NEW!

High Power PoE Flyback Transformers

- Developed for Flyback DC/DC PoE PD power converters up to 51 W
- Designed to meet the upcoming IEEE802.3bt standard and operates with 36 – 57 V input
- 1500 Vrms, one minute isolation (hipot) between primary and auxiliary to secondary.
- Perfect solution for high power PoE applications including Smart Building and IoT

**Core material** Ferrite

**Environment** RoHS compliant, halogen free

**Terminations** Tin-silver-copper over tin over nickel over phos bronze

**Weight** 6.5 – 8 g

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

**Maximum part temperature** +165°C (Ambient + temp rise)

**Storage temperature** Component: −40°C to +165°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

<table>
<thead>
<tr>
<th>Part number1</th>
<th>Power (W)</th>
<th>Inductance at 0 A2 (µH)</th>
<th>DCR max (mOhms) pri sec aux</th>
<th>Leakage inductance3 max (µH)</th>
<th>Turns ratio pri : sec : aux</th>
<th>Ipks(A)</th>
<th>Output5</th>
</tr>
</thead>
<tbody>
<tr>
<td>POE40Q-33ED</td>
<td>40</td>
<td>33.3 ±15%</td>
<td>64 2 104</td>
<td>0.32</td>
<td>1 : 0.143 : 0.5</td>
<td>3.5</td>
<td>3.3 V, 11 A</td>
</tr>
<tr>
<td>POE40Q-50ED</td>
<td>40</td>
<td>33.3 ±15%</td>
<td>66 4 102</td>
<td>0.25</td>
<td>1 : 0.214 : 0.5</td>
<td>3.5</td>
<td>5 V, 7.3 A</td>
</tr>
<tr>
<td>POE40Q-12ED</td>
<td>40</td>
<td>27.8 ±15%</td>
<td>35 18 85</td>
<td>0.14</td>
<td>1 : 0.5 : 0.5</td>
<td>3.7</td>
<td>12 V, 3 A</td>
</tr>
<tr>
<td>POE40Q-24ED</td>
<td>40</td>
<td>27.8 ±15%</td>
<td>35 69 85</td>
<td>0.11</td>
<td>1 : 1 : 0.5</td>
<td>3.7</td>
<td>24 V, 1.5 A</td>
</tr>
<tr>
<td>POE40Q-48ED</td>
<td>40</td>
<td>27.8 ±15%</td>
<td>34 266 85</td>
<td>0.10</td>
<td>1 : 2 : 0.5</td>
<td>4.7</td>
<td>48 V, 0.76 A</td>
</tr>
<tr>
<td>POE51Q-33ED</td>
<td>51</td>
<td>26.7 ±10%</td>
<td>64 2 104</td>
<td>0.32</td>
<td>1 : 0.143 : 0.5</td>
<td>4.5</td>
<td>3.3 V, 14.1 A</td>
</tr>
<tr>
<td>POE51Q-50ED</td>
<td>51</td>
<td>26.7 ±10%</td>
<td>66 4 102</td>
<td>0.25</td>
<td>1 : 0.214 : 0.5</td>
<td>4.5</td>
<td>5 V, 9.3 A</td>
</tr>
<tr>
<td>POE51Q-12ED</td>
<td>51</td>
<td>22.2 ±10%</td>
<td>35 18 85</td>
<td>0.14</td>
<td>1 : 0.5 : 0.5</td>
<td>4.7</td>
<td>12 V, 3.9 A</td>
</tr>
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<td>0.10</td>
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<td>4.7</td>
<td>48 V, 0.97 A</td>
</tr>
</tbody>
</table>

1. **Packaging:** D = 13" machine-ready reel, EIA-481 embossed plastic tape (150 parts per full reel). Quantities less than full reel available: in tape (not machine ready) or with leader and trailer ($25 charge).

2. Inductance is for the primary, measured at 250 kHz, 0.5 Vrms, 0 Adc.

3. Leakage inductance is for the primary with the secondary and aux windings shorted.

4. DC current at 25°C that causes an inductance drop of <10% (POExx51Q) and <15% (POExx40Q) from its value without current.

5. Output is for the secondary. Output of the aux winding is 12 V, 30 mA.

6. Electrical specifications at 25°C.

Refer to Doc 362 “Soldering Surface Mount Components” before soldering.
Flyback Transformers for PoE

Schematics

POExxQ-12E, POExxQ-24E,
POExxQ-33E, POExxQ-50E

Connect pin 9 to 10 and
pin 6 to 7 on PC board.

Dimensions are in inches
mm

Packaging 150 per 13” reel Plastic tape: 44 mm wide,
0.5 mm thick, 28 mm pocket spacing, 14.6 mm pocket depth

Recommended
Land Pattern

Dimensions are in inches
mm

Packaging 150 per 13” reel Plastic tape: 44 mm wide,
0.5 mm thick, 28 mm pocket spacing, 14.6 mm pocket depth