Datasheet

RJ45 ICM 1G Base-T Vertical

Part No:
TMJD5854BENL

Description:

RJ45 connector with integrated magnetics 1G Base-T
Vertical with step THT mount and LEDs

Features:

Vertical

Transformer + CMC

Voltage drive

Shielded

Industrial grade

RoHS Compliant

Ireland ISO 9001: 2015 Certified

ISO 9001 CERTIFICATION EUROPE™

Taiwan ISO 9001: 2015 Certified

QA RNATIONAL

UKAS QUALITY MANAGEMENT 046

QUALITY MANAGEMENT SYSTEM IATF16949

1.   Introduction

The Taoglas TMJD5854BENL is a 1G Base-T Vertical RJ45 Integrated Connector with a shielded body 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	
Inductance OC	350uH Min @100KHz,0.1V,8mA DC Bias
Turns Ratio (±2%)	1CT:1CT
Insertion Loss	-0.5dB Max @1～65MHz
	-0.8dB Max @65～100MHz
	-1.2dB Max @100～125MHz
Return Loss	-16dB Min. (Load 100 OHM) @1～30MHz
	-13.5dB Min. (Load 100 OHM) @30～40MHz
	-11.5dB Min. (Load 100 OHM) @40～50MHz
	-10dB Min. (Load 100 OHM) @60～80MHz
Cross Talk	-30dB MIN @1～100MHz
Common Mode Rejection	-30dB MIN @1～100MHz
Isolation PHY SIDE To Line SIDE	1500Vrms

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

Material Specifications	
Housing	Thermoplastic LCP+30%G.F UL94V-0
Contact	Phosphor Bronze C5210R-EH Thickness=0.35mm
Pins	Brass C2680R-H Thickness=0.35mm
Shield	Copper alloy Brass H65Y Thickness=0.2mm
Contact plating	Gold 6 micro-inches min. in contact area
Wave solder tip temperature	265℃ 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

3.1 Mechanical Drawings

Top View

Side View

Bottom View

Mechanical Specifications	
Height	16.60 mm
Width	16.00 mm
Depth	21.59 mm
Weight	6.66 g
Mounting Style	Through Hole (THT)

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

Back 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
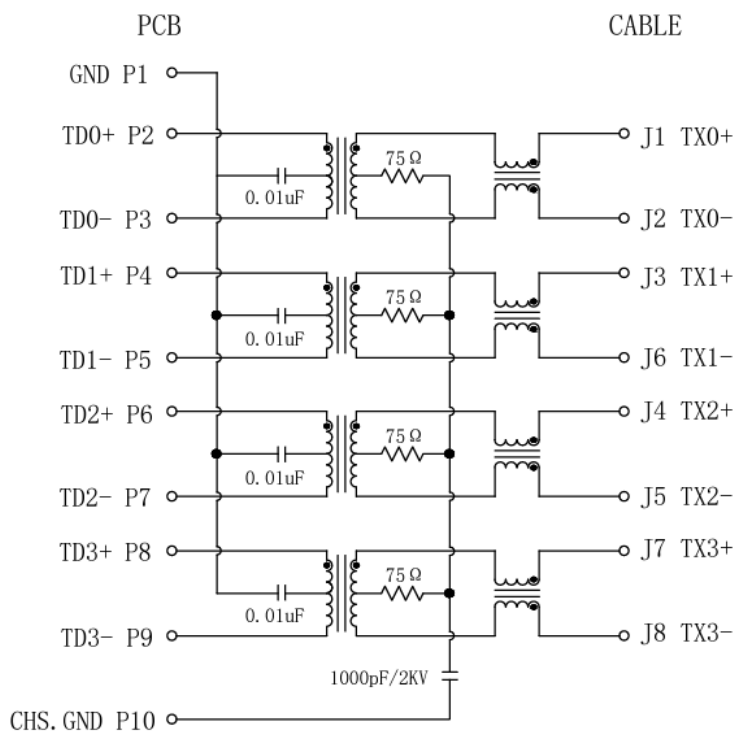
LED Electrical Specification			
Standard LED	Wavelength (nm)	V_F (I_F=20mA)	I_R (V_R=5v)
Green	565	1.8~2.6v	10 µA Max
Yellow	585	1.8~2.6v	10 µA Max
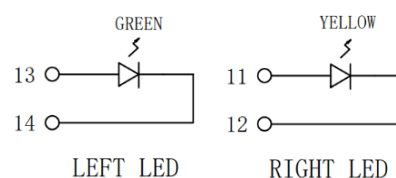
4.2 Profile of Wave Solder

