

# 10/100/1000 BASE-T Dual Port SMD LAN Transformer Module



ALANS10002



27.8 x 12.2 x 7.2 mm  
27.9 x 7.5 x 8.6 mm  
RoHS/RoHS II Compliant  
MSL = 1

## Features

- Meets IEEE 802.3ab standards
- Compatible with 10 BASE-T, 100 BASE-TX, and 1000 Base-T
- Operating temperature range up to -40°C to +125°C
- RoHS Compliant
- High performance magnetics for EMI suppression and common mode noise rejection
- Multiple schematic and pinout options
- 1CT:1CT TX and RX Transformers

## Applications

- Fast and gigabit Ethernet
- Servers, switches and routers
- IP cameras, surveillance, and phone
- Access points
- Industrial computers and robotics
- Networking and communications
- Broadcast video
- Set top box

## Part Identification

ALANS10002 - [ ] [ ] [ ] [ ]

Package Size
6: 48-Pin
7: 50-Pin

Schematic	
48-Pin	50-Pin
NA1	PA1
N11	P11
N41	

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: Tape and Reel**

\*\*Package size "6: 48-Pin": T= 300 pcs/reel  
\*\*Package size "7: 50-pin": T= 400 pcs/reel

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## Electrical Specifications at 25°C

Part Number	Insertion Loss (dB Max)	Return Loss (dB Min)				Crosstalk (dB Min)			CMRR (dB Min)			DCMR (dB Min)		
	0.1-100 MHz	30 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
ALANS10002-6NA1	0.8	18	15	12	10	44	38	34	45	40	35	46	38	33
ALANS10002-6N11	0.8	18	15	12	10	44	38	34	45	40	35	46	38	33
ALANS10002-6N41	0.8	18	15	12	10	44	38	34	45	40	35	46	38	33
ALANS10002-7NA1	0.8	18	15	12	10	44	38	34	45	40	35	46	38	33
ALANS10002-7N11	0.8	18	15	12	10	44	38	34	45	40	35	46	38	33

Part Number	Inductance (uH Min)	Leakage Inductance (uH Max)	Interwinding Capacitance (pF Max)	DC Resistance (Ω Max)		Hi Pot (VDC)	Weight (g)
				Primary	Secondary		
<b>Test Condition</b>	<b>@100kHz, 0.1V, 8mA DC Bias</b>	<b>@100kHz, 0.1V TD to MX</b>	<b>@100kHz, 0.1V TD to MX</b>			<b>6 sec.</b>	<b>Per Piece</b>
ALANS10002-6NA1	350	0.35	35	1.2	0.9	2500	3.2
ALANS10002-6N11	350	0.35	35	0.9	1.2	2500	3.2
ALANS10002-6N41	350	0.35	35	1.2	0.9	2500	3.2
ALANS10002-7NA1	350	0.35	35	1.2	0.9	2500	2.2
ALANS10002-7N11	350	0.35	35	0.9	1.2	2500	2.2

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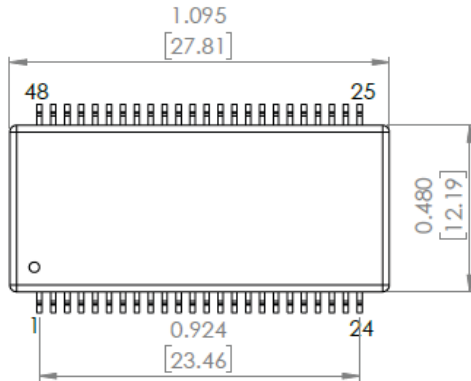
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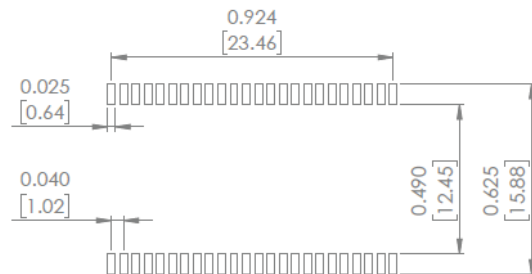
## Mechanical Dimensions

