



TAOGLAS®



Datasheet

RJ45 ICM 10/100 Base-T PoE

Part No:
TMJ6049BGNL

Description:
RJ45 connector with integrated magnetics 10/100 Base-T
Single Port Tab-UP with right angle THT mount and LEDs

Features:
Transformer + CMC + Auto Transformer + Diode
PoE (350mA)
Shielded
Industrial grade
RoHS Compliant

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1. Introduction



The Taoglas TMJ6049BGNL is a 10/100 Base-T single-port, tab-UP RJ45 Integrated Connector with a shielded body design and capable of PoE features. It features a widely recognized footprint and a compatible package that aligns with industry standards for RJ45 Integrated Connectors, making it popular among users.

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 | |
|-------------------------------|--------------------------------------|
| OCL | 350uH Min @100KHz, 0.1V, 8mA DC Bias |
| Turns Ratio (±2%) | 1CT:1CT |
| Insertion Loss | -1.0dB MAX @1-100MHz |
| Return Loss (dB Min) | 1-30MHz: -18 |
| | 30-45MHz: -16 |
| | 45-60MHz: -14 |
| | 60-80MHz: -12 |
| Crosstalk | -35dB MIN @1-100MHz |
| Common Mode Rejection | -35dB MIN @1-100MHz |
| Hipot | 1500Vrms |
| Power on used or unused pairs | 350mA |

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

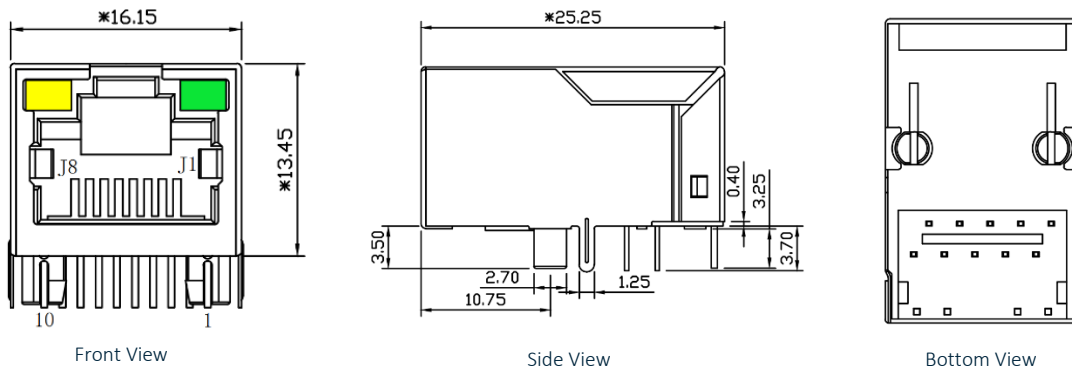
| Material Specifications | |
|-----------------------------|--|
| Housing | Thermoplastic PBT+30%G.F UL94V-0 |
| Contact | Phosphor Bronze C5210R-EH Thickness=0.35mm |
| Pins | Brass C2680R-H Thickness=0.35mm |
| Shield | SUS 201-1/2H Thickness=0.2mm |
| Contact plating | Gold 6 micro-inches min. in contact area. |
| Wave solder tip temperature | 265°C Max, 5 Sec |

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

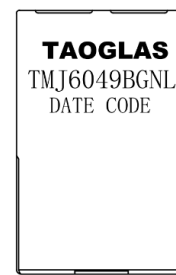
| Storage requirements | |
|----------------------|----------------|
| Humidity | MSL - 1 |
| Storage Temperature | -40°C TO +85°C |

