OMNIMATE Data - RJ45 jacks
RJ45C5 S1D 2.7N4N RL

Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 16
D-32758 Detmold
Germany
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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°C for maximum performance
• Reinforced gold layer (30µ") for improved corrosion protection
• At least 3 mm stand-off ensures a perfect soldering result

General ordering data

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

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Technical data

Dimensions and weights

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

Temperatures

Operating temperature, max.	85 °C	Operating temperature, min.	-40 °C
Storage temperature, max.	85 °C	Storage temperature, min.	-40 °C

Environmental Product Compliance

REACH SVHC	Lead 7439-92-1

System specifications

Category	Cat. 5	LED	No
Latch option	bottom	Mounting onto the PCB	SMD solder connection
No. of poles	8	Number of solder pins per pole	1
Outgoing elbow	90°	Pitch in inches (P)	0.05 inch
Pitch in mm (P)	1.27 mm	Plugging cycles	750
Product family	OMNIMATE Data - RJ45 jacks	Protection degree	IP20
Shield surface	nickel-plated	Shield tabs	none
Shielding	Yes	Shielding material	Copper alloy
Solder pin length (l)	3.2 mm	Type of connection	Socket connector
Wiring	8-core		

Electrical properties

Dielectric strength, contact / contact	≥ 1000 V DC	Insulation strength	> 500 MΩ
Rated current	1.5 A	Rated voltage	125 V AC

Material data

Insulating material	PA 9T	Colour	black
Colour chart (similar)	RAL 9011	Insulating material group	II
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	60 mm
VPE width	330 mm	VPE height	330 mm
Tape reel diameter ∅ (A)	330 mm	Surface resistance	Rs = 10^9 - 10^{12} Ω

Classifications

ETIM 6.0	EC002637	eClass 6.2	27-25-05-04
eClass 9.0	27-44-04-02	eClass 9.1	27-44-04-02

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Technical data

Approvals

Approvals	
ROHS	Conform

Downloads

Brochure/Catalogue	MB FREECONCONTACT EN FL FIELDWIRING EN PI PROFINET CABLING EN
Engineering Data	STEP
User Documentation	MAN IE GUIDE DE MAN IE GUIDE EN

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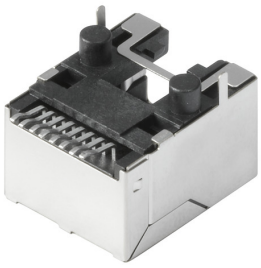
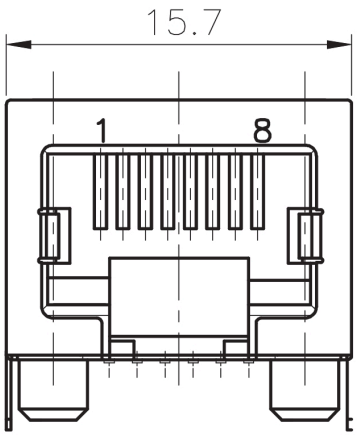
Drawings



Dimensioned drawing



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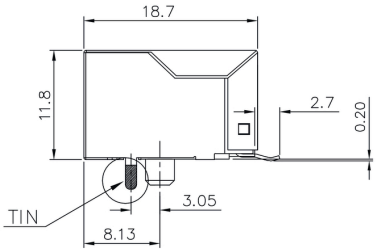

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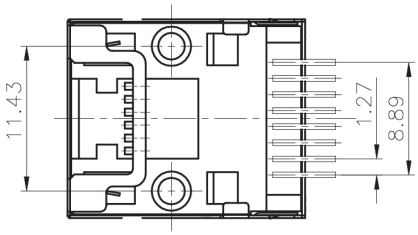
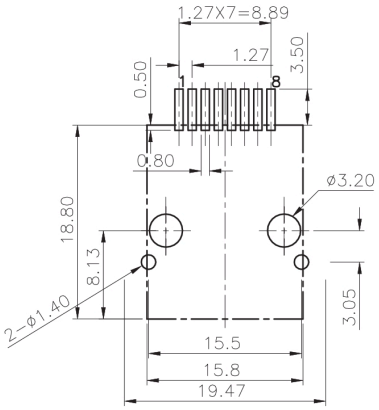


PCB design



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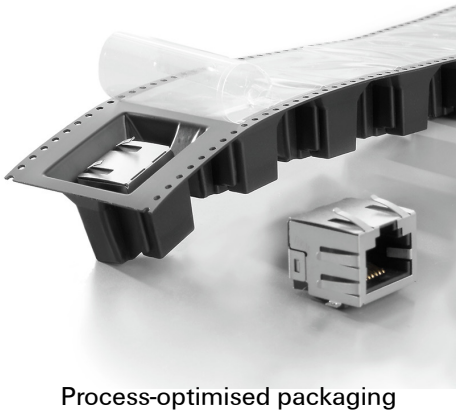
Drawings

