



TAOGLAS®



Datasheet

RJ45 ICM 10/100 Base-T Low Profile

Part No:
TMJK8513-7A98NL

Description:

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

Features:

TX: 3Wire+XFMR
RX: CMC+XFMR
Low Profile
Shielded EMI Finger
Industrial grade
RoHS Compliant

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1. Introduction



The Taoglas TMJK8513-7A98NL is a 10/100 Base-T single-port, tab-UP RJ45 Integrated Connector with a shielded EMI Finger and low-profile design. 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 (±3%)	1CT:1CT
Insertion Loss	1-100MHz: -1.0dB MAX
Return Loss (dB Min @100 OHMS±15%):	1-10MHz: -18dB TYP
	30MHz: -18dB TYP
	60-80MHz: -12dB TYP
	80-100MHz: -10dB TYP
Crosstalk (dB TYP)	1-10MHz: -40
	32-65MHz: -35
	65-100MHz: -30
Common Mode Rejection (dB MIN)	1-125MHz: -30
Isolation PHY SIDE To Line SIDE	1500Vrms

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

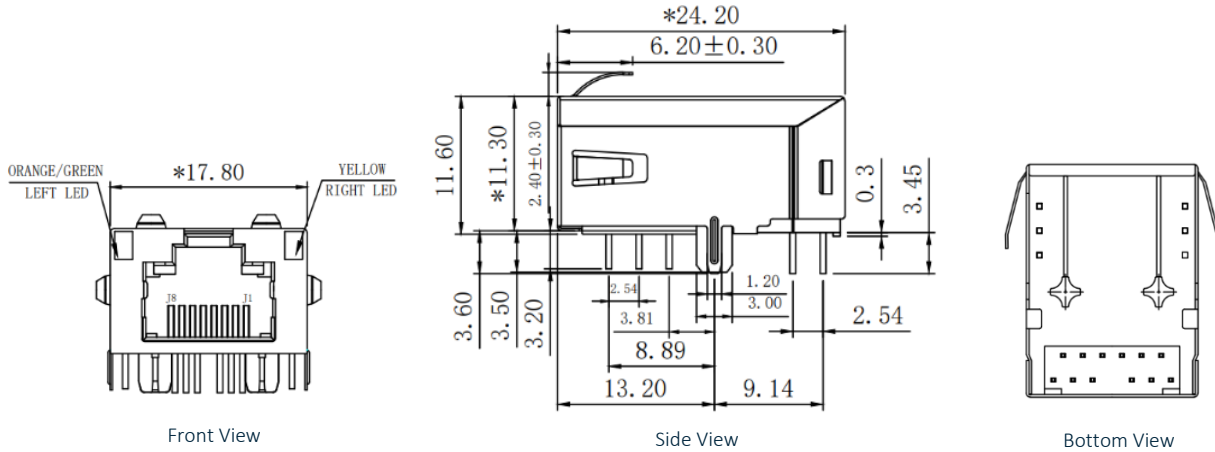
Material Specifications	
Housing	Thermoplastic PBT UL94V-0
Contact/Shield	Copper alloy
Shield plating	Nickel
Shield	SUS 304-1/2H Thickness=0.2mm
Contact plating	Gold 15 micro-inches min. in contact area
Wave solder tip temperature	250°C Max, 5 Sec

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

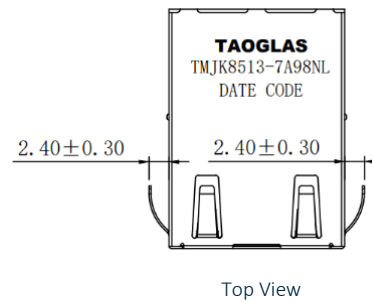
Storage requirements	
Humidity	MSL - 1
Storage Temperature	-40°C TO +85°C

3. Mechanical

3.1 Mechanical Drawings

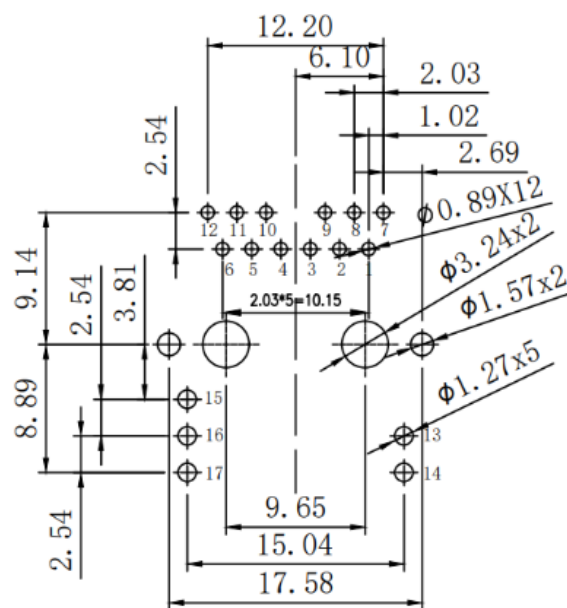


Mechanical Specifications	
Height	11.60 mm
Width	17.80 mm
Depth	24.20 mm
Weight	6.87 g
Mounting Style	Through Hole (THT)
Mounting Angle	Right Angle



