Features

- IEC 60335, IEC 60601-1 and IEC 60950-1 compliant
- Supplemental insulation
- 250 Vrms working voltage
- 4000 Vrms isolation voltage
- Expanded temperature range: -40 to +85 °C
- Operating altitude up to 4 km
- RoHS compliant*

Applications

- Industrial Ethernet controls
- Ethernet home appliances
- Medical equipment**

SM13100EL 10/100 Base-T Transformer

Electrical Specifications @ 25 °C

Inductance
(100 kHz, 0.1 V, 8 mA)
........................................ 350 µH min.

Leakage Inductance
(TD & RD - TX & RX shorted, @ 100 kHz, 0.1 V).................. 0.5 µH max.
DOR (TD & RD)....................... 1200 mΩ max.

Turns Ratio (±3 %)
TD : TX.......................... 1CT:1CT
RD : RX.......................... 1CT:1CT

Insertion Loss
(TD to TX & RD to RX, 1-100 MHz).................. -2.0 dB max.

Return Loss
(TD & TX & RD to RX w/ 100 Ω Load)
1-30 MHz.......................... -12 dB min.
30-45 MHz.......................... -10 dB min.
45-60 MHz.......................... -8 dB min.
60-80 MHz.......................... -6 dB min.

Cross Talk (Between Each Channel)
1-100 MHz.......................... -40 dB min.

CMR
(TD to TX & RD to RX)
30 MHz.......................... -40 dB min.
60 MHz.......................... -35 dB min.
100 MHz.......................... -30 dB min.

DCMR (TD to TX & RD to RX)
500k - 100 MHz.................. -33 dB min.

Hi-Pot (Pri. to Sec.)
............................. 4800 VAC, 1 mA
or 4000 VAC, 1 mA, 60 sec.

Operating Temperature Range
............................. -40 °C to +85 °C

Storage Temperature Range
............................. -40 °C to +125 °C

Moisture Sensitivity Level
............................. 1

ESD Classification (HBM)
............................. N/A

Electrical Schematic

Product Dimensions

Recommended Layout

Packaging Specifications

Tape & Reel.......................... 160 pcs./reel

How To Order

SM13100 E L

Model

Packaging
E = Tape and Reel (160 pcs./reel)

Termination
L = Tin (RoHS Compliant)


**Excluding life-saving, life-critical or life-sustaining applications.

Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

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SM13100EL 10/100 Base-T Transformer

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Solder Profile

<table>
<thead>
<tr>
<th>TEMPERATURE (°C)</th>
<th>TIME (SECONDS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>PRE-HEAT</td>
</tr>
<tr>
<td>25</td>
<td>FLUX ACTIVATION</td>
</tr>
<tr>
<td>50</td>
<td>REFLOW</td>
</tr>
<tr>
<td>110</td>
<td>60-150 SEC.</td>
</tr>
<tr>
<td>170</td>
<td>COOLING</td>
</tr>
<tr>
<td>230</td>
<td>217</td>
</tr>
<tr>
<td>290</td>
<td>250</td>
</tr>
</tbody>
</table>

Packaging Specifications

<table>
<thead>
<tr>
<th>DIMENSIONS:</th>
<th>MM (INCHES)</th>
</tr>
</thead>
<tbody>
<tr>
<td>330</td>
<td>(12.992) DIA.</td>
</tr>
<tr>
<td>2.0 ± 0.1</td>
<td>(0.079 ± 0.004)</td>
</tr>
<tr>
<td>4.0 ± 0.1</td>
<td>(0.157 ± 0.004)</td>
</tr>
<tr>
<td>13.4 ± 0.1</td>
<td>(0.528 ± 0.004)</td>
</tr>
<tr>
<td>18.6 ± 0.1</td>
<td>(0.732 ± 0.004)</td>
</tr>
<tr>
<td>24.5 ± 0.1</td>
<td>(0.965 ± 0.004)</td>
</tr>
<tr>
<td>24.0 ± 0.1</td>
<td>(0.945 ± 0.004)</td>
</tr>
<tr>
<td>2.0 ± 0.1</td>
<td>(0.079 ± 0.004)</td>
</tr>
</tbody>
</table>

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