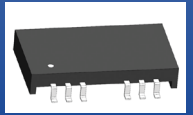


# 10/100 BASE-TX Low Profile SMD LAN Transformer Module



ALANL100X1



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

## 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 - [ ] [ ] [ ] [ ]

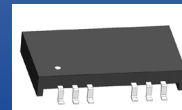
| Package Size |
|--------------|
| D: 12-Pin    |
| E: 16-Pin    |

| Schematic |        |
|-----------|--------|
| 12-Pin    | 16-Pin |
| E10       | F10    |
| E12       | F12    |
| E62       | F62    |
| ED2       | FD2    |

| 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 |

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



ALANL100X1



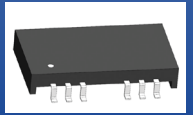
12.7 x 7.1 x 2.1 mm  
RoHS/RoHS II Compliant  
MSL = 1

## Electrical Specifications at 25°C

| Part Number     | Insertion Loss (dB Max) | Return Loss (dB Min) |        |        |         | Crosstalk (dB Min) |        |         | CMRR (dB Min) |        |         | DCMR (dB Min) |        |         |
|-----------------|-------------------------|----------------------|--------|--------|---------|--------------------|--------|---------|---------------|--------|---------|---------------|--------|---------|
|                 | 0.5-100 MHz             | 1-40 MHz             | 60 MHz | 80 MHz | 100 MHz | 30 MHz             | 60 MHz | 100 MHz | 30 MHz        | 60 MHz | 100 MHz | 30 MHz        | 60 MHz | 100 MHz |
| ALANL100X1-DE10 | 1.2                     | 18                   | 14.4   | 12     | 10      | 45                 | 40     | 35      | 43            | 37     | 33      | 43            | 37     | 33      |
| ALANL100X1-DE12 | 1.2                     | 18                   | 14.4   | 12     | 10      | 45                 | 40     | 35      | 43            | 37     | 33      | 43            | 37     | 33      |
| ALANL100X1-DE62 | 1.2                     | 18                   | 14.4   | 12     | 10      | 45                 | 40     | 35      | 43            | 37     | 33      | 43            | 37     | 33      |
| ALANL100X1-DED2 | 1.2                     | 18                   | 14.4   | 12     | 10      | 45                 | 40     | 35      | 43            | 37     | 33      | 43            | 37     | 33      |
| ALANL100X1-EF10 | 1.2                     | 18                   | 14.4   | 12     | 10      | 45                 | 40     | 35      | 43            | 37     | 33      | 43            | 37     | 33      |
| ALANL100X1-EF12 | 1.2                     | 18                   | 14.4   | 12     | 10      | 45                 | 40     | 35      | 43            | 37     | 33      | 43            | 37     | 33      |
| ALANL100X1-EF62 | 1.2                     | 18                   | 14.4   | 12     | 10      | 45                 | 40     | 35      | 43            | 37     | 33      | 43            | 37     | 33      |
| ALANL100X1-EFD2 | 1.2                     | 18                   | 14.4   | 12     | 10      | 45                 | 40     | 35      | 43            | 37     | 33      | 43            | 37     | 33      |

| Part Number     | Inductance (uH Min)        | Leakage Inductance (uH Max) | Interwinding Capacitance (pF Max) | DC Resistance (Ω Max) |                  | Hi Pot (Vrms) | Weight (g) |
|-----------------|----------------------------|-----------------------------|-----------------------------------|-----------------------|------------------|---------------|------------|
|                 |                            |                             |                                   | TD+ to TD-            | MX+ to MX-       |               |            |
| Test Condition  | @100kHz, 0.2V, 8mA DC Bias | @100kHz, 0.1V TD to MX      | @100kHz, 0.1V TD to MX            | TD+ to TD-            | MX+ to MX-       | 0.5mA/6 sec.  | Per Piece  |
| ALANL100X1-DE10 | 350                        | 0.5                         | 30                                | 1.0                   | 1.5              | 1500          | 0.33       |
| ALANL100X1-DE12 | 350                        | 0.5                         | 30                                | 1.0                   | 1.5              | 1500          | 0.33       |
| ALANL100X1-DE62 | 350                        | 0.5                         | 30                                | 1.5                   | 1.0              | 1500          | 0.33       |
| ALANL100X1-DED2 | 350                        | 0.5                         | 30                                | 1.5 (1-2, 7-8)        | 1.0 (5-6, 11-12) | 1500          | 0.33       |
| ALANL100X1-EF10 | 350                        | 0.5                         | 30                                | 1.0                   | 1.5              | 1500          | 0.33       |
| ALANL100X1-EF12 | 350                        | 0.5                         | 30                                | 1.0                   | 1.5              | 1500          | 0.33       |
| ALANL100X1-EF62 | 350                        | 0.5                         | 30                                | 1.5                   | 1.0              | 1500          | 0.33       |
| ALANL100X1-EFD2 | 350                        | 0.5                         | 30                                | 1.5 (1-2, 9-10)       | 1.0 (7-8, 15-16) | 1500          | 0.33       |

