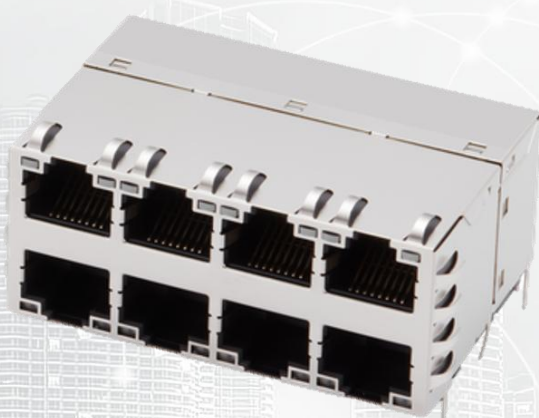




# TAOGLAS®



# Datasheet

## RJ45 ICM 1G Base-T 2x4 Ports

**Part No:**  
TMJG471213-9A51NL6

### Description:

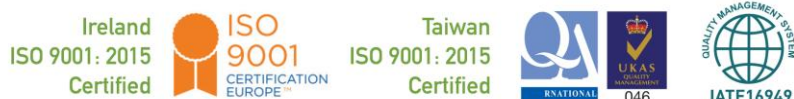
RJ45 connector with integrated magnetics 1G Base-T.  
2x4 Ports with THT mount and LEDs.

### 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 (±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

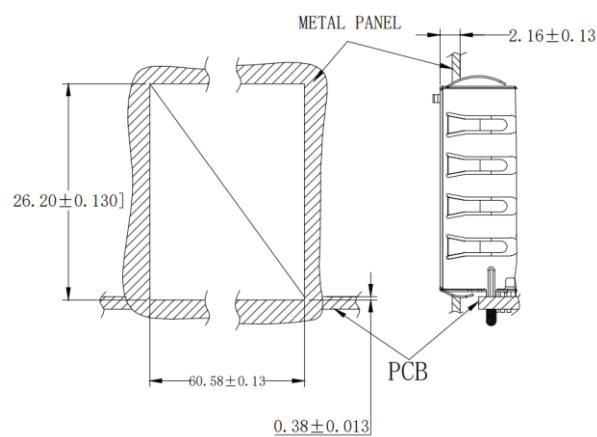
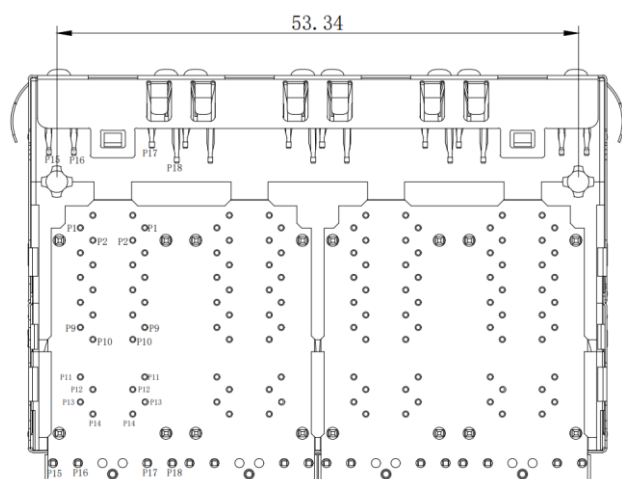
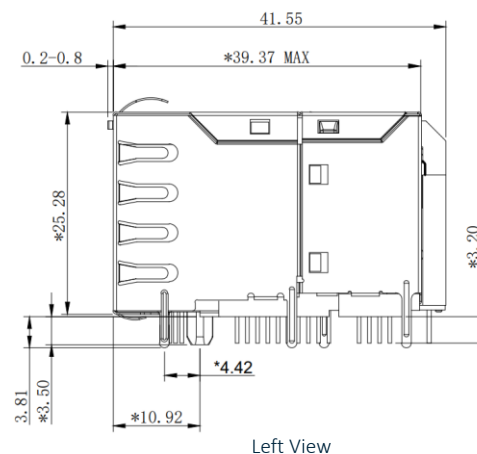
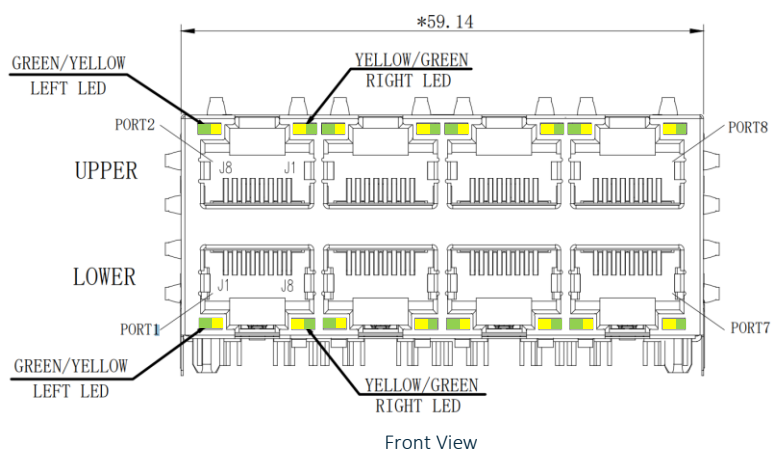
Material Specifications	
Housing	PA66 Black UL94 V-0
Insert	PA66 Black UL94 V-0
Shield	Brass
Shield plating	Nickel
Contact	Phosphor Bronze
Contact Plating	Selective Gold, 6 micro-inches Min in contact area Pin not electrically connected maybe omitted see electrical drawing for omitted pins
WAVE SOLDERING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

