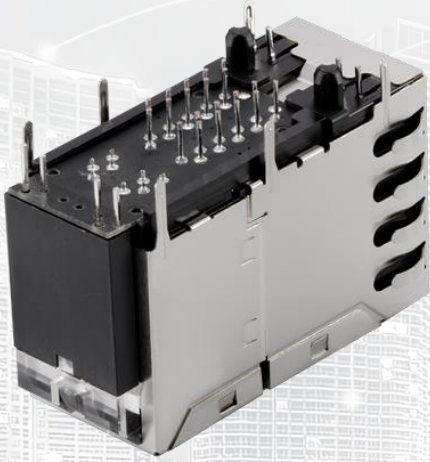




TAOGLAS®



Datasheet

RJ45 ICM 1G Base-T 2x1

Part No:
TMJG177209A51NL

Description:

RJ45 connector with integrated magnetics 1G Base-T
2x1 Port with THT mount and LEDs

Features:

- 2x1 Configuration
- Long Body
- 3 Wire + Transformer
- Current drive
- Shielded EMI Finger
- Industrial grade
- RoHS Compliant

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Changelog

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1. Introduction



Featuring a popular footprint and compatible package to industry RJ45 Integrated Connectors standards, the Taoglas TMJG177209A51NL is an RJ45 Integrated Connector 1G Base-T Single 2x1 Ports with shielded EMI finger body and designed for Industrial grade environments.

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 (±3%)	1CT: 1CT
DCR	1.2Ω MAX
Insertion Loss	-1.0dB MAX @1~100MHz
	-1.2dB MAX @100~125MHz
Return Loss	-16dB MIN @1~40MHz
	-12dB MIN @40~60MHz
	-10dB MIN @60~80MHz
	-8dB MIN @80~100MHz
Crosstalk	-30dB MIN @1~100MHz
Common to Mode Rejection	-30dB MIN @1~100MHz
Hipot Test	1500Vrms