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



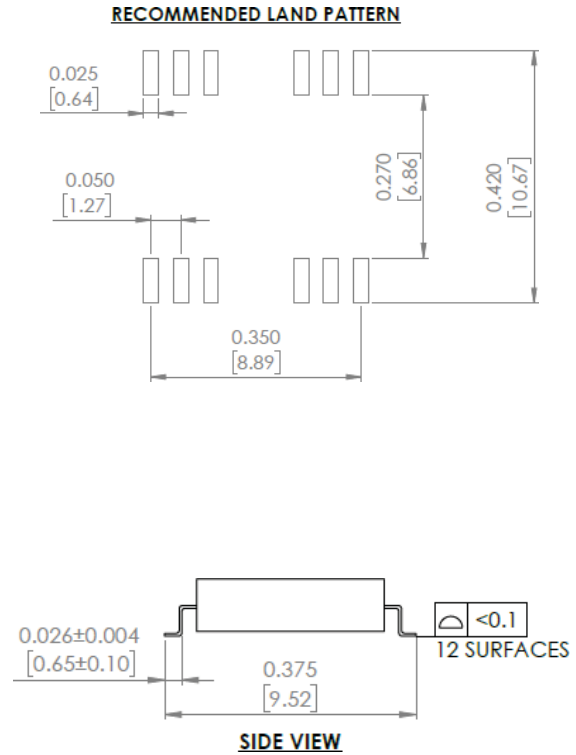
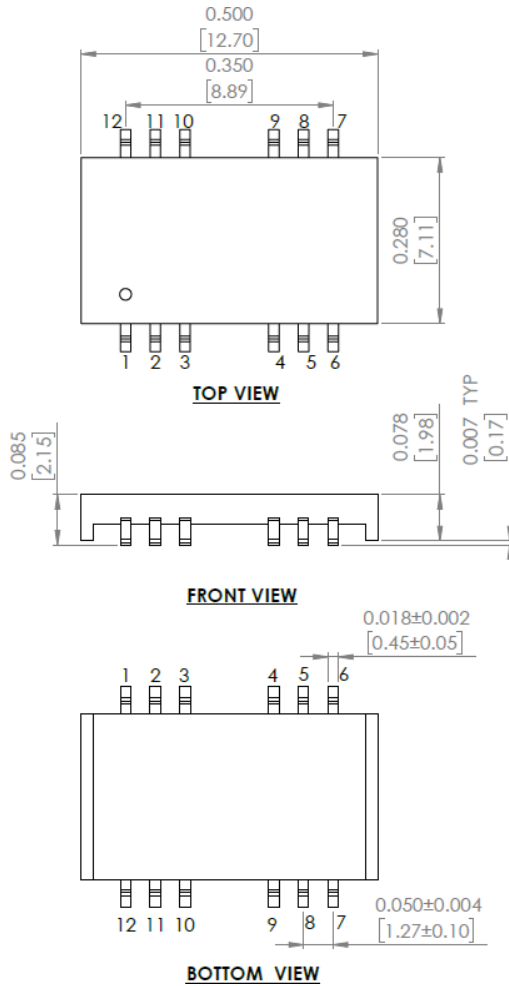
ALANL100X1



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

## Mechanical Dimensions

**D: 12-pin**



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

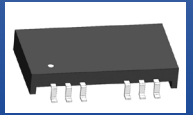


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# 10/100 BASE-TX Low Profile SMD LAN Transformer Module



