

RJ45C5 S1D 2.7N4N RL

Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com



The product range encompasses the following designs:

- 90°, lying (horizontal) and 180°, standing (vertical)
- latch up / latch down
- THT, THR or SMD soldering processes
- Wide range of different design types, also with integrated LEDs and shield contact tabs
- Performance category Cat. 3 to Cat. 6
- Packed either in a tray (TY) or on a roll (tape-on-reel, RL)
- Compatible with modular RJ45 connector according to ANSI / TIA-1096-A and IEC 60603
- Dielectric strength ≥ 1500 V AC RMS (2250 V AC peak value) according to IEEE 802.3
- Dielectric strength ≥ 1500 V AC (peak value) or ≥ 1500 V DC according to IEC 60603

Properties and advantages:

- Extended temperature range of -40°C to $+85^{\circ}\text{C}$ for maximum performance
- Reinforced gold layer ($30\mu\text{m}$) for improved corrosion protection
- At least 0.3mm stand-off ensures a perfect soldering result

General ordering data

| | |
|------------|--|
| Version | PCB plug-in connector, RJ45 jacks, Cat. 5 , SMD solder connection, 90°, Latch option: bottom, Shield tabs: none, 30...80 μm Ni / ≥ 30 μm Au , LED: No, Number of poles: 8, Tape |
| Order No. | 2000890000 |
| Type | RJ45C5 S1D 2.7N4N RL |
| GTIN (EAN) | 4050118382440 |
| Qty. | 240 pc(s). |
| Packaging | Tape |

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Technical data

Dimensions and weights

| | | | |
|--------------------------|------------|-----------------|------------|
| Depth | 18.7 mm | Depth (inches) | 0.736 inch |
| Height | 14.85 mm | Height (inches) | 0.585 inch |
| Height of lowest version | 11.8 mm | Width | 15.7 mm |
| Width (inches) | 0.618 inch | Net weight | 0.008 g |

System specifications

| | | | |
|--------------------------------|------------------------------------|----------------------------------|--------------|
| Category | Cat. 5 | Coplanarity: | 100 µm |
| LED | No | Latch option | bottom |
| Mounting onto the PCB | SMD solder connection | Number of poles | 8 |
| Number of solder pins per pole | 1 | Outgoing elbow | 90° |
| Performance-Category | Cat. 5 | Pitch in inches (P) | 0.05 inch |
| Pitch in mm (P) | 1.27 mm | Plugging cycles | 750 |
| Product family | OMNIMATE Data - RJ45 modular jack | Protection degree | IP20 |
| Shield surface | nickel-plated | Shield tabs | none |
| Shielding | Yes | Shielding material | Copper alloy |
| Solder pin dimensions | Octagonal | Solder pin length (l) | 3.2 mm |
| Soldering process | Reflow soldering, Manual soldering | Tolerance of solder pin position | ± 0.1 mm |
| Type of connection | SMD solder connection | Wiring | 8-core |

Electrical properties

| | | | |
|--|-----------|---------------------------------------|-----------|
| Dielectric strength, contact / contact | 1000 V DC | Dielectric strength, contact / shield | 1500 V DC |
| Insulation strength | ≥ 500 MΩ | Rated current | 1.5 A |
| Rated voltage | 125 V | | |

Standards

| | |
|--------------------|----------------|
| Connector standard | IEC 60603-7-51 |
|--------------------|----------------|

Material data

| | | | |
|----------------------------------|----------------------------|-----------------------------|------------------|
| Insulating material | PA 9T | Colour | black |
| Colour chart (similar) | RAL 9011 | Insulating material group | II |
| Comparative Tracking Index (CTI) | ≥ 500 | Insulation strength | ≥ 500 MΩ |
| Moisture Level (MSL) | 1 | UL 94 flammability rating | V-0 |
| Contact base material | Phosphorus bronze | Contact surface | Gold over nickel |
| Layer structure of plug contact | 30...80 µ" Ni / ≥ 30 µ" Au | Storage temperature, min. | -40 °C |
| Storage temperature, max. | 85 °C | Operating temperature, min. | -40 °C |
| Operating temperature, max. | 85 °C | | |

Packing

| | | | |
|--------------------------|--------|--------------------|---|
| Packaging | Tape | VPE length | 329 mm |
| VPE width | 329 mm | VPE height | 56 mm |
| Tape reel diameter Ø (A) | 330 mm | Surface resistance | Rs = 10 ⁹ - 10 ¹² Ω |

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Technical data**Classifications**

| | | | |
|-------------|-------------|-------------|-------------|
| ETIM 6.0 | EC002637 | ETIM 7.0 | EC002637 |
| ETIM 8.0 | EC002637 | ECLASS 9.0 | 27-44-04-02 |
| ECLASS 9.1 | 27-44-04-02 | ECLASS 10.0 | 27-44-04-02 |
| ECLASS 11.0 | 27-46-02-01 | ECLASS 12.0 | 27-46-02-01 |

Approvals

Approvals



| | |
|-------------------------|---------|
| ROHS | Conform |
| Certificate No. (UL) | E471884 |
| Certificate No. (cURus) | E471884 |