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

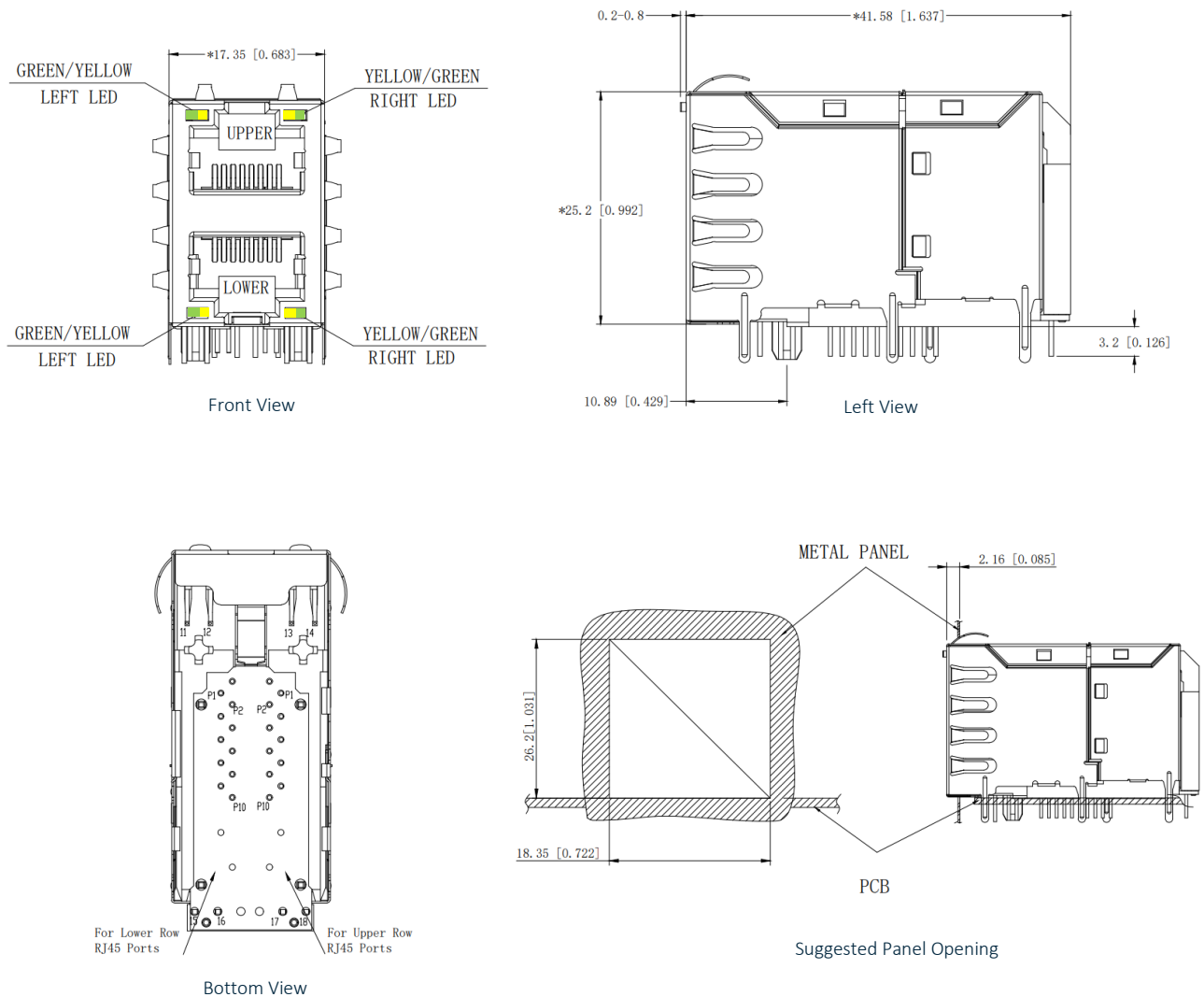
Material Specifications	
Housing	Thermoplastic PBT+30%G. F UL94V-0
Pins	Brass C2680R-H Thickness=0.35mm
Shield	Copper alloy Brass H65Y Thickness=0.20mm
Shield plating	Nickel
Contact Material	Phosphor Bronze C5210R-EH Thickness=0.35mm
Contact Plating	Gold 6 micro-inches min. in contact area
Wave solder tip temperature	250° C Max, 5 secs