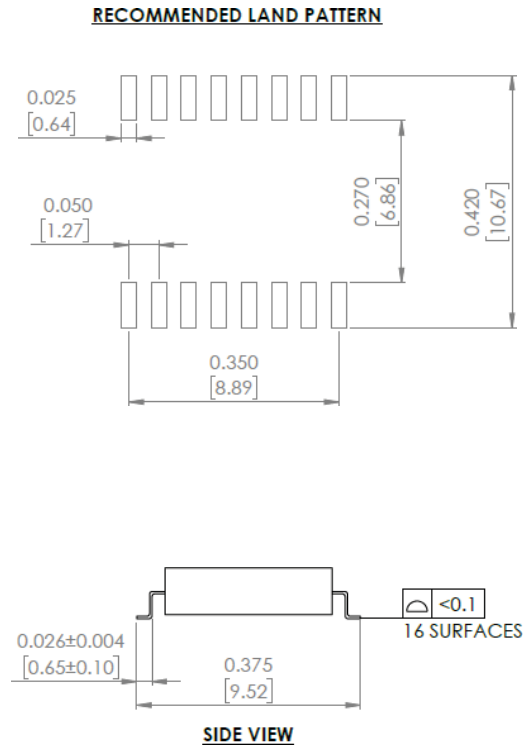
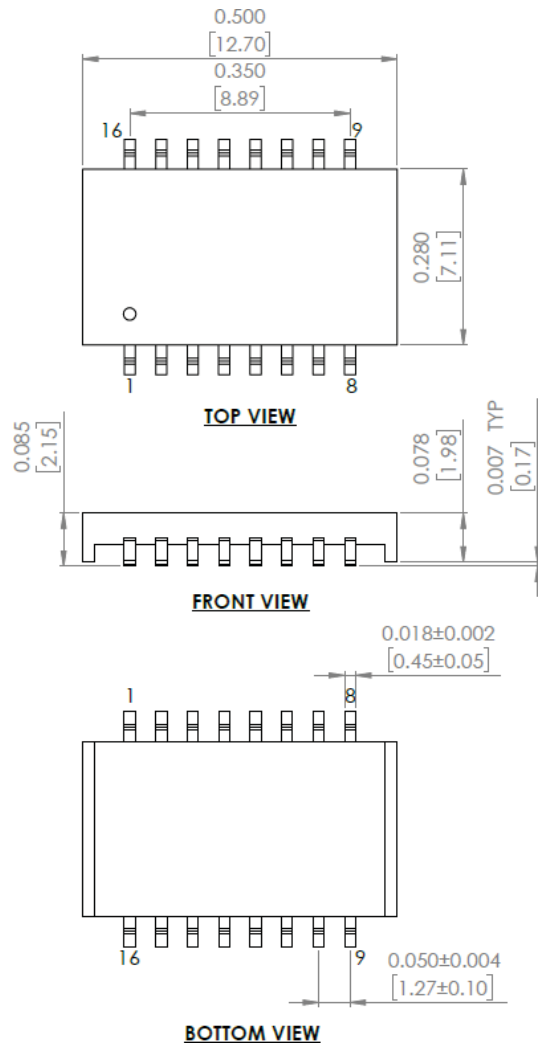
ALANL100X1



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

## Mechanical Dimensions

**E: 16-pin**



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

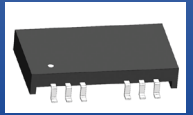


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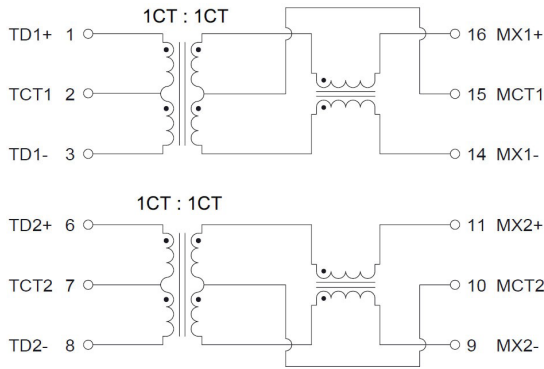