6: 48-pin

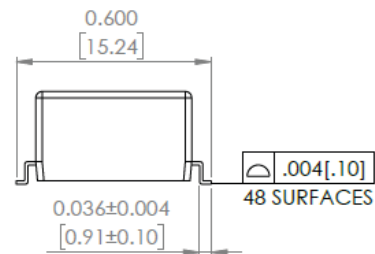


TOP VIEW

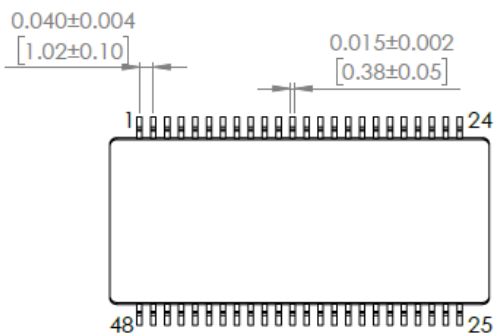
### RECOMMENDED LAND PATTERN



FRONT VIEW



SIDE VIEW



BOTTOM VIEW

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

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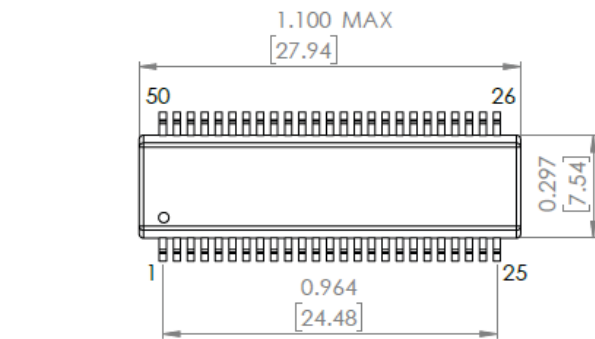
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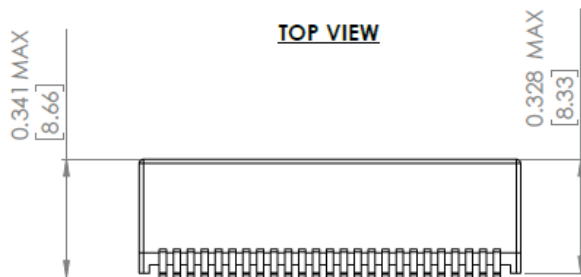
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## Mechanical Dimensions

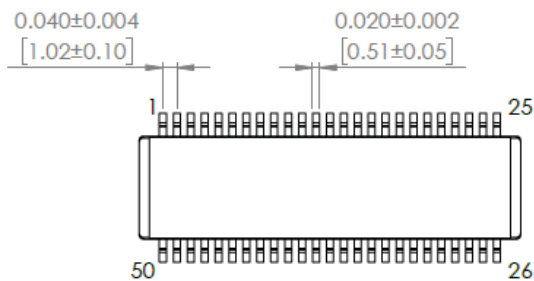
7: 50-pin



TOP VIEW

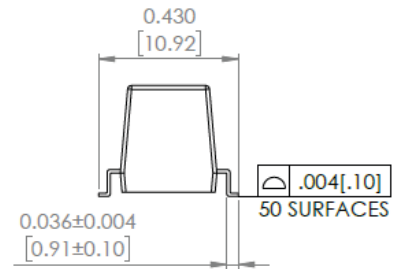
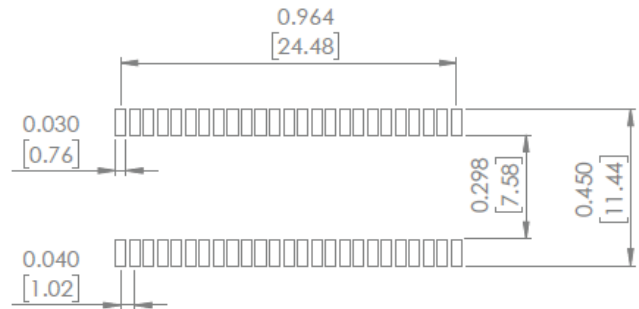