Compliance	
UL recognized - FILE NO. E528697	
IEEE 802.3	
RoHS Compliant	

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

3. Mechanical

3.1 Mechanical Drawings



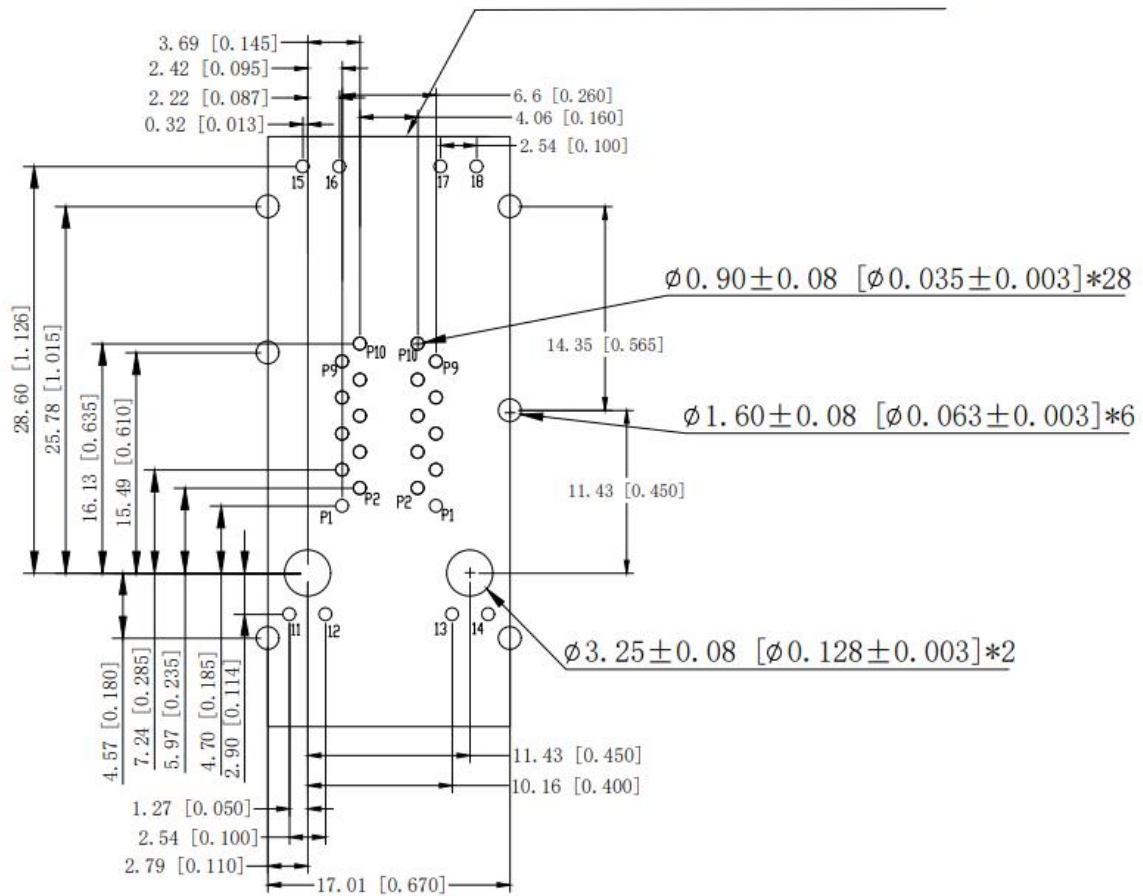
Mechanical Specifications	
Height	25.2 mm
Width	17.35 mm
Depth	41.58 mm
Weight	
Mounting Style	Through Hole (THT)
Mounting Angle	Right Angle

