

Datasheet



TAOGLAS®

RJ45 ICM 1G Base-T 2x4 Ports

Part No:

TMJG471213-9A51NL6

Description:

RJ45 connector with integrated magnetics 1G Base-T.
2x4 Ports with THT mount and LEDs.

Features:

- 2x4 Configuration
- 3 Wire + Transformer + 5th Channel-PSE
- Voltage/Current Drive
- Shielded EMI Finger
- Board guide
- PoE++ (1000mA)
- Industrial grade

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1. Introduction



Featuring a popular footprint and compatible package to industry RJ45 Integrated Connectors standards, the Taoglas TMJG471213-9A51NL6 is an RJ45 Integrated Connector 1G Base-T Single 2x4 Ports with shielded EMI finger body and designed for Industrial grade environments and PoE++ capabilities.

Typical Applications Include:

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

Taoglas Magnetics offer an extensive product line of RJ45 Integrated Connectors designed for commercial and industrial grade applications, supporting 10/100 Base-T (Atmos100 Series) and 1G Base-T (Atmos1000 series). These surface mount or through-hole components provide reliable performance and maintain signal integrity that meets IEEE 802.3 standards, and they are UL certified. The Power over Ethernet options are also available including PoE, PoE+ and PoE++.

The majority of Taoglas RJ45 ICMs are manufactured with fully automated winding, assembly & testing to ensure consistent performance, quality and reliability while ensuring cost competitiveness for its customers. These products are fully compliant with the REACH and RoHS directive, and compatible with all major PHY vendors.

For customized products or support with integration, contact your regional Taoglas customer support team for further information.

2. Specifications

Electrical Performance @ 25°C		
Inductance	350uH MIN @100KHz,0.1V,8mA DC Bias	120uH MIN @100KHz,0.1V,18mA DC Bias
Turns Ratio ($\pm 2\%$)	TX=1CT: 1CT	RX=1CT: 1CT
Insertion Loss	1-100MHz: -1.0dB Max	100-125MHz: -1.2dB Max
Return Loss (dB Min)	1-40MHz: -16	40-60MHz: -12
	60-80MHz: -10	80-100MHz: -8
Crosstalk (dB MIN)	1-100MHz: -30	
Common to Mode Rejection (dB MIN)	1-100MHz: -30	
HIPOT	2250 VDC	
DC Current/Voltage rating-PSE Pins	1000mA @ 57V (CONTINUOUS)	

