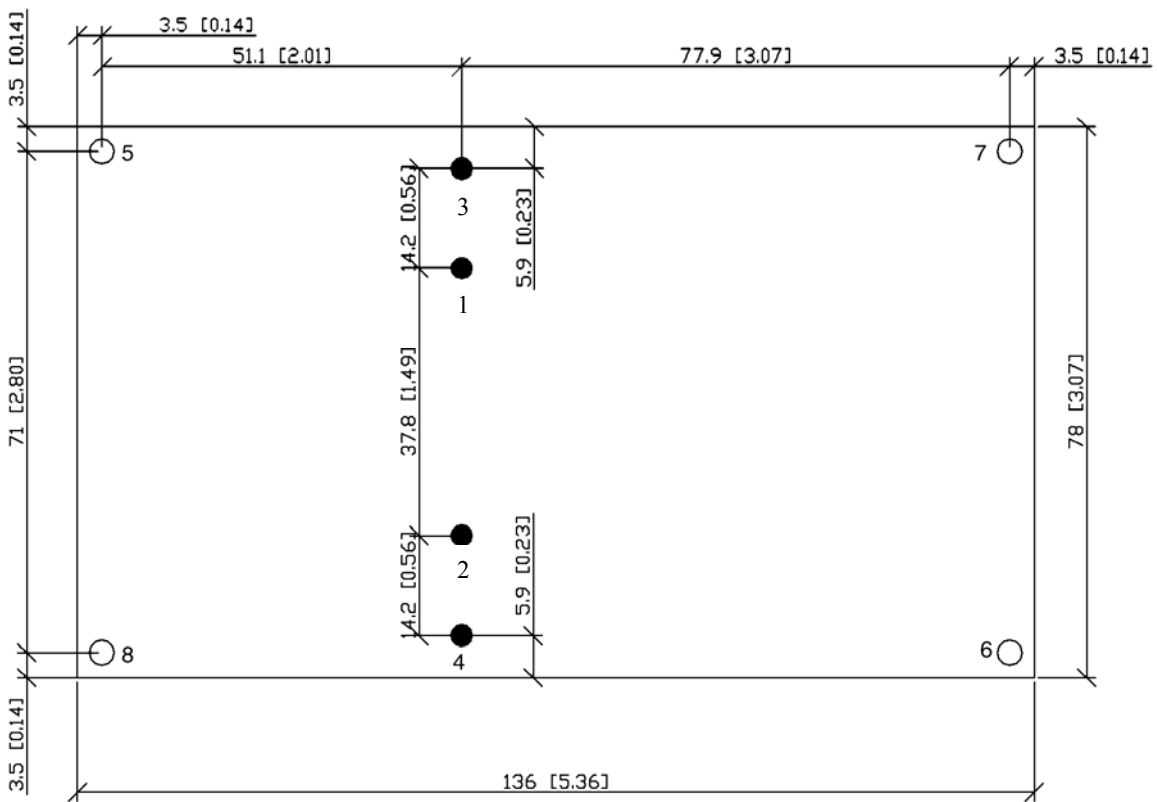
- Paste with silicones
- Thickness: optimum between 0.06 mm and 0.15 mm, on the whole back surface of the amplifier.

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: mm[inch]

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

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