



# TAOGLAS®



# Datasheet

## LAN Transformer Dual 1G Base-T PoE

**Part No:**  
TM5020NLR

**Description:**

Dual 1000 Base-T/1G transformer  
Dual Port and 50pin SMT with PoE

**Features:**

PoE (350mA)  
Industrial grade  
AutoMDIX  
RoHS & REACH Compliant

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# 1. Introduction



Featuring a compatible footprint with industry LAN transformers, and designed to work in demanding industrial environmental conditions, the Taoglas TM5020NLR is an LAN Transformer Dual 1GBase-T Dual Port of 50pin and capable of AutoMDIX feature.

Typical applications for this cost-effective part are:

- Industrial Automation
- Hubs
- Routers
- Switches
- Wireless Access Points

The Taoglas Magnetics Product Team have over fifteen years of LAN magnetics design and high-quality manufacturing. With an ever-expanding portfolio, we provide trusted products and services to customers within a wide range of applications such as: Networking and Interconnect Devices, Servers, Switches, Router, Communication systems and any Digital Consumer electronics.

The Taoglas Exos Series offer an extensive product line of LAN Transformers designed for commercial and industrial grade applications, supporting 10/100 Base-T (Exos100 Series), 1G Base-T (Exos1G Series) and 10G Base-T (Exos10G Series). These products include Single, Dual, and Quad configurations not only for standard applications but also for Power over Ethernet (PoE, PoE+, PoE++).

For more information on the range of products or for assistance with integration, contact your regional Taoglas customer support team

## 2. Specifications

Electrical Performance @25°C	
Inductance OCL	350µH MIN @ 100KHz 0.1V 8mA DC Bias
Turns Ratio (±2%)	TX=1CT: 1CT      RX=1CT: 1CT
Insertion Loss	-1dB MAX @ 1-100Mhz
Return Loss	-18dB MIN @ 1-30Mhz
	-14.4dB MIN @ 40Mhz
	-13.1dB MIN @ 50Mhz
	-12dB MIN @ 60-80Mhz
	-10dB MIN @ 100Mhz
Cross talk	-40dB MIN @ 30Mhz
	-33dB MIN @ 60Mhz
	-28dB MIN @ 100Mhz
DCMR (dB MIN)	-40dB MIN @ 30Mhz
	-33dB MIN @ 60Mhz
	-28dB MIN @ 100Mhz
PoE Rating	350mA @ 57V Continuous
Hi-Pot	1500Vrms MIN

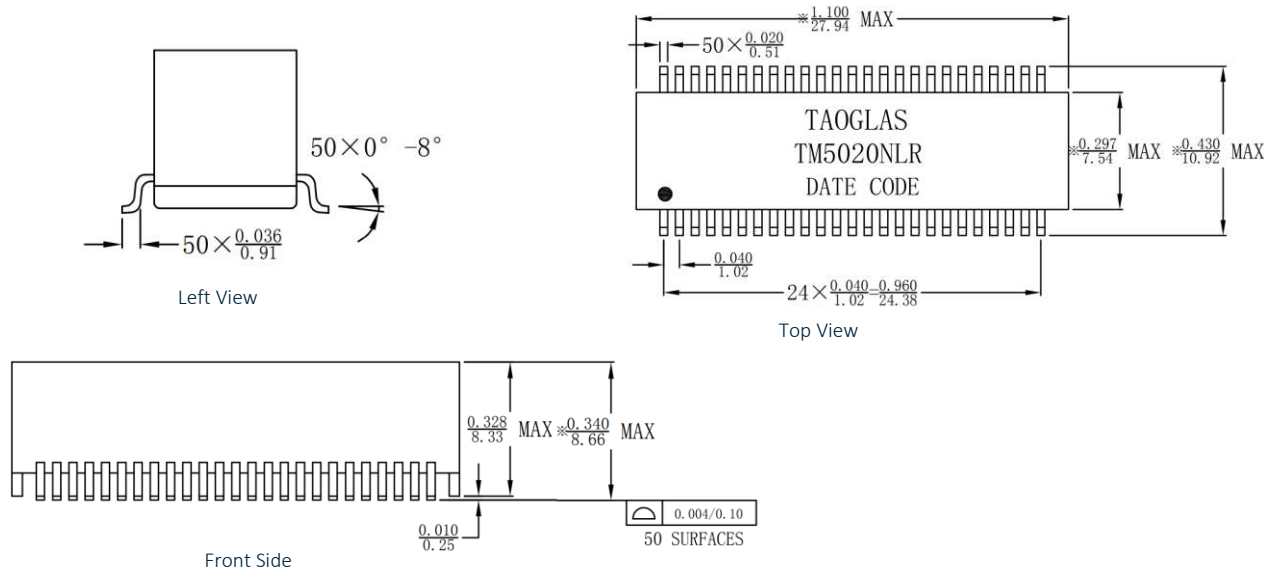
Environmental Specifications	
Operating Temperature	-40°C TO +85°C