12.7 x 7.1 x 2.1 mm  
 RoHS/RoHS II Compliant  
 MSL = 1

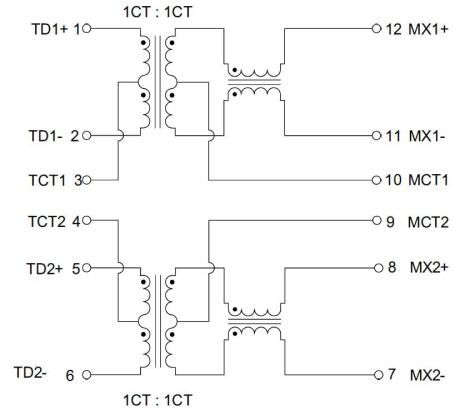
## Schematics

### 12-Pin

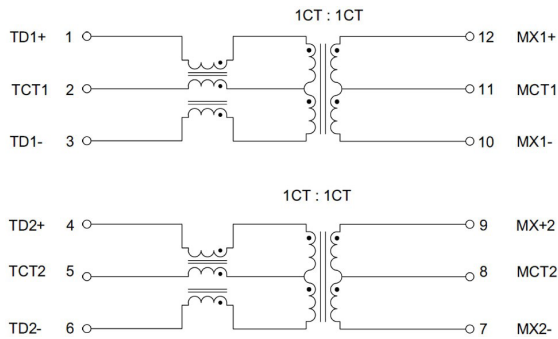
#### E10



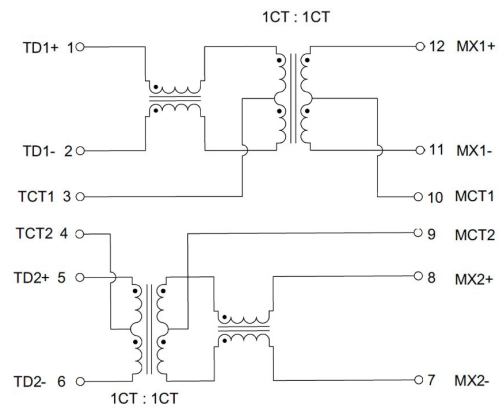
#### E12



#### E62



#### ED2



Contact Abracon for additional options.

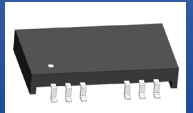


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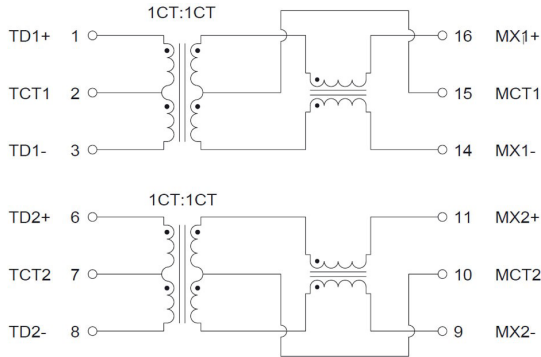


12.7 x 7.1 x 2.1 mm  
 RoHS/RoHS II Compliant  
 MSL = 1

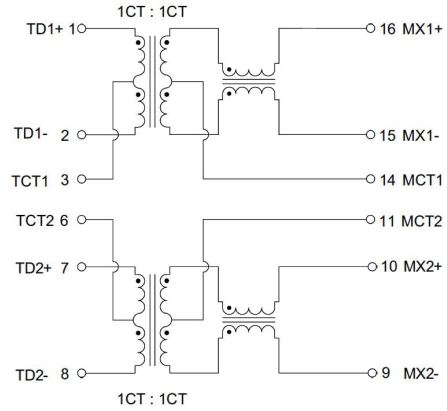
## Schematics

### 16-Pin

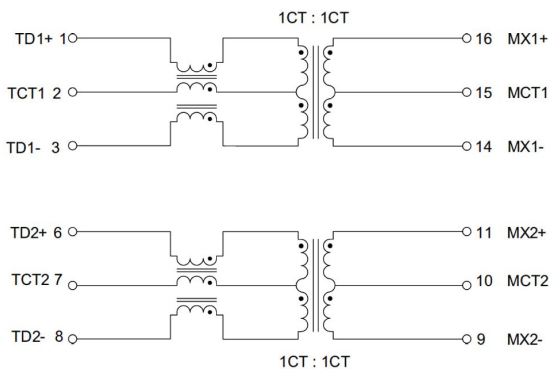
**F10**



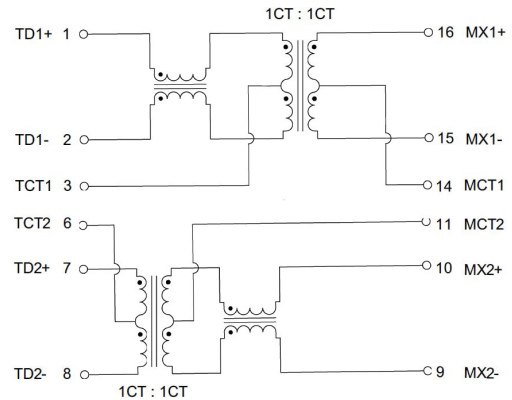
**F12**



**F62**



**FD2**



Contact Abracon for additional options.