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

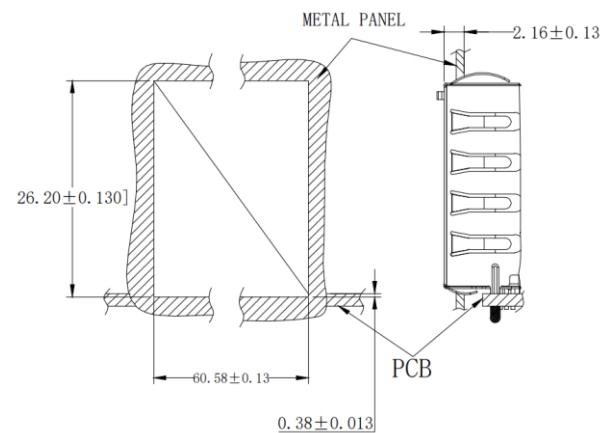
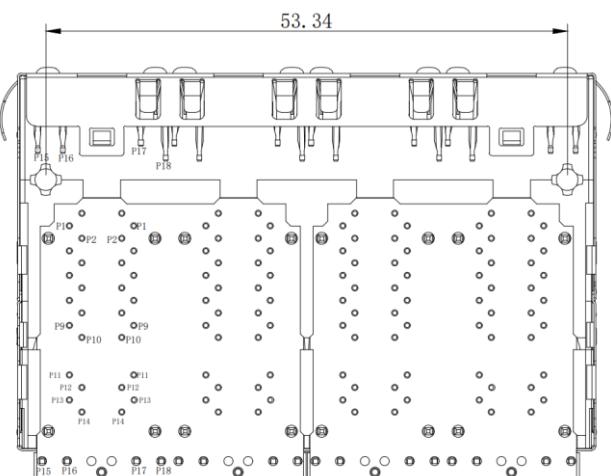
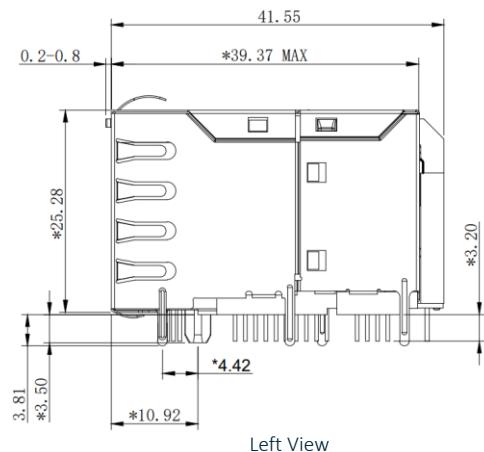
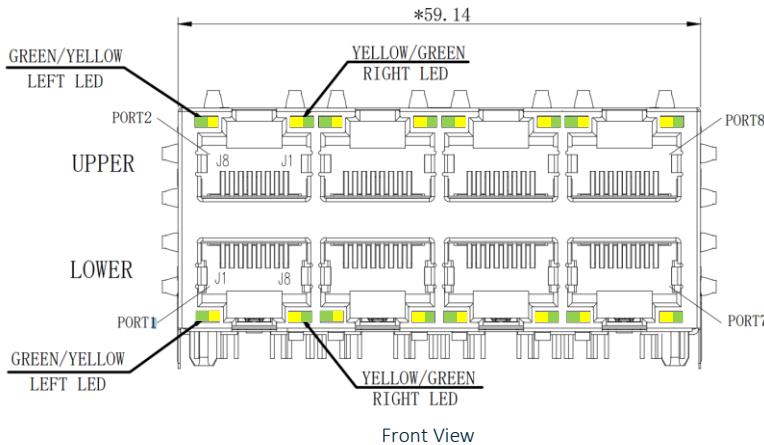
Material Specifications	
Housing	PA66 Black UL94 V-0
Insert	PA66 Black UL94 V-0
Shield	Brass
Shield plating	Nickel
Contact	Phosphor Bronze
Contact Plating	Selective Gold, 6 micro-inches Min in contact area Pin not electrically connected maybe omitted see electrical drawing for omitted pins
WAVE SOLDERING	Peak Soldering Temperature is 245° C Max, 5 secs Max