3. Mechanical

3.1 Mechanical Drawings



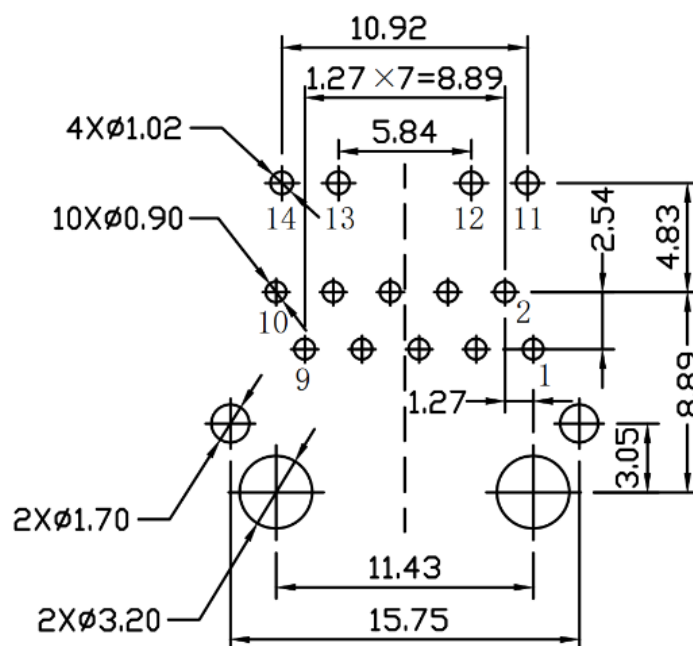
| Mechanical Specifications | |
|---------------------------|--------------------|
| Height | 13.45mm |
| Width | 16.15mm |
| Depth | 25.25mm |
| Weight | 7.03g |
| Mounting Style | Through Hole (THT) |
| Mounting Angle | Right Angle |



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

Top View

3.2 PCB Layout

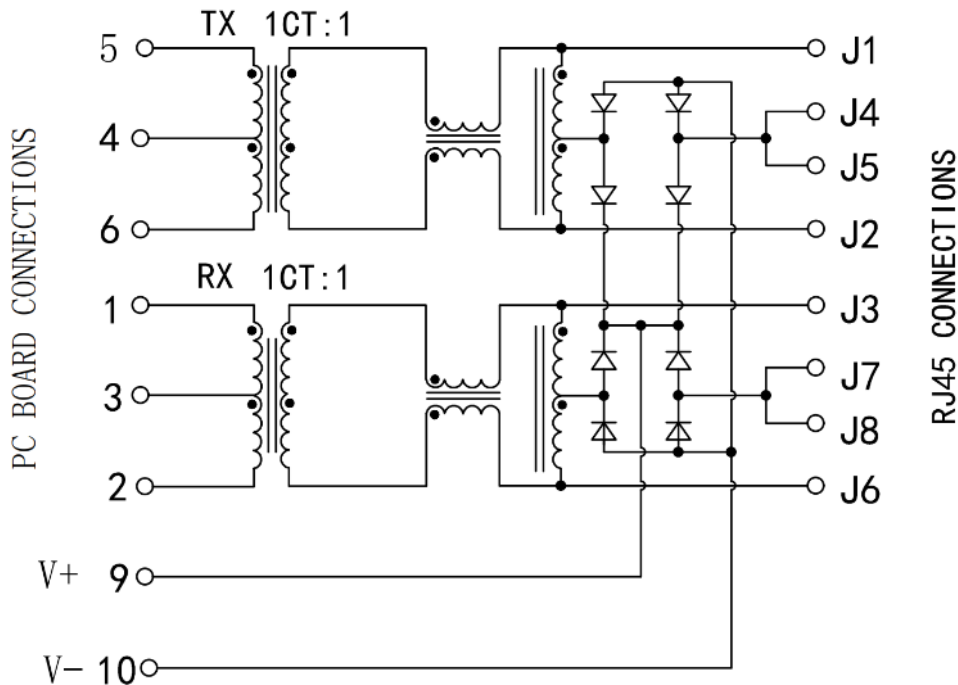


Suggested PCB Layout (Top View)