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

3. Mechanical

3.2 PCB Layout

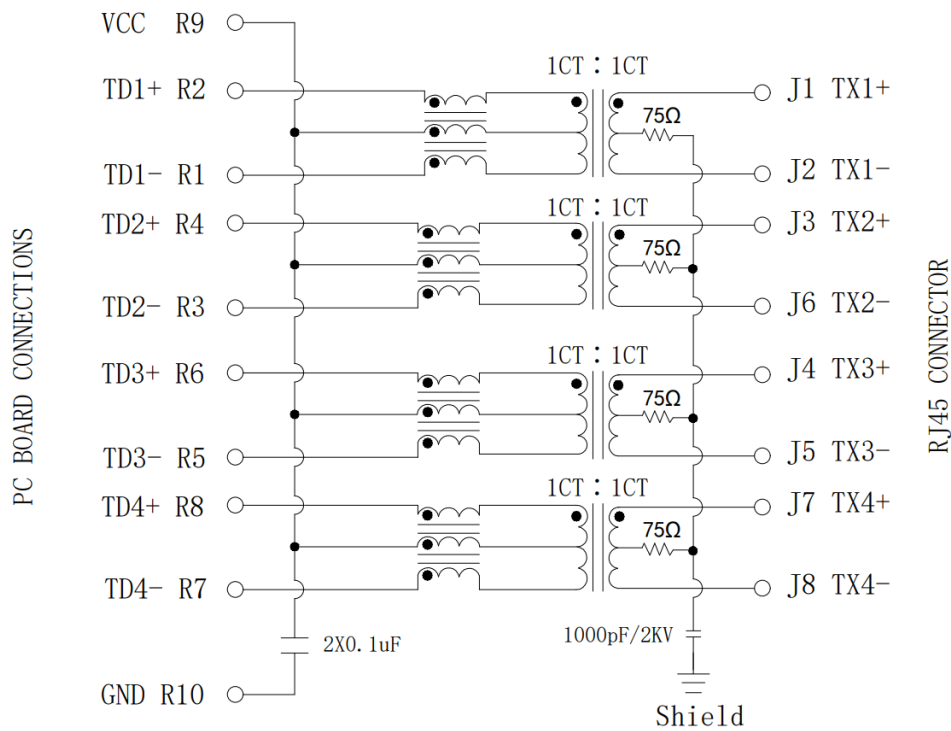
Connector Boundary



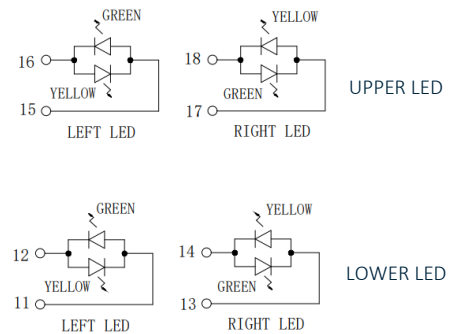
Suggested PCB Layout (Top View)
Dimensions are in millimeters

4. Electrical

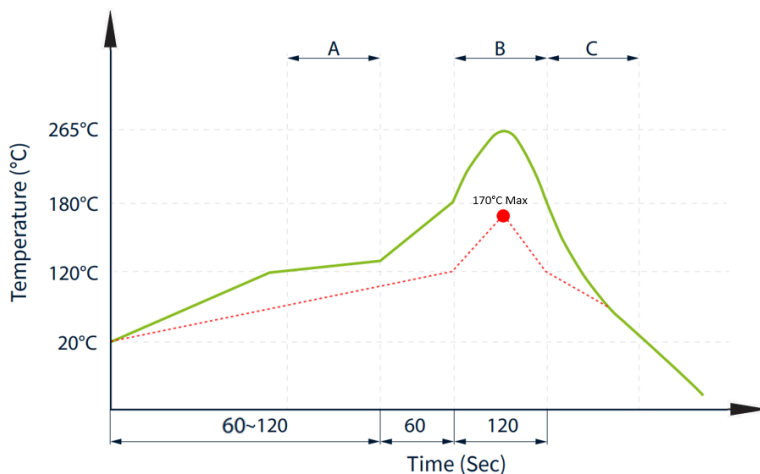
4.1 Electrical Drawings



LED Electrical Specification			
Standard LED	Wavelength (nm)	V _F (@if=20mA)	I _R (@VR=5V)
Green	565	1.8-2.6v	10 μA Max
Yellow	585	1.8-2.6v	10 μA Max



4.2 Profile of Wave Solder



— Pin Temperature
 - - - Component Temperature
 A. Preheating
 B. Soldering
 C. Gradual Cooling

Suggested Wave Solder Curve

1. Tip temperature time: 3±1sec
2. Tip temperature time: 3±1sec

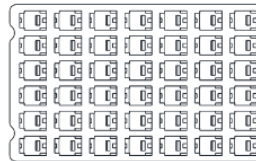
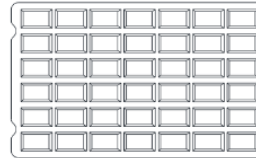
The melting point of Sn99.3/Cu0.7

5. Packaging

5.1 SPQ

42 pcs/tray

Tray Weight: 1075g



1 Carton = 4 trays = 168 pcs

Carton dimensions: 340*220*2000mm

Carton Weight: 4.3kg



5.2 Label

Taoglas Limited	
P/N NO: XXXXXXXX	
QYT: XXX PCS	DC: XXXX
DATE: XXXX-XX-XX	

SPQ Label (8x4cm)

Taoglas Limited	
P/N NO: XXXXXXXX	
PO: XXXXXXXX	B/N: XXXXXXXX
QYT: XXX PCS	DC: XXXX
DATE: XXXX-XX-XX	

Carton Label (8x4cm)

Changelog

Changelog for the datasheet

SPE-23-8-134 – TMJG177209A51NL6

Revision: A (Original First Release)

Date:	2023-10-01
Notes:	
Author:	Javier Vasena

Previous Revisions



www.taoglas.com