FRONT VIEW



BOTTOM VIEW

### RECOMMENDED LAND PATTERN



SIDE VIEW

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



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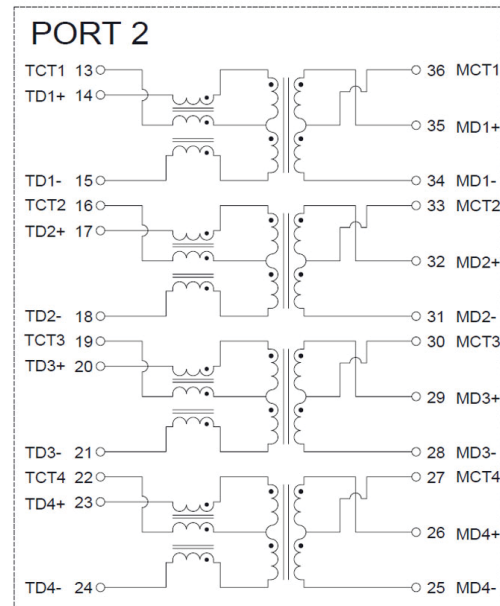
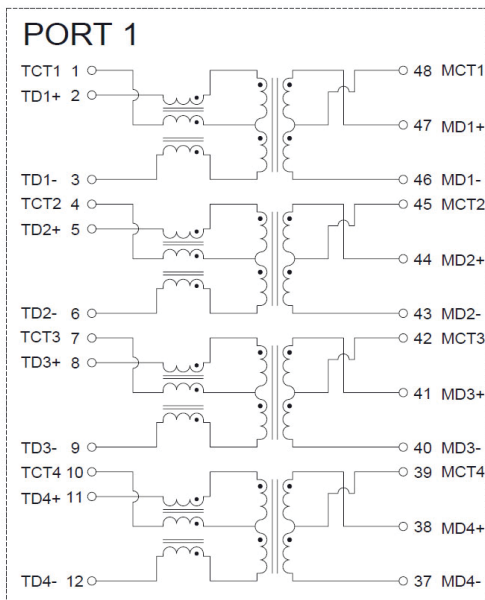


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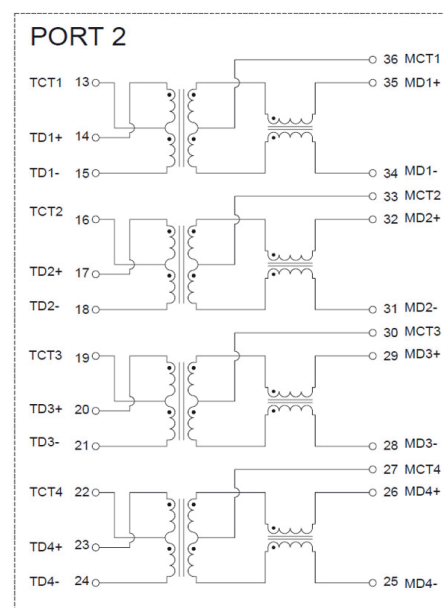
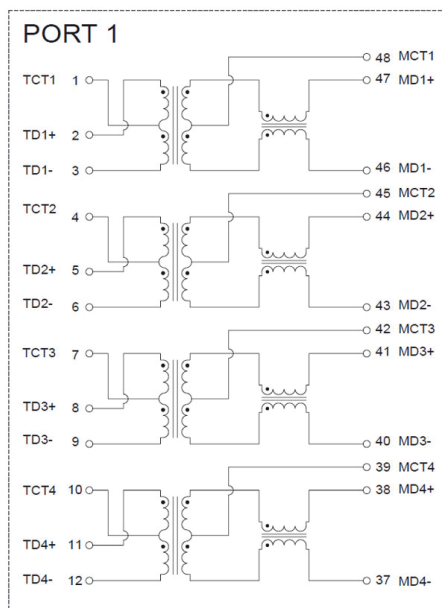
## Schematics

### 48-Pin

#### NA1



#### N11



Contact Abracon for additional options.



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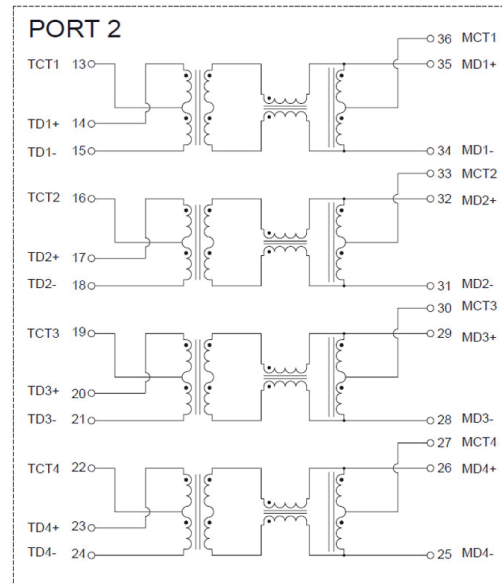
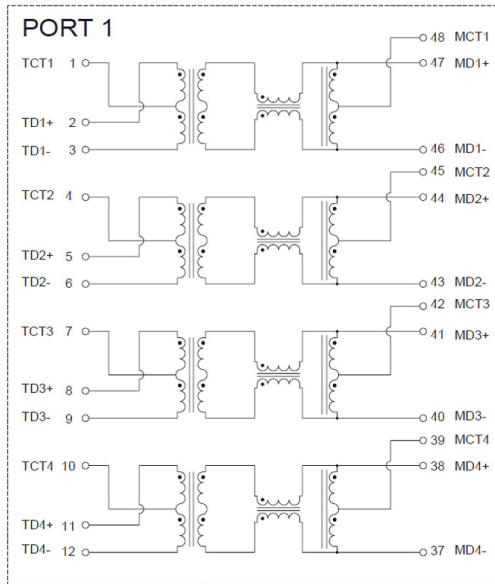