Product benefits



Process-optimised packaging
Tape-on-reel or tray

Product benefits

Trouble-free assembly
Short, chamfered solder pins

Product benefits

Suitable for all soldering processes
SMT, THT or THR

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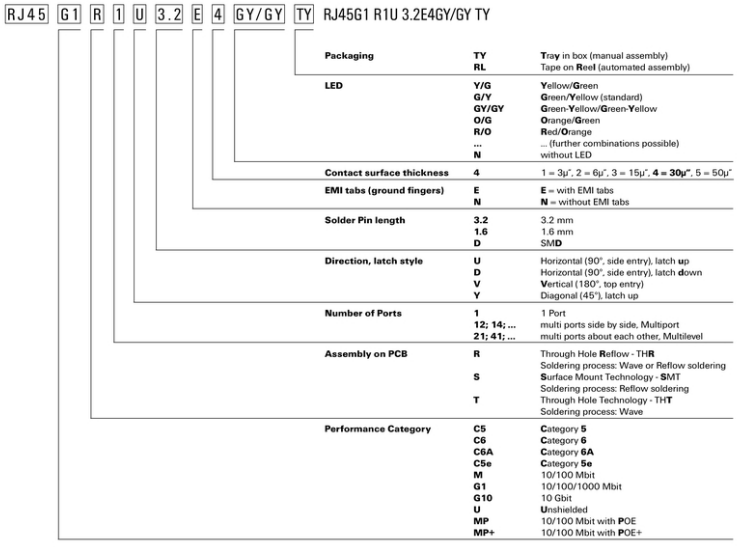
Legend



Reflow Solder Profile

Recommended reflow soldering profile

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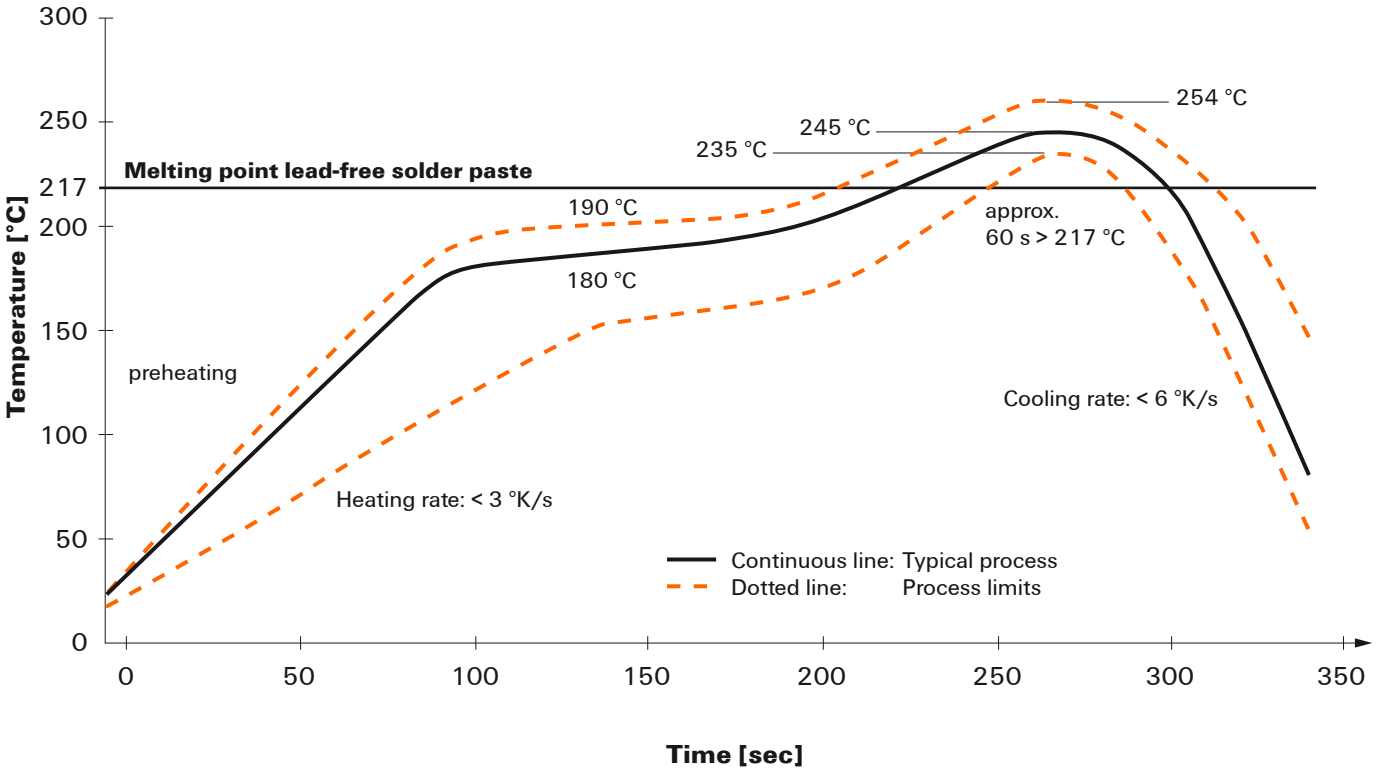

Reflow soldering profile

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 ≤ +3K/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 ≥ -6K/s solder is cured. Board and components cool down while avoiding cold cracks.