Compliance	
UL recognized - FILE NO. E528697	
RoHS Compliant	

Storage requirements	
Humidity	Storage Temperature
MSL - 1	-40°C TO +85°C

## 3. Mechanical

### 3.1 Mechanical Drawings

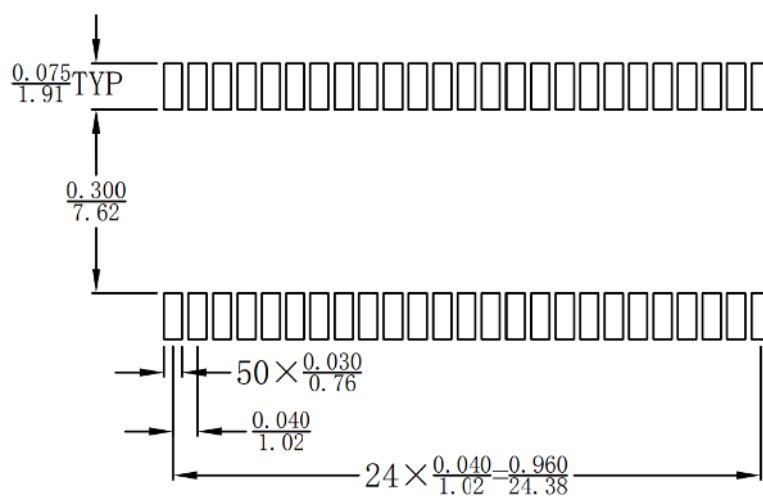


#### Mechanical Specifications

Length	27.94 mm
Width	10.92 mm
Height	8.66 mm
Mounting Style	Surface Mount (SMT)

Dimensions are in millimeters with the following tolerances: X.XX = ±0.25

### 3.2 Pad Layout

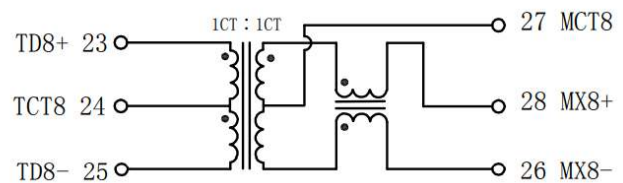
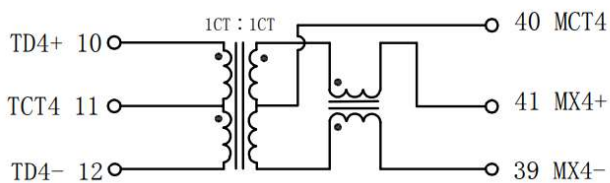
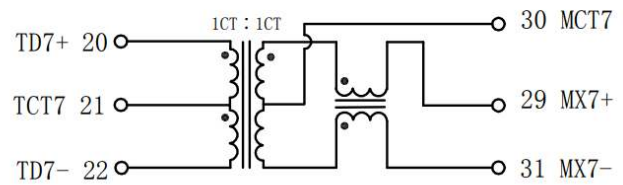
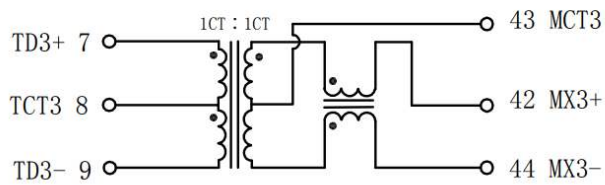
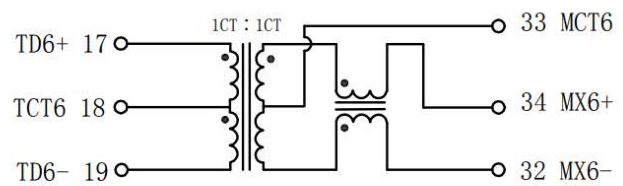
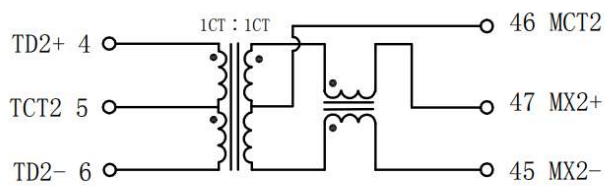
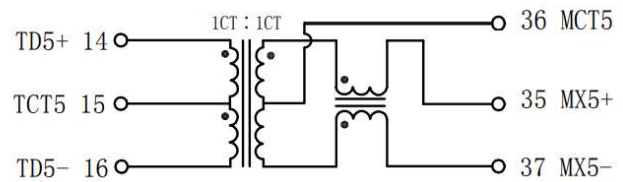
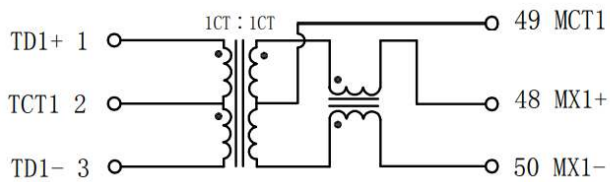