Downloads

| | |
|---|--|
| Approval/Certificate/Document of Conformity | Certificate of Compliance |
| Engineering Data | CAD data – STEP |
| Product Change Notification | PCN PCN |
| User Documentation | MAN IE GUIDE DE MAN IE GUIDE EN |
| Catalogues | Catalogues in PDF-format |
| Brochures | MB FREECONTACT EN FL FIELDWIRING EN PI PROFINET CABLING EN |

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Drawings



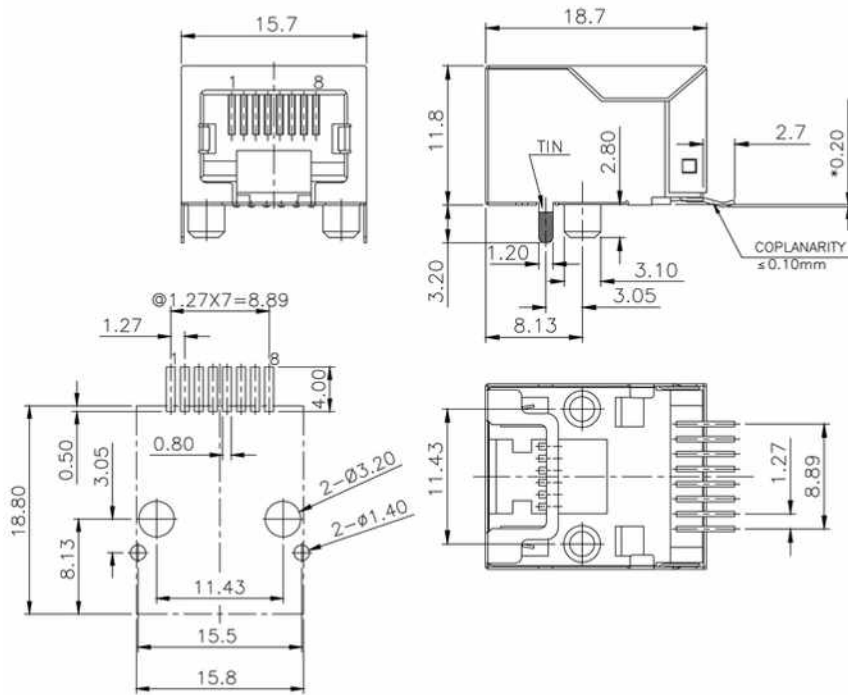
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Drawings

Dimensional drawing



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Drawings

| RJ45 G1 R1 U3.2 E4 GY/GY TY RJ45G1 RTU 3.2E4GY/GY TY | | |
|--|----------------------------|--|
| Packaging | TY | Tray in box (standard assembly) |
| | NL | Traypack (not to be used, please refer to [3]) |
| LED | Y/G | Yellow/Green |
| | G/Y | Green/Yellow (standard) |
| | G/Y/GY | Green/Yellow/Green-Yellow |
| | O/G | Orange/Green |
| | R/G | Red/Green |
| | - | LED with non-illumination protection |
| | N | without LED |
| Contact surface thickness | A | 1 = 5µm, 2 = 1µm, 3 = 15µm, 4 = 50µm, 5 = 50µm |
| EMI tabs (grounded fingers) | E | E = with EMI tabs |
| | N | N = without EMI tabs |
| Socket Pin length | 3.2 | 3.2 mm |
| | 1.8 | 1.8 mm |
| | D | Standard |
| Direction, latch style | U | Up-down (180°, 0° or 180°) latch up |
| | V | Up-down (180°, 0° or 180°) latch down |
| | T | Category 5E, 180° latch up |
| Number of Ports | 1 | 1 Port |
| | 12, 14, ... 21, 23, ... | multi-ports side by side, Multiport RJ45 |
| Assembly on PCB | R | Through Hole (standard) |
| | B | Surface Mount (SMD) - Always or Before soldering |
| | T | Through Hole (SMD) - Always or Before soldering |
| | T | Through Hole (SMD) - After soldering |
| Performance Category | Ca | Category 6 |
| | Ca6 | Category 6 |
| | Ca6A | Category 6A |
| | Ca6E | Category 6E |
| | M6 | 10/100 Mbit/s |
| | d1 | 10/100/1000 Mbit/s |
| | d10 | 10 Gbit/s |
| U | Unshielded | |
| MP | 10/100 Mbit/s with PDS | |
| MP+ | 10/100 Mbit/s with PDS+ | |

Legend

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Catalogue status 16.12.2022 / We reserve the right to make technical changes.

Recommended reflow soldering profile

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Reflow soldering profile

The perfect soldering profile for SMT Surface Mount Technology is one the most exiting question in SMT production. But there are more than one correct answer: The diagram of temperature-on-time is related to processing features of solder paste and to maximum load of components.

We have to consider the following parameters:

- Time for pre heating
- Maximum temperature
- Time above melting point
- Time for cooling
- Maximum heating rate
- Maximum cooling rate

We recommend a typical solder profile with associated process limits. With preheating components and board are prepared smoothly for the solder phase. Heating rate is typically $\leq +3\text{K/s}$. In parallel the solder paste is ‚activated‘. The time above melting point of 217°C the paste gets liquid and components and boards begin to connect. The maximum temperature of 245°C to 254°C should stay between 10 and 40 seconds. In the cooling phase at $\geq -6\text{K/s}$ solder is cured. Board and components cool down while avoiding cold cracks.