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
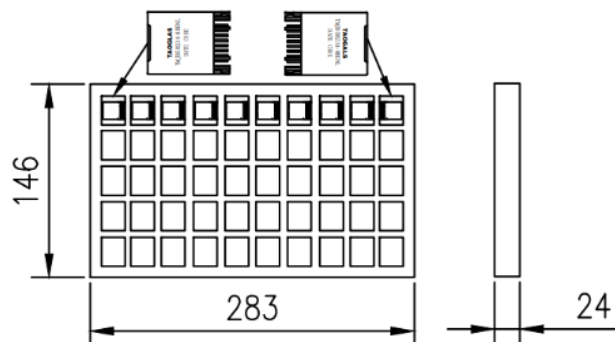
The melting point of Sn99.3/Cu0.7
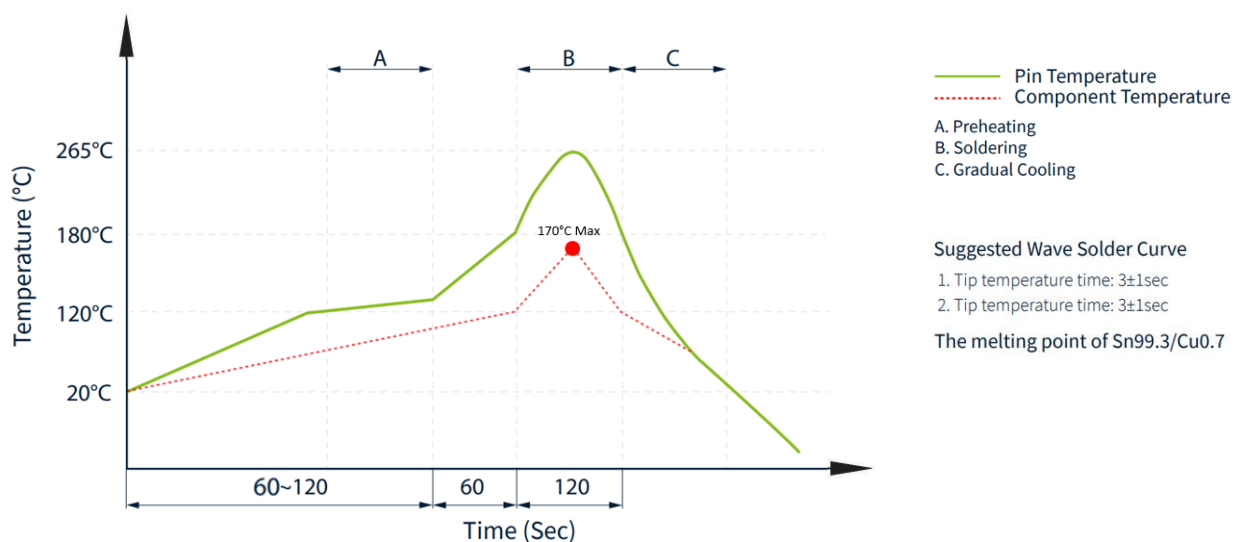
5. Packaging

5.1 SPQ

50 pcs/tray

Tray dimension: 283*146*24 mm

Tray Weight: 0.4 kg

5.2 Carton

1 Carton = 20 trays = 1000 pcs

Carton dimensions: 300*370*300 mm

Carton Weight: 9 kg
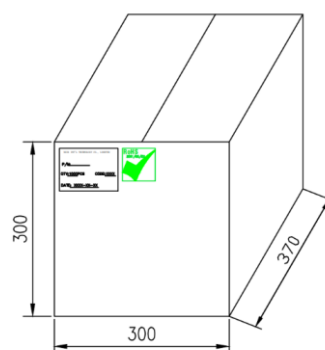
5.3 Label

SPQ Label (8x4cm)

Carton Label (8x4cm)

Changelog

Changelog for the datasheet

SPE-23-8-367 – TMJD5854BENL

Revision: B	
Date:	2024-09-23
Notes:	Pin1 update to GND
Author:	Javier Vasena

Previous Revisions

Revision: A (Original First Release)	
Date:	2024-01-01
Notes:	
Author:	Javier Vasena

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