Suggested Pad Layout

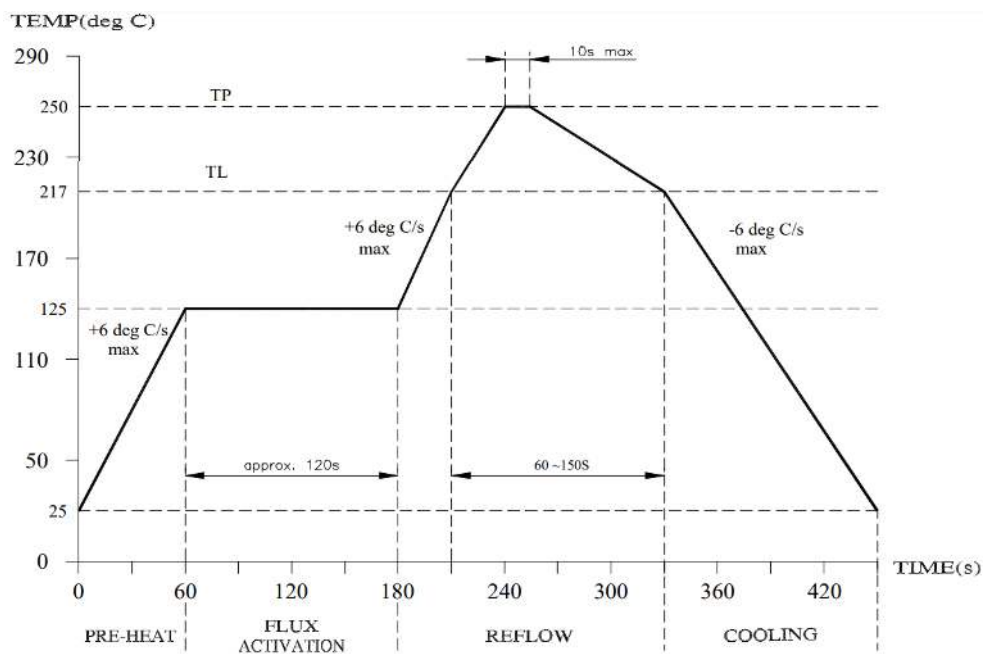
Dimensions are in millimeters with the following tolerances: X.XX = ±0.10

## 4. Electrical

### 4.1 Electrical Drawings



### 4.2 Profile of Reflow Solder



## 5. Packaging and Storage

### 5.1 SPQ

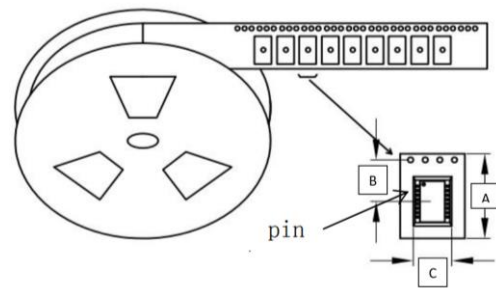
350 pcs/reel

A (Carrier Tape Width):  $44 \pm 0.3$  mm

B (Sprocket hole to Cavity center):  $20.2 \pm 0.2$  mm

C (Cavity width):  $12.2 \pm 0.2$  mm

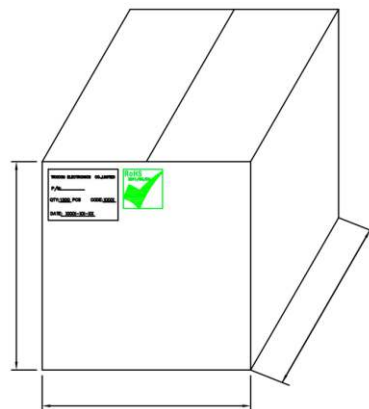
Reel weight: 1100g



1CTN = 4 reels = 1400 pcs

Carton dimensions: 370\*370\*250mm

Carton Weight: 7kg



# Changelog

Changelog for the datasheet

**SPE-22-8-066 – TM5020NLR**

**Revision: A (Original First Release)**

Date:	2022-11-08
Notes:	
Author:	Javier Vasena

**Previous Revisions**






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