Planar Transformer
For National Semiconductor
LM5027 Active Clamp Controller

• Developed for the National Semiconductor LM5027 Voltage Mode Active Clamp Controller.
• Chosen by NSC for T1 on the LM5027 Evaluation Board, and is described in Application Note AN-1976.
• 1500 Vdc isolation, primary and auxiliary to secondaries
• Auxiliary winding provides 10 V to power the chipset.

Core material Ferrite
Terminations RoHS matte tin over nickel over brass.
Weight 11.9 g
Ambient temperature –40°C to +85°C
Storage temperature Component: –40°C to +85°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) 38 per billion hours / 26,315,789 hours, calculated per Telcordia SR-332
Packaging 200/13″ reel, Plastic tape: 44 mm wide, 0.37 mm thick, 32 mm pocket spacing, 9.35 mm pocket depth
PCB washing Only pure water or alcohol recommended

<table>
<thead>
<tr>
<th>Part number1</th>
<th>Inductance± (µH)</th>
<th>DCR max (mOhms)^2</th>
<th>Leakage inductance± (µH)</th>
<th>Input range (V)</th>
<th>Turns</th>
<th>Output±</th>
</tr>
</thead>
<tbody>
<tr>
<td>HA4000-AL</td>
<td>270</td>
<td>56</td>
<td>0.5</td>
<td>294</td>
<td>0.6</td>
<td>36–78</td>
</tr>
</tbody>
</table>

1. When ordering, please specify a packaging code:

H4A4000-ALD

Packaging: D = 13″ machine ready reel. EIA-481 embossed plastic tape (200 parts per full reel).
B = Less than full reel. In tape, but not machine ready.
To have a leader and trailer added ($25 charge), use code letter D instead.

2. Inductance is for the primary, measured across pins 2 and 4 at 200 kHz, 0.1 Vrms, 0 Adc.

3. DCR for the primary is measured from pin 2 to pin 4. DCR for the secondary is for each winding.
4. Leakage inductance is for the full primary and is measured with the secondary shorted.
5. Output is with the secondary windings connected in series. Bias winding output is 10 V, 65 mA.
6. Electrical specifications at 25°C.

Refer to Doc 362 “Soldering Surface Mount Components” before soldering.

Recommended Land Pattern

Pins 7 and 9 to be connected on the PCB board. Pin 3 is internally connected only and does not touch the PC board.

Parts manufactured prior to November, 2011 may be marked differently.

Dimensions are in inches / mm.

Dot indicates pin 1

Parts manufactured prior to November, 2011 may be marked differently.

Recommended Land Pattern

Pins 7 and 9 to be connected on the PC board. Pin 3 is internally connected only and does not touch the PC board.

Dimensions are in inches / mm.

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