Features
- Compliant with IEEE802.3 standards
- Designed for 10/100 Base-Tx and PoE
- RoHS compliant*

Applications
- VoIP
- Power over Ethernet - PoE

SM51108PEL LAN 10/100 Base-Tx VoIP Transformer (PoE) Modules

Electrical Specifications @ 25 °C
- Turns Ratio (±3 %) .......... 1CT:1CT
- OCL (@100 kHz, 0.1 V) .............. 0.1 V, 8 mA, DC Bias) ..... 350 µH min.
- Leakage Inductance
  - (@100 kHz, 0.1 V
  - with 1-2-3-6-7-8 Short) 9-11 = 14-16......... 0.5 µH max.
  - Cw/w @ 100 kHz, 0.1 V ...... 35 pF max.
- DCR
  - 1-3 = 6-8.................... 0.8 ohm max.
  - 9-11 = 14-16.............. 1.1 ohm max.
- Insertion Loss
  - 1-100 MHz....................-1.2 dB max.
- Return Loss (@100 Ohms)
  - 1-30 MHz......................-16 dB min.
  - 40 MHz.......................-14 dB min.
  - 50 MHz.......................-13 dB min.
  - 60-80 MHz...................-12 dB min.
- Cross Talk
  - 60 MHz.......................-40 dB min.
  - 100 MHz....................-35 dB min.
- DCMRR
  - 30 MHz.......................-43 dB min.
  - 60 MHz.......................-37 dB min.
  - 100 MHz...................-33 dB min.
- PoE Current.................. Up to 320 mA
- Hi-Pot Test.................. 1500 Vrms
- Operating Temperature Range
  - ...................... -40 °C to +85 °C
- Storage Temperature Range
  - ...................... -25 °C to +125 °C

Packaging Specifications
- Tape & Reel.................. 600 pcs./reel

How To Order
- SM51108PEL
- Model
- Construction
  - P = Potted
- Packaging
  - E = Tape and Reel (600 pcs./reel)
- Termination
  - L = Tin (RoHS Compliant)

Recommended Layout

Dimensions: (INCHES) TOLERANCES: ±0.25 (±0.010)

Electrical Schematic

Specifications are subject to change without notice.
The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.
Users should verify actual device performance in their specific applications.
### Soldering Profile

- Ramp-up rate = 3 °C/sec. max.
- Ramp-down rate = 6 °C/sec. max.
- $T_L = 217 \, ^\circ C$
- $t_L = 60-150 \, \text{sec.}$
- $T_p = 250 \pm 30 \, ^\circ C$
- Time within 5 °C of actual Peak Temp ($t_p$) = 20-40 sec.
- $T_s \, \text{min} = 150 \, ^\circ C$
- $T_s \, \text{max} = 200 \, ^\circ C$
- $T_s \, \text{min} \, \text{to} \, T_s \, \text{max} = 60-180 \, \text{sec.}$, 25 °C to Peak Temperature = 8 min. max.

Refer to IPC/JEDEC J-STD020D standard.

### Packaging Specifications

**Dimensions:**

<table>
<thead>
<tr>
<th>Reel</th>
<th>24.00 (0.945)</th>
<th>11.42 (0.450)</th>
<th>11.50 (0.453)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dia.</td>
<td>1.75 (0.069)</td>
<td>1.50 (0.059)</td>
<td>1.50 (0.059)</td>
</tr>
</tbody>
</table>

**User Direction of Feed**

**Quantity:** 600 PCS. PER REEL
Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Bourns:
SM51108PEL