**Push-Pull Transformers**

For Linear LT3999

Push-Pull DC/DC Driver

- Developed for Linear LT3999 Low Noise, 1 A, 1 MHz Push-Pull DC/DC Driver with Duty Cycle Control
- 500 Vrms, one minute isolation primary windings to secondary windings
- Three output power versions: 1 W (12 V, 0.083 A), 5 W (5 V, 1 A), and 10 W (12 V, 0.83 A)

**Core material** Ferrite

**Terminations** RoHS tin-silver (96.5/3.5) over tin over nickel over phos bronze.

**Weight**
- PA6381-AL, PA6383-AL: 1.9 – 2.1 g
- PA6384-AL: 3.8 – 4.0 g

**Ambient temperature**
- –40°C to +85°C

**Maximum part temperature**
- +125°C (ambient + temp rise)

**Storage temperature**
- Component: –40°C to +125°C
- Tape and reel packaging: –40°C to +80°C

**Resistance to soldering heat**
- Max three 40 second reflows at +260°C, parts cooled to room temperature between cycles

**Moisture Sensitivity Level (MSL)**
- 1 (unlimited floor life at <30°C / 85% relative humidity)

**Failures in Time (FIT) / Mean Time Between Failures (MTBF)**
- 10.06 per billion hours / 9.940E+07 hours, calculated per Telcordia SR-332

**Packaging**
- See dimensional drawings

**PCB washing**
- Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See Doc787_PCB_Washing.pdf

---

### Part Number

<table>
<thead>
<tr>
<th>Part number</th>
<th>Input voltage (V)</th>
<th>Primary inductance (µH)</th>
<th>Leakage inductance (µH)</th>
<th>DCR max (Ohms)</th>
<th>Volt-time product (V-µsec)</th>
<th>Turns ratio</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>PA6381-AL</td>
<td>5.0</td>
<td>139 – 232</td>
<td>0.520</td>
<td>0.166 (A); 0.201 (B)</td>
<td>1.78</td>
<td>26</td>
<td>12 V, 0.083 A</td>
</tr>
<tr>
<td>PA6383-AL</td>
<td>5.0</td>
<td>29.7 – 49.5</td>
<td>0.190</td>
<td>0.035 (A); 0.045 (B)</td>
<td>0.067</td>
<td>12</td>
<td>5 V, 1.0 A</td>
</tr>
<tr>
<td>PA6384-AL</td>
<td>12</td>
<td>82.5 – 137.5</td>
<td>0.336</td>
<td>0.048 (A); 0.061 (B)</td>
<td>0.072</td>
<td>22</td>
<td>12 V, 0.83 A</td>
</tr>
</tbody>
</table>

1. When ordering, specify a packaging code:
- **PA6384-AL**

**Packaging:** D = 13” machine ready reel. EIA-481 embossed plastic tape. Quantities less than full reel available: in tape (not machine ready) or with leader and trailer ($25 charge).

2. Inductance is for Pri A measured on an Agilent/HP 4284 at 100 kHz, 0.1 Vrms, 0 Adc.

3. Leakage inductance measured between pins 1 and 4 at 100 kHz, 0.1 Vrms, 0 Adc with pins 2 and 3 connected and with secondary pins shorted.

4. DCR for the secondary is for each winding.

5. Volt-time product is for Primary A, between pin 1 and 2.

6. Turns ratio is with the primary windings and secondary windings connected in series.

7. Electrical specifications at 25°C.

Refer to Doc 362 “Soldering Surface Mount Components” before soldering.
Push-Pull Transformers for Linear LT3999

PA6381-AL, PA6383-AL

Dot above pin1

Dot above pin1

Recommended Land Pattern

Recommended Land Pattern

Dimensions are in inches/mm

Packaging
PA6381-AL, PA6383-AL  350 per 13" reel  Plastic tape: 32 mm wide, 0.42 mm thick, 20 mm pocket spacing, 9.16 mm pocket depth
PA6384-AL  200 per 13" reel  Plastic tape: 32 mm wide, 0.5 mm thick, 24 mm pocket spacing, 11.2 mm pocket depth