Compliance	
RoHS Compliant	

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

3. Mechanical

3.1 Mechanical Drawings

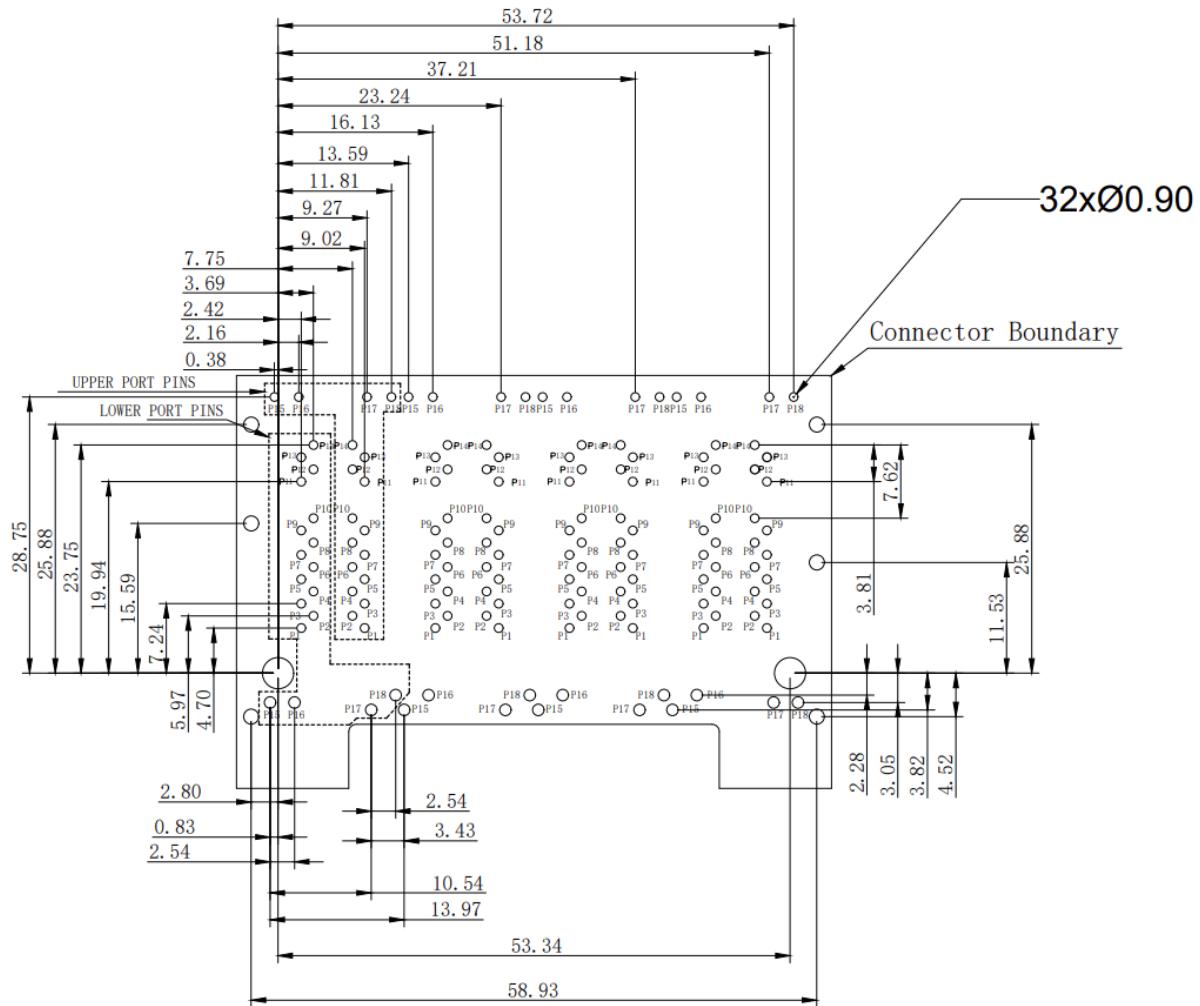


Mechanical Specifications

Height Above Board	25.28 mm
Width	59.14 mm
Depth	41.55 mm
Mounting Style	Through Hole (THT)
Mounting Angle	Right Angle

