**SM91078L LAN Transformer**

**Features**
- 100Base-Tx Ethernet
- Working voltage up to 1500 VDC
- Hi-Pot: 4000 VAC
- Design construction: Basic insulation per IEC 62368-1
- Creepage distance 8 mm minimum, pollution degree 2, material group CTI I
- Clearance distance 8 mm minimum, Overvoltage Category III, up to 4 km sea level
- RoHS compliant*

### General Specifications

- **OCL (100 kHz / 0.1 V, 8 mA DC Bias)**  
  
  (-40 °C ~ +105 °C)............ 350 µH min.

- **Leakage Inductance (100 kHz/0.1 V)**
  
  ........................................ 1.0 µH max.

- **DCR**
  - Transformer Side ............ 0.6 Ω max.
  - CM Choke Side ............... 1.0 Ω max.

- **Turns Ratio**
  - 1:1 ± 2 %

- **Insertion Loss:**
  - 1-10 MHz ................. -0.35 dB max.
  - 10-60 MHz ................. -2.5 dB max.
  - 60-100 MHz ............... -4.0 dB max.

- **Return Loss (Z out = 100 Ω)**
  - 1-30 MHz ................. -8.5 dB min.
  - 30-45 MHz ................. -6.0 dB min.
  - 45-60 MHz ............... -4.5 dB min.

- **Common Mode Rejection Ratio**
  - 1-30 MHz ................. -45 dB min.
  - 30-100 MHz ............. -30 dB min.

- **Cross Talk (Between each Channel):**
  - 1 MHz ................. -62 dB min.
  - 5-100 MHz ............... -40+20*LOG10(f/30 MHz) dB min.

- **Hi-pot (1 mA, 60 S)**
  - 4000 VAC

- **Working Voltage**
  - up to 1500 VDC

- **System Voltage**
  - up to 600 VAC

- **Impulse Voltage**
  - 8 kV, 1.2/5.0 µS

- **Operation temperature**
  - -40 °C to +105 °C

- **Storage Temperature (Component)**
  - -50 °C to +125 °C

- **Moisture Sensitivity Level**
  - 1

- **ESD Classification (HBM)**
  - N/A

### How To Order

**SM91078 L - E**

**Model**

**Termination**

L = Tin (RoHS Compliant)

**Packaging**

E = Tape and Reel

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**WARNING** Cancer and Reproductive Harm - www.P65Warnings.ca.gov

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Users should verify actual device performance in their specific applications.
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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&lt;sub&gt;smin&lt;/sub&gt;)</td>
<td>150 °C</td>
</tr>
<tr>
<td>Temperature Max. (T&lt;sub&gt;smax&lt;/sub&gt;)</td>
<td>200 °C</td>
</tr>
<tr>
<td>Time (T&lt;sub&gt;smax&lt;/sub&gt; to T&lt;sub&gt;smax&lt;/sub&gt;)</td>
<td>60–180 seconds</td>
</tr>
<tr>
<td>Liquidus Temperature (T&lt;sub&gt;L&lt;/sub&gt;)</td>
<td>217 °C</td>
</tr>
<tr>
<td>Time Above Liquidus Temperature (t&lt;sub&gt;L&lt;/sub&gt;)</td>
<td>60–150 seconds</td>
</tr>
<tr>
<td>Peak Temperature (T&lt;sub&gt;p&lt;/sub&gt;)</td>
<td>245–250 °C</td>
</tr>
<tr>
<td>Time within 5 °C of Actual Peak Temperature (t&lt;sub&gt;p&lt;/sub&gt;)</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&lt;sub&gt;p&lt;/sub&gt;)</td>
<td>8 minutes max.</td>
</tr>
<tr>
<td>Do Not Exceed</td>
<td>250 °C</td>
</tr>
</tbody>
</table>

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Packaging Specifications

Specifications and tolerances comply with EIA-481 requirements.

DETAIL A

QTY: 200 PCS. PER REEL

DIMENSIONS: MM (INCHES)

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10/22

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