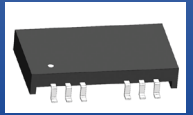


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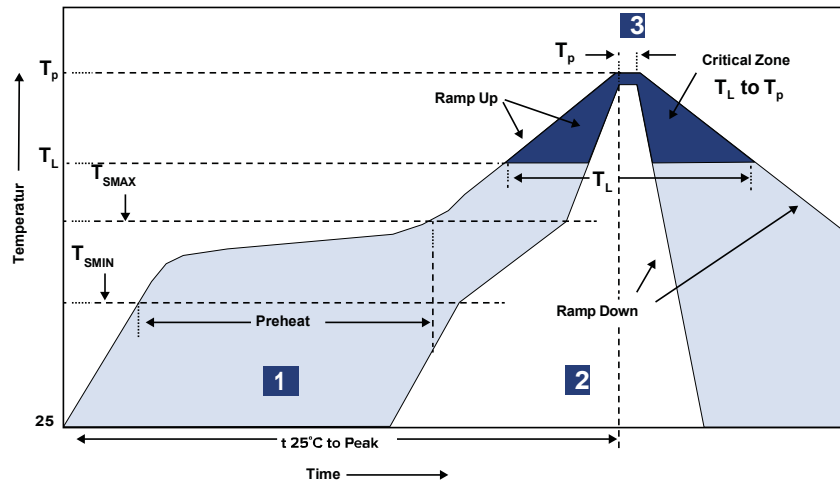


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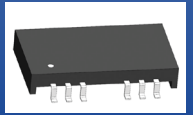
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 RoHS/RoHS II Compliant  
 MSL = 1

## Reflow Profile



| Zone | Description    | Temperature                               | Time          |
|------|----------------|---|---------------|
| 1    | Preheat / Soak | $T_{SMIN} \sim T_{SMAX}$<br>150°C ~ 200°C | 60 ~ 120 sec. |
| 2    | Reflow         | $T_L$<br>217°C                            | 60 ~ 150 sec. |
| 3    | Peak heat      | $T_P$<br>240°C ± 5°C                      | 20 ~ 40 sec.  |

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



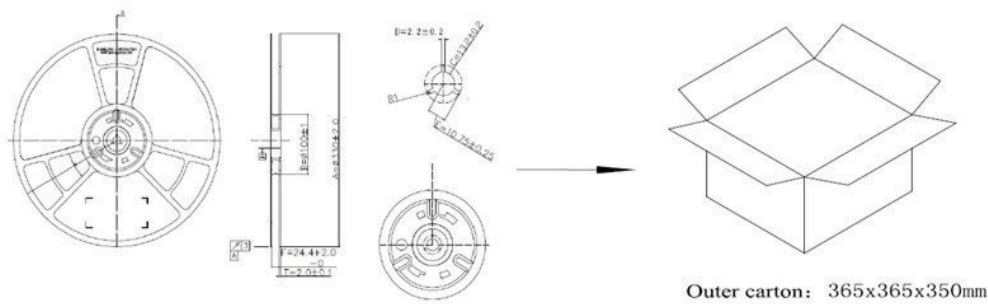
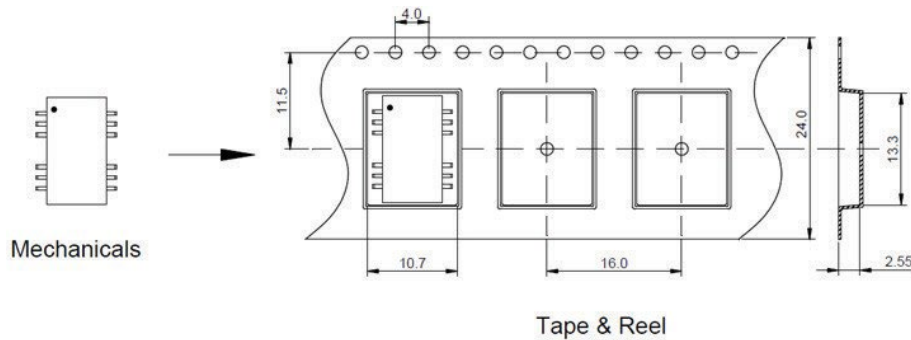
ALANL100X1



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

## 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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