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

3.2 PCB Layout

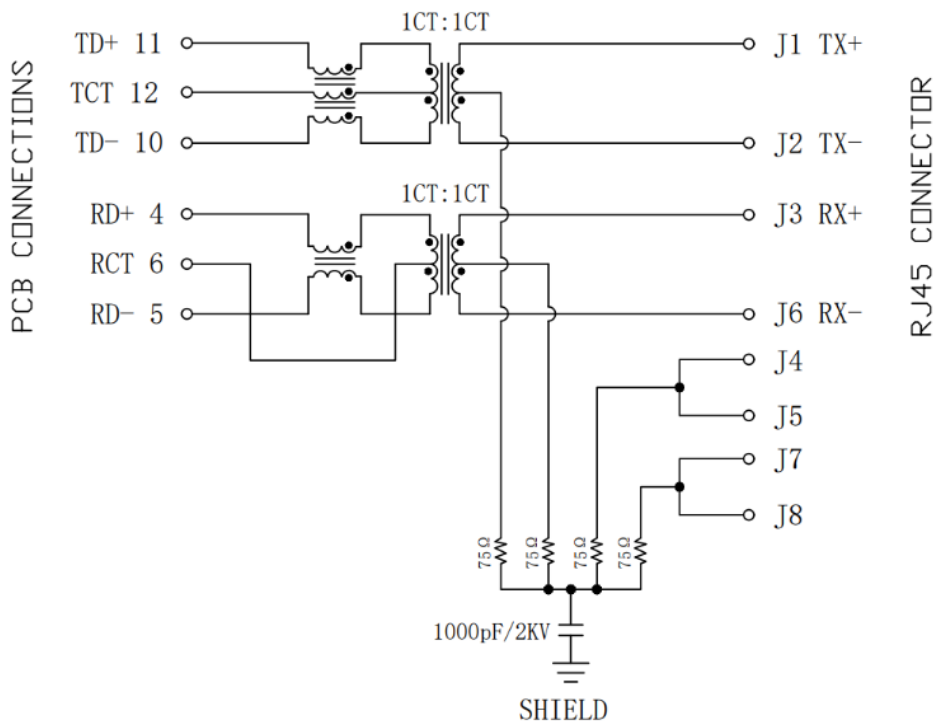


Suggested PCB Layout (Top View)

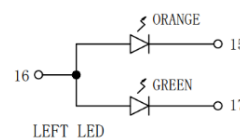
Dimensions are in millimeters with the following tolerances: X.XX = ± 0.10

4. Electrical

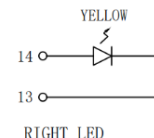
4.1 Electrical Drawings



LED Electrical Specification			
Standard LED	Wavelength (nm)	V_F ($I_F=20mA$)	I_R ($V_R=5v$)
Orange/Green	610/570	1.8~2.6v	10 μA Max
Yellow	585	1.8~2.6v	10 μA Max

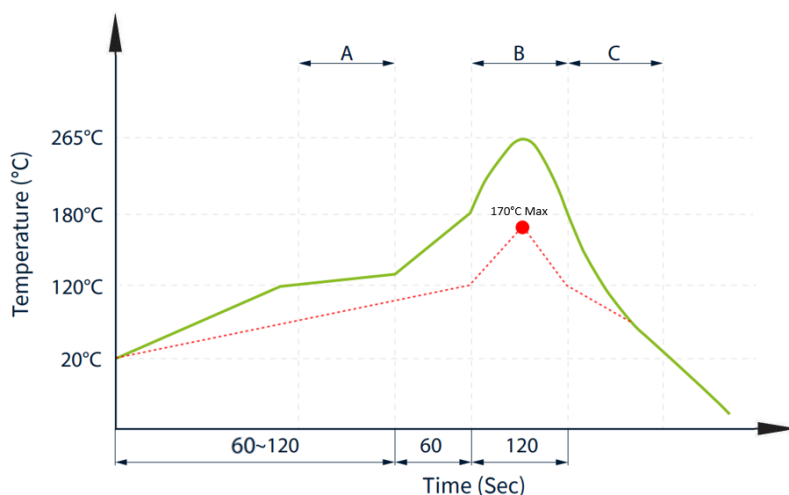


LED POLARITY			COLOR
PIN 15	PIN 16	PIN 17	
-	+	/	ORANGE
/	+	-	GREEN



LED POLARITY			COLOR
PIN 13	PIN 14		
-	+		YELLOW

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

The melting point of Sn99.3/Cu0.7

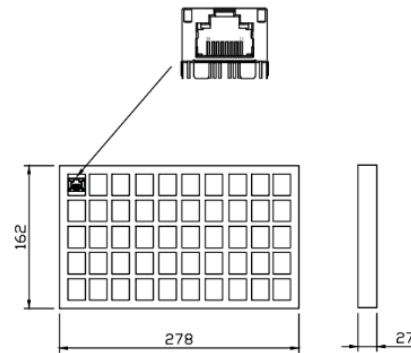
5. Packaging

5.1 SPQ

50 pcs/tray

Tray dimension: 278*162*27 mm

Tray Weight: 0.39 kg



5.2 Carton

1 Carton = 20 trays = 1000 pcs

Carton dimensions: 300*300*310 mm

Carton Weight: 8.5 kg



5.3 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-23-8-364 – TMJK8513-7A98NL

Revision: A (Original First Release)

Date:	2024-01-01
Notes:	
Author:	Javier Vasena

Previous Revisions



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