10/100 BASE-TX Low Profile SMD LAN Transformer Module

ALANL100X1

Features

- Low Profile of 2.15 mm
- Meets IEEE 802.3u standards
- Compatible with 10 BASE-T and 100 BASE-TX
- RoHS Compliant
- High performance magnetics for EMI suppression and common mode noise rejection
- 1CT:1CT TX and RX Transformers

Applications

- Fast Ethernet
- IP cameras, surveillance, and IP phone
- Industrial computers and robotics
- PC Card and Cardbus

Part Identification

ALANL100X1 -

Package Size
- D: 12-Pin
- E: 16-Pin

Schematic
- 12-Pin
  - E10 F10
  - E12 F12
  - E62 F62
  - ED2 FD2

- 16-Pin

Operating Temp.
- E: 0 °C to +70 °C
- D: -40 °C to +85 °C
- J: -40 °C to +105 °C
- K: -40 °C to +125 °C

Packaging
- B: Bulk
- T: 2,000 pcs/reel
### Electrical Specifications at 25°C

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Insertion Loss (dB Max)</th>
<th>Return Loss (dB Min)</th>
<th>Crosstalk (dB Min)</th>
<th>CMRR (dB Min)</th>
<th>DCMR (dB Min)</th>
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<tbody>
<tr>
<td></td>
<td>0.5-100 MHz</td>
<td>1-40 MHz</td>
<td>60 MHz 80 MHz 100 MHz</td>
<td>30 MHz 60 MHz 100 MHz</td>
<td>30 MHz 60 MHz 100 MHz</td>
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<td>ALANL100X1-DE10</td>
<td>1.2 18 14.4 12 10</td>
<td>45 40 35</td>
<td>43 37 33</td>
<td>43 37 33</td>
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<tr>
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<td>45 40 35</td>
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</table>

### Part Number Specifications

<table>
<thead>
<tr>
<th>Test Condition</th>
<th>Inductance (uH Min)</th>
<th>Leakage Inductance (uH Max)</th>
<th>Interwinding Capacitance (pF Max)</th>
<th>DC Resistance (Ω Max)</th>
<th>Hi Pot (Vrms)</th>
<th>Weight (g)</th>
<th>Per Piece</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALANL100X1-DE10</td>
<td>350 0.5 30</td>
<td>1.0 1.5 1500</td>
<td>0.33</td>
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<td>ALANL100X1-DE12</td>
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<td>1.0 1.5 1500</td>
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<tr>
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<td>1.5 (1-2, 7-8) 1.0 (5-6, 11-12) 1500</td>
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<td></td>
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<td>1.5 (1-2, 9-10) 1.0 (7-8, 15-16) 1500</td>
<td>0.33</td>
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10/100 BASE-TX Low Profile SMD LAN Transformer Module

ALANL100X1

Mechanical Dimensions

D: 12-pin

Unless otherwise specified, all tolerances are ±0.25 in mm
Dimensions: inch/ [mm]
10/100 BASE-TX Low Profile SMD LAN Transformer Module

ALANL100X1

Mechanical Dimensions

E: 16-pin

RECOMMENDED LAND PATTERN

Unless otherwise specified, all tolerances are ±0.25 in mm
Dimensions: inch/ [mm]

ABRACON IS ISO9001-2015 CERTIFIED

REVISED: 08-5-19
10/100 BASE-TX Low Profile SMD LAN Transformer Module

ALANL100X1

12.7 \times 7.1 \times 2.1 \text{ mm}
RoHS/RoHS II Compliant
MSL = 1

Schematics

12-Pin

E10

E12

E62

ED2

Contact Abracon for additional options.
10/100 BASE-TX Low Profile SMD LAN Transformer Module

ALANL100X1

12.7 x 7.1 x 2.1 mm
RoHS/RoHS II Compliant
MSL = 1

Schematics

16-Pin

<table>
<thead>
<tr>
<th>F10</th>
<th>F12</th>
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<tr>
<td><img src="image1" alt="F10 Diagram" /></td>
<td><img src="image2" alt="F12 Diagram" /></td>
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<tr>
<td><img src="image3" alt="F62 Diagram" /></td>
<td><img src="image4" alt="FD2 Diagram" /></td>
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**10/100 BASE-TX Low Profile SMD LAN Transformer Module**

**ALANL100X1**

**Reflow Profile**

<table>
<thead>
<tr>
<th>Zone</th>
<th>Description</th>
<th>Temperature</th>
<th>Time</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Preheat / Soak</td>
<td>$T_{\text{SMIN}} \sim T_{\text{SMAX}}$</td>
<td>60 ~ 180 sec.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>150°C ~ 200°C</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Reflow</td>
<td>$T_p$</td>
<td>20 ~ 40 sec.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>245°C</td>
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<tr>
<td>3</td>
<td>Peak heat</td>
<td>$T_p$</td>
<td>10 sec. MAX</td>
</tr>
<tr>
<td></td>
<td></td>
<td>240°C±5°C</td>
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**Specifications:**
- **ALANL100X1**
- **12.7 x 7.1 x 2.1 mm**
- RoHS/RoHS II Compliant
- MSL = 1

**Preheat / Soak:**
- $T_{\text{SMIN}} \sim T_{\text{SMAX}}$
- 150°C ~ 200°C
- Time: 60 ~ 180 sec.

**Reflow:**
- $T_p$
- 245°C
- Time: 20 ~ 40 sec.

**Peak heat:**
- $T_p$
- 240°C±5°C
- Time: 10 sec. MAX
10/100 BASE-TX Low Profile SMD LAN Transformer Module

ALANL100X1

Packaging

Tape and Reel: 2,000 pcs
Pieces per Carton: 20,000 pcs/box
T&R per Carton: 10 T&R/box
Weight per Carton: 13.3kg
Weight per Piece: 0.33g

Dimensions: mm

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