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## Schematics

### 48-Pin

N41



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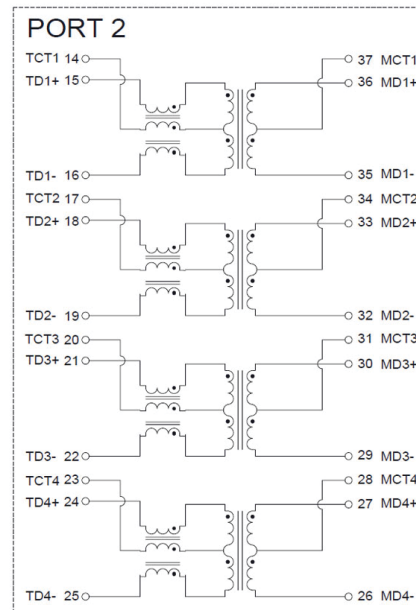
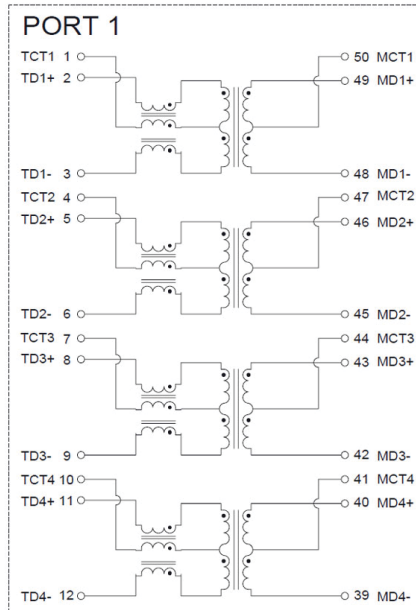


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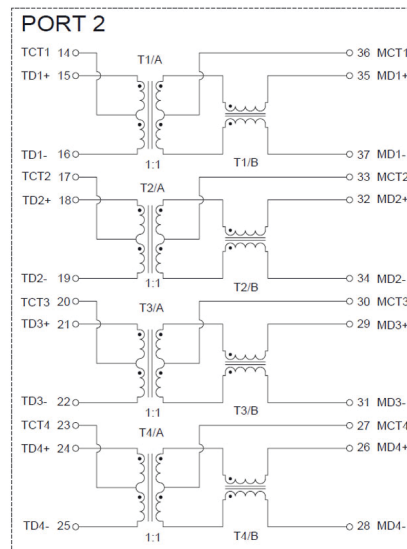
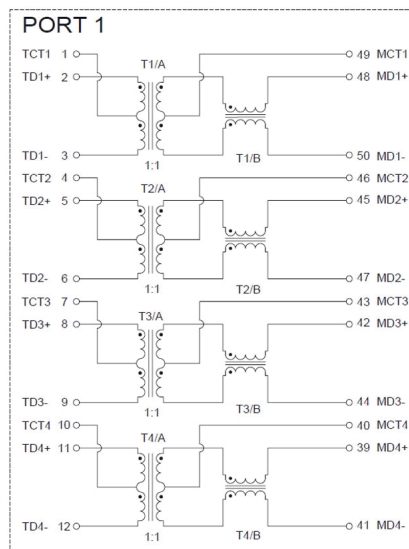
## Schematics

### 50-Pin

#### PA1



#### P11



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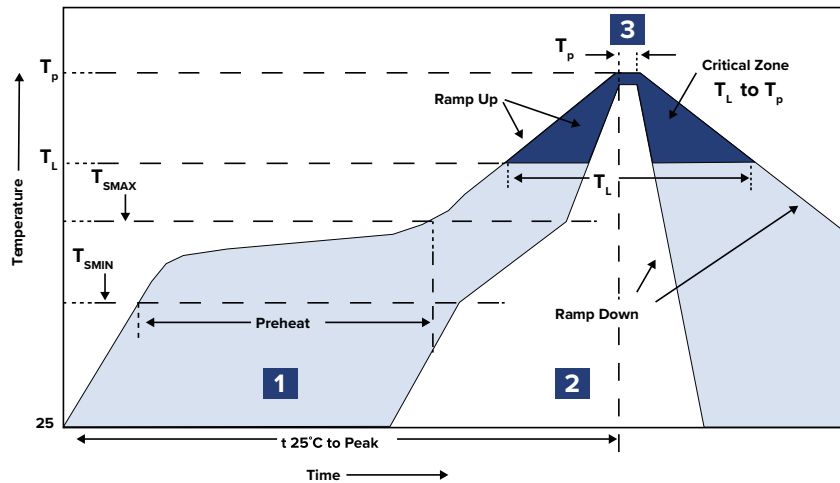


