**4 W Forward Mode Transformers**

- Designed for forward topology operating at 250 kHz
- Five outputs from 3.3 V to 15 V; 9 - 18 V input
- 1500 Vrms isolation from primary and aux to the secondary
- Specified by National Semiconductor for its LM5015 Two-Switch Forward Regulator

**Core material** Ferrite  
**Terminations** RoHS tin-silver over tin over nickel over phos bronze. Other terminations available at additional cost.  
**Weight** 2.0 – 2.1g  
**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)  
**Packaging** 350 per 13” reel Plastic tape: 32 mm wide, 0.42 mm thick, 20 mm pocket spacing, 9.16 mm pocket depth  
**PCB washing** Tested with pure water or alcohol only. For other solvents, see Doc787_PCB_Washing.pdf.

<table>
<thead>
<tr>
<th>Part number</th>
<th>Inductance nom (µH)</th>
<th>DCR max (mOhms)</th>
<th>Leakage inductance max (µH)</th>
<th>Input voltage range (V)</th>
<th>Turns ratio</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>pri</td>
<td>sec</td>
<td>aux</td>
<td>pri : sec</td>
<td>pri : aux</td>
<td>pri</td>
</tr>
<tr>
<td>FCT1-33K2SL</td>
<td>120</td>
<td>48</td>
<td>53</td>
<td>720</td>
<td>0.195</td>
<td>9 - 18</td>
</tr>
<tr>
<td>FCT1-50K2SL</td>
<td>120</td>
<td>48</td>
<td>88</td>
<td>735</td>
<td>0.205</td>
<td>9 - 18</td>
</tr>
<tr>
<td>FCT1-90K2SL</td>
<td>120</td>
<td>48</td>
<td>218</td>
<td>745</td>
<td>0.185</td>
<td>9 - 18</td>
</tr>
<tr>
<td>FCT1-120K2SL</td>
<td>120</td>
<td>48</td>
<td>420</td>
<td>705</td>
<td>0.170</td>
<td>9 - 18</td>
</tr>
<tr>
<td>FCT1-150K2SL</td>
<td>120</td>
<td>48</td>
<td>532</td>
<td>732</td>
<td>0.215</td>
<td>9 - 18</td>
</tr>
</tbody>
</table>

1. When ordering, please specify a packaging code:  
   - **FCT1-50K2SL**

Packaging:  
**D** = 13” machine ready reel. EIA-481 embossed plastic tape (350 parts per full reel). Quantities less than full reel available: in tape (not machine ready) or with leader and trailer ($25 charge).  
**B** = Less than full reel. To simplify our part numbering system, Coilcraft is eliminating the need for multiple packaging codes. When ordering, simply change the last letter of your part number from B to D.

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. Turns ratio is with the secondary windings connected in parallel.  
6. Output is with the secondary windings connected in parallel. Auxiliary winding output is 10 V, 20 mA.  
7. Electrical specifications at 25°C.  
Refer to Doc 362 “Soldering Surface Mount Components” before soldering.

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**Recommended Land Pattern**

- Primary  
- Secondary  
- Auxiliary

Dimensions:  
- **Primary**  
- **Secondary**  
- **Auxiliary**

Secondary winding 7 - 8 not used on FCT1-120K2SL and FCT1-150K2SL. For other parts, secondary windings to be connected in parallel on PCB board.

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