SM91602L LAN Transformer

**Features**
- Single port Gigabit Ethernet
- Working voltage: 500 V
- Hi-Pot: 4680 VDC
- Design construction: Reinforced insulation per IEC 60664-1 and IEC 62368-1 requirements
- RoHS compliant*

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**General Specifications**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>OCL (100 kHz / 0.1 V, 8 mA DC Bias)</td>
<td>350 µH min.</td>
</tr>
<tr>
<td>Leakage Inductance (100 kHz/0.1 V)</td>
<td>1.0 µH max.</td>
</tr>
<tr>
<td>DCR Transformer Side</td>
<td>0.90 Ω max.</td>
</tr>
<tr>
<td>DCR CM Choke Side</td>
<td>1.30 Ω max.</td>
</tr>
<tr>
<td>Insertion Loss:</td>
<td>1 MHz: -1.0 dB max.</td>
</tr>
<tr>
<td></td>
<td>5~80 MHz: -3.0 dB max.</td>
</tr>
<tr>
<td></td>
<td>125 MHz: -5.0 dB max.</td>
</tr>
<tr>
<td>Return Loss (Z out = 100 Ω)</td>
<td>1~30 MHz: -8.5 dB min.</td>
</tr>
<tr>
<td></td>
<td>30~45 MHz: -6.0 dB min.</td>
</tr>
<tr>
<td></td>
<td>45~60 MHz: -4.5 dB min.</td>
</tr>
<tr>
<td>Cross Talk (Between each Channel):</td>
<td>-58 dB min.</td>
</tr>
<tr>
<td></td>
<td>5~100 MHz: -30+20*LOG10(020 MHz) dB min.</td>
</tr>
<tr>
<td>Hi-pot (1 mA, 60 S)</td>
<td>4680 VDC</td>
</tr>
<tr>
<td>Working Voltage</td>
<td>up to 500 V</td>
</tr>
<tr>
<td>Operation Temperature</td>
<td>-50 °C to +85 °C</td>
</tr>
<tr>
<td>Storage Temperature (Component)</td>
<td>-50 °C to +125 °C</td>
</tr>
<tr>
<td>Moisture Sensitivity Level</td>
<td>1</td>
</tr>
<tr>
<td>ESD Classification (HBM)</td>
<td>N/A</td>
</tr>
</tbody>
</table>

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**Packaging Specification**

- Tape & Reel: 200 pcs. per 13-inch reel

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**How To Order**

**SM91602 L - E**

<table>
<thead>
<tr>
<th>Model</th>
<th>SM91602 L - E</th>
</tr>
</thead>
<tbody>
<tr>
<td>RoHS Compliance Designator</td>
<td></td>
</tr>
<tr>
<td>Packaging</td>
<td>E = 200 pcs. per 13-inch Reel, 2 Reels Per Box</td>
</tr>
</tbody>
</table>

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**WARNING** Cancer and Reproductive Harm - [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)


Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

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Electrical Schematic

Reflow Solder Profile

<table>
<thead>
<tr>
<th>Profile Feature</th>
<th>Pb-Free Assembly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Ramp-Up Rate</td>
<td>3 °C / second max.</td>
</tr>
<tr>
<td>PREHEAT:</td>
<td></td>
</tr>
<tr>
<td>Temperature Min. ($T_{smin}$)</td>
<td>150 °C</td>
</tr>
<tr>
<td>Temperature Max. ($T_{smax}$)</td>
<td>200 °C</td>
</tr>
<tr>
<td>Time ($T_{smin}$ to $T_{smax}$)</td>
<td>60–180 seconds</td>
</tr>
<tr>
<td>Liquidus Temperature ($T_L$)</td>
<td>217 °C</td>
</tr>
<tr>
<td>Time Above Liquidus Temperature ($t_L$)</td>
<td>60–150 seconds</td>
</tr>
<tr>
<td>Peak Temperature ($T_P$)</td>
<td>245-250 °C</td>
</tr>
<tr>
<td>Time within 5 °C of Actual Peak Temperature ($t_p$)</td>
<td>20–40 seconds</td>
</tr>
<tr>
<td>Ramp-Down Rate from Peak Temperature</td>
<td>6 °C / second max.</td>
</tr>
<tr>
<td>Time 25 °C to Peak Temperature ($T_p$)</td>
<td>8 minutes max.</td>
</tr>
<tr>
<td>Do Not Exceed</td>
<td>250 °C</td>
</tr>
</tbody>
</table>
SM91602L LAN Transformer

Packaging Specifications

Specifications and tolerances comply with EIA-481 requirements.

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