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

3.2 PCB Layout

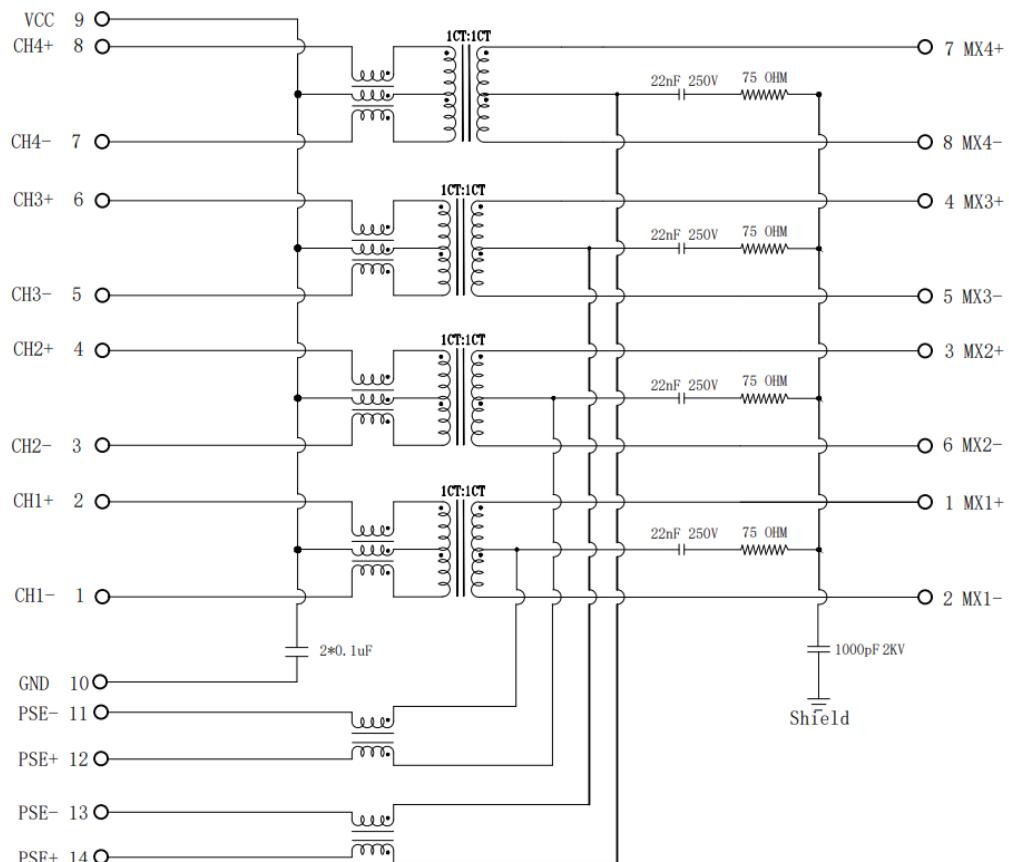


Suggested PCB Layout (Top View)

Dimensions are in millimeters

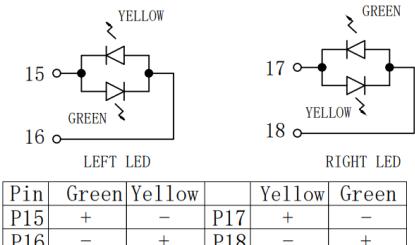
4. Electrical

4.1 Electrical Drawings

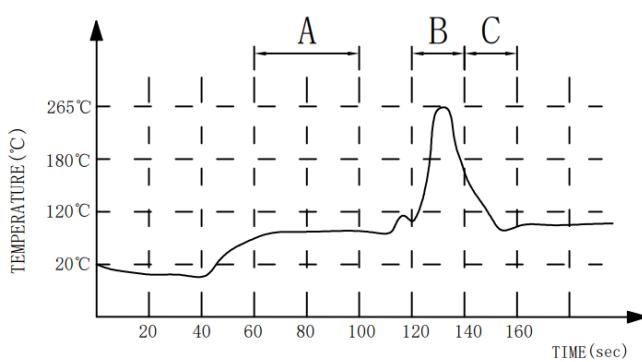


LED Electrical Specification

Standard LED	Wavelength (nm)	VF @ IF=20mA	IR @VR=5V
Green	565	1.8-2.4v	10 μ A Max
Yellow	585	1.8-2.4v	10 μ A Max



4.2 Profile of Wave Solder



A: Preheating B: Soldering C: Gradual Cooling

Note:

- (1) Tip Temperature: 245°C max
- (2) At Tip Temperature: 5 s max
- (3) The melting point of Tin: 219°C

Changelog

Changelog for the datasheet

SPE-23-8-133 – TMJG471213-9A51NL6

Revision: C (Current Version)

Date:	2025-12-04
Notes:	Updated LED spec.
Author:	Paul Liu

Previous Revisions

Revision: B (Current Version)

Date:	2025-07-22
Notes:	Updated PCB layout
Author:	Paul Liu

Revision: A (Original First Release)

Date:	2023-05-22
Notes:	
Author:	Javier Vasena



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