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## Reflow Profile



Zone	Description	Temperature	Time
1	Preheat / Soak	$T_{SMIN} \sim T_{SMAX}$ 150°C ~ 200°C	60 ~ 120 sec.
2	Reflow	$T_L$ 217°C	60 ~ 150 sec.
3	Peak heat	$T_P$ 245°C	20 sec. MAX



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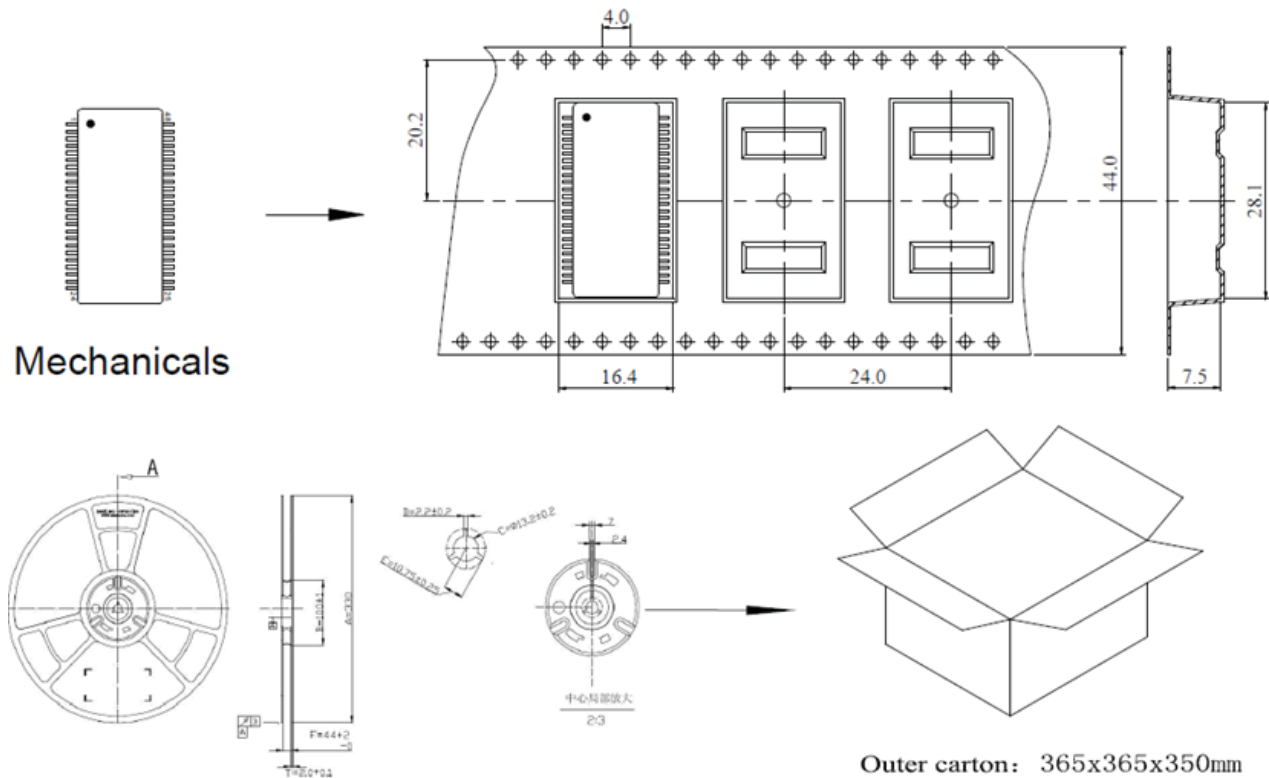
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## Packaging

### Package size option 6:

Tape and Reel: 300 pcs  
Pieces per Carton: 1,800 pcs/box  
T&R per Carton: 6 T&R/box  
Weight per Carton: 10.1kg  
Weight per Piece: 3.2g

### Mechanicals



Dimensions: mm



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