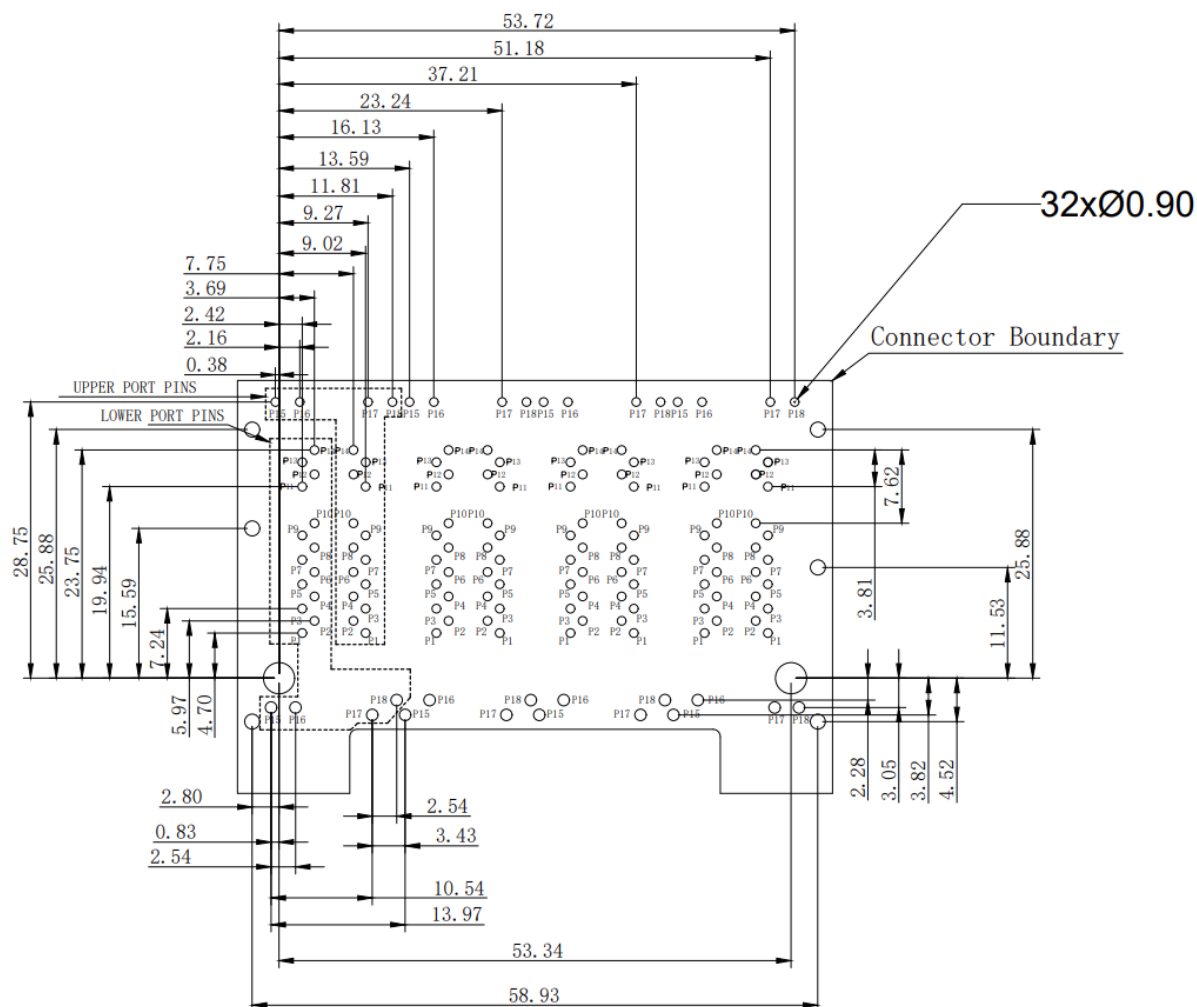


#### Mechanical Specifications

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

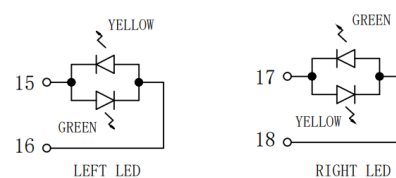
Dimensions are in millimeters with the following tolerances: X.XX =  $\pm 0.25$

## 3.2 PCB Layout



Suggested PCB Layout (Top View)  
Dimensions are in millimeters

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



Pin	Green	Yellow		Yellow	Green
P15	+	-	P17	+	-
P16	-	+	P18	-	+

Figure 1 is a line graph showing the variation of PIN temperature with time. The vertical axis represents Temperature in degrees Celsius (°C), with major grid lines at 20, 120, 180, and 265. The horizontal axis represents Time in seconds (sec), with major grid lines every 20 seconds from 0 to 160. The temperature curve starts at 20°C at 0 seconds, remains relatively flat until about 40 seconds, then rises to a plateau of 120°C at 60 seconds. This plateau is labeled 'A'. At 120 seconds, the temperature begins to rise sharply, reaching a peak of 265°C at approximately 130 seconds. This peak region is labeled 'B'. Following the peak, the temperature drops sharply, returning to the 120°C plateau at approximately 160 seconds. This drop region is labeled 'C'. The temperature remains at 120°C until the end of the recorded time at 160 seconds.

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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