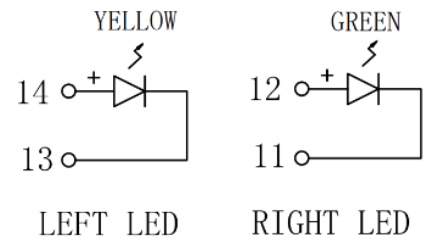
Dimensions are in millimeters with the following tolerances: X.XX = ±0.10

4. Electrical

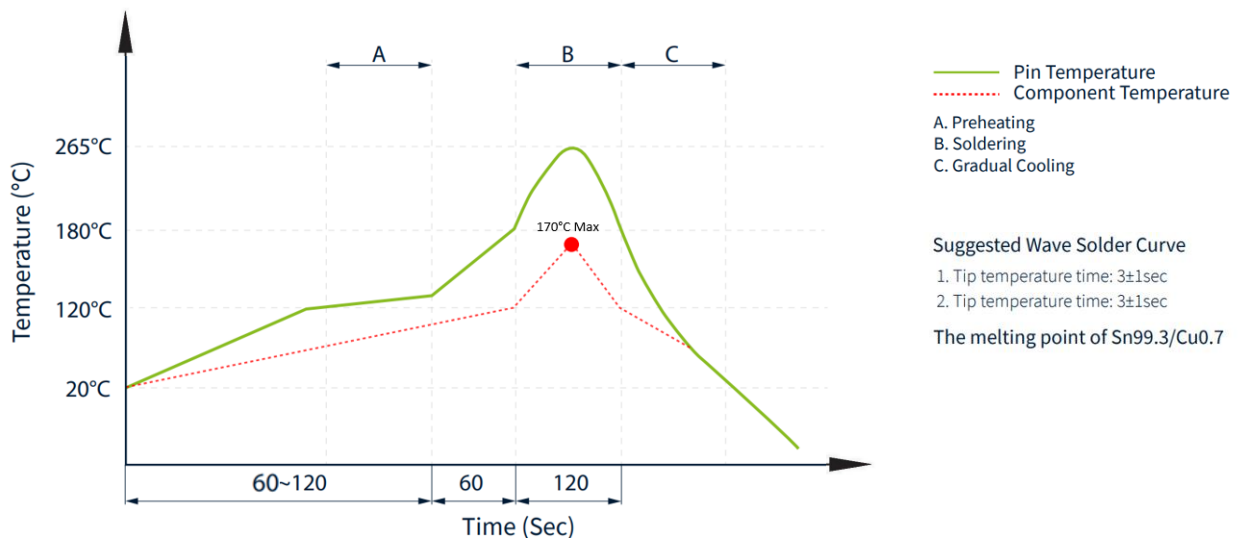
4.1 Electrical Drawings



| LED Electrical Specification | | | |
|------------------------------|-----------------|---------------------------------------|-------------------------------------|
| Standard LED | Wavelength (nm) | V _F (I _F =20mA) | I _R (V _R =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



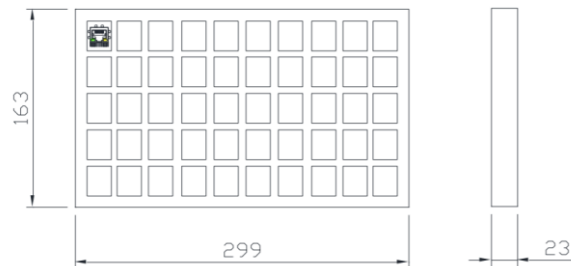
5. Packaging

5.1 SPQ

50 pcs/tray

Tray dimension: 283*146*26 mm

Tray Weight: 420g



1 Carton = 20 trays = 1000 pcs

Carton dimensions: 320*300*310mm

Carton Weight: 8.5kg



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-23-8-212 – TMJ6049BGNL

Revision: A (Original First Release)

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

Previous Revisions

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