Flyback Transformer for NXP Semiconductor SSL2103 SMPS Controller

- Developed for NXP Semiconductor for use with the SSL2103 SMPS Controller for dimmable LED lighting
- Designed to operate at 100 kHz with 120 Vac input
- 2000 Vrms, one minute isolation from primary and auxiliary to secondary; 500 Vrms, one minute isolation from primary to auxiliary

Core material  Ferrite
Terminations    RoHS compliant tin-silver over tin over copper over steel. Other terminations available at additional cost.
Weight          11.8 g
Ambient temperature  −40°C to +85°C
Maximum part temperature  +125°C (ambient + temp rise).
Storage temperature  Component: −40°C to +125°C.
                    Tray packaging: −40°C to +80°C
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 100 per tray

<table>
<thead>
<tr>
<th>Part number</th>
<th>L at 0 A&lt;sup&gt;1&lt;/sup&gt; ±10% (µH)</th>
<th>L at Ipk&lt;sup&gt;2&lt;/sup&gt; min (µH)</th>
<th>DCR max (Ohms)&lt;sup&gt;3&lt;/sup&gt;</th>
<th>Leakage L&lt;sup&gt;4&lt;/sup&gt; max (µH)</th>
<th>Turns ratios</th>
<th>Ipk&lt;sup&gt;2&lt;/sup&gt; (A)</th>
<th>Output&lt;sup&gt;5&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>MA5157-AL</td>
<td>750</td>
<td>635</td>
<td>0.880</td>
<td>0.095</td>
<td>0.585</td>
<td>20.5</td>
<td>1 : 0.23</td>
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<td></td>
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<td>1 : 0.20</td>
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<td></td>
<td></td>
<td></td>
<td>1.2</td>
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<td>23 V, 0.74 A</td>
</tr>
</tbody>
</table>

1. Inductance is for the primary, measured at 100 kHz, 0.1 Vrms, 0 Adc.
2. Ipk is peak primary current drawn at minimum input voltage.
3. DCR for the primary is measured with the windings connected in parallel.
4. Leakage inductance is for the primary winding, measured at 100 kHz, 0.1 Vrms, 0 A with secondary pins shorted.
6. Output is for the secondary. Output of the auxiliary coil is 19 V, 20 mA.
5. Electrical specifications at 25°C.

Dimensions are in inches mm.

Recommended PC Board Layout

Dot indicates pin 1

Dimensions are in inches mm.