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
- 40 - 45 Volt (43V nominal)
- Pout 40 - 45 Watt rms DVB
- Gain : 18 dB min.
- Connectorized version available
- Devices: BLF871 or equivalent
- RoHs Compliant

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

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Parameter</th>
<th>Value</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>V_s</td>
<td>Voltage Supply</td>
<td>50</td>
<td>V dc</td>
</tr>
<tr>
<td>I_s</td>
<td>Current Supply</td>
<td>8</td>
<td>A dc</td>
</tr>
<tr>
<td>Tstg</td>
<td>Storage Temperature Range</td>
<td>-30 + 100</td>
<td>°C</td>
</tr>
<tr>
<td>T_c</td>
<td>Operating Base Plate Temperature</td>
<td>0 + 75</td>
<td>°C</td>
</tr>
<tr>
<td>ϱ</td>
<td>VSWR max</td>
<td>3:1 all phase angles</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Max input power</td>
<td>See note2</td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Parameter</th>
<th>Test Conditions</th>
<th>Min</th>
<th>Typ.</th>
<th>Max</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>BW</td>
<td>Bandwidth</td>
<td>P_out = 80 W (CW)</td>
<td>470</td>
<td>862</td>
<td>MHz</td>
<td></td>
</tr>
<tr>
<td>Gp</td>
<td>Power gain</td>
<td>Pref = 80 W (CW)</td>
<td>16</td>
<td>18</td>
<td>- dB</td>
<td></td>
</tr>
<tr>
<td>I_q</td>
<td>Quiescent Current</td>
<td>P_out = 0 W – Total¹</td>
<td>-</td>
<td>-</td>
<td>1.5 A</td>
<td></td>
</tr>
<tr>
<td>L_t</td>
<td>@ P_max</td>
<td></td>
<td>-</td>
<td>6</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>Ω</td>
<td>Input/Output</td>
<td>20 W POUT</td>
<td>50</td>
<td></td>
<td>Ohm</td>
<td></td>
</tr>
<tr>
<td>I_r</td>
<td>Input return loss</td>
<td>15</td>
<td>18</td>
<td>-</td>
<td>dB</td>
<td></td>
</tr>
<tr>
<td>ϱ</td>
<td>Load mismatch</td>
<td>Pref = 80 W CW, f= 860MHz, load VSWR = 2:1, all phase angles</td>
<td>No degradation in Pout</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>η</td>
<td>Drain Efficiency</td>
<td>P_out = 80 W (CW)</td>
<td>35</td>
<td>40</td>
<td>- %</td>
<td></td>
</tr>
<tr>
<td>Gr</td>
<td>Gain Flatness</td>
<td>Gain Level Low</td>
<td>±1</td>
<td>±1.5</td>
<td>dB</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pout DVB-T</td>
<td>Pout 45 Wrms without precorrection</td>
<td>-27</td>
<td>-30</td>
<td>dBc</td>
<td></td>
</tr>
</tbody>
</table>

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 1dBce 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).
⁴ Depending of handling signal (analog /digital)

Dimensions (LxWxH) 136x78x20mm
(5.36”x3.07”x0.79”)

Conctat Res-Ingenium, +39 0763 316333 Fax +39 0763316002- or visit [www.res-ingenium.com](http://www.res-ingenium.com) for a complete listing.
SHOLIDER@Pout20W DVB-T

Test Condition: Vd 43V, Idq 2 x 500mA, Pout 20Wrms DVB-T signal

Pout@-30dBc Shoulder

Test Condition: Vd 43V, Idq 2 x 500mA, Pout @-30dBc Shoulder DVB-T signal
Drain Efficiency. Pout@-30 dBc Shoulder

Test Condition: Vd 43V, Idq 2 x 500mA, Pout @-30dBc Shoulder DVB-T signal

Test Condition: Vd 43V, Idq 2 x 500mA, Gain low level: Input Return loss

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