### Forward Mode Transformers

For Texas Instruments
TPS23756 PoE Interface

- Developed for the TI TPS23756 High Power/High Efficiency PoE Interface and DC/DC Controller.
- Designed for forward topology operating at 250 kHz with an extended input voltage range of 10 – 57 V.
- 1500 Vrms, one minute isolation, primary and bias to secondary

**Core material** Ferrite

**Terminations** RoHS tin-silver (96.5/3.5) over tin over nickel over phospho bronze. Other terminations available at additional cost.

**Weight** 12.1 – 13.1 g

**Ambient temperature** –40°C to +125°C

**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)

**Mean Time Between Failures (MTBF) / Failures in Time (FIT)** 26,315,789 hours / 38 per billion hours, Calculated per Telcordia SR-322

**Packaging**
- 175 per 13” reel
- Plastic tape: 44 mm wide, 0.4 mm thick, 32 mm pocket spacing, 11.9 mm pocket depth

**PCB washing** Tested with pure water or alcohol only. For other solvents, see Doc787_PCB_Washing.pdf.

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#### Table: Specifications

<table>
<thead>
<tr>
<th>Part number</th>
<th>Inductance (µH)</th>
<th>DCR max (mOhms)</th>
<th>Leakage inductance (µH)</th>
<th>Input voltage range (V)</th>
<th>Turns ratio</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>JA4249-CL_</td>
<td>90</td>
<td>0.0180 0.015 0.320</td>
<td>0.120</td>
<td>10 – 57</td>
<td>1 : 0.80</td>
<td>5 V, 5 A</td>
</tr>
<tr>
<td>JA4667-AL_</td>
<td>90</td>
<td>0.0175 0.047 0.320</td>
<td>0.085</td>
<td>10 – 57</td>
<td>1 : 1.9</td>
<td>12 V, 2 A</td>
</tr>
</tbody>
</table>

1. When ordering, please specify a packaging code: D = 13” machine ready reel. EIA-481 embossed plastic tape (175 parts per full reel).

2. Inductance is measured at 250 kHz, 0.2 Vrms, 0 Adc.

3. DCR for the secondary is measured with the windings connected in parallel.

4. Leakage inductance is for the primary and is measured with the secondary shorted.

5. Maximum duty cycle at minimum input voltage is 0.72.

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

7. Output is with the secondary windings connected in parallel. Bias winding output is 12 V, 20 mA.

8. Electrical specifications at 25°C.

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

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#### Recommended Land Pattern

Parts manufactured prior to December 2011 may be marked differently.

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**Dimensions are in inches**

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**Primary windings and secondary windings to be connected in parallel on PC board.”**