RJ45C5E S1U DE4N 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°C for maximum performance
• Reinforced gold layer (30µ") 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. 5e , SMD solder connection, 90°, Latch option: top, Shield tabs: 6 tabs, 30...80 µ" Ni / ≥ 30 µ" Au , LED: No, Number of poles: 8, Tape
Order No.	2562940000
Type	RJ45C5E S1U DE4N RL
GTIN (EAN)	4050118571967
Qty.	200 pc(s).
Packaging	Tape

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Technical data

Dimensions and weights

Depth	15.7 mm	Depth (inches)	0.618 inch
Height	14.71 mm	Height (inches)	0.579 inch
Height of lowest version	13.41 mm	Width	18.8 mm
Width (inches)	0.74 inch	Net weight	0.009 g

System specifications

Category	Cat. 5e	
Coplanarity:	100 µm	
LED	No	
Latch option	top	
Mounting onto the PCB	SMD solder connection	
Number of poles	8	
Number of solder pins per pole	1	
Outgoing elbow	90°	
Performance-Category	Cat. 5e	
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	6 tabs	
Shielding	Yes	
Shielding material	Brass	
Solder eyelet hole diameter (D)	0.9 mm	
Solder eyelet hole diameter tolerance (D)	± 0.1 mm	
Solder pin dimensions	Octagonal	
Solder pin length (l)	3.05 mm	
Solder pin length tolerance	+0,15 / -0,15 mm	
Solder pin length tolerance	Lower tolerance with prefix (reveals minimum)	-0,15
	Upper tolerance with prefix (reveals maximum)	+0,15
	Tolerance, unit	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	PoE / PoE+	conforming to IEEE 802.3at
Rated current	1.5 A	Rated voltage	125 V

Standards

Connector standard	IEC 60603-7-51

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Technical data

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	330 mm
VPE width	330 mm	VPE height	48 mm
Tape reel diameter ∅ (A)	330 mm	Surface resistance	Rs = 10^9 - 10^{12} Ω

Classifications

ETIM 6.0	EC002637	ETIM 7.0	EC002637
ETIM 8.0	EC002637	ETIM 9.0	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	ECLASS 13.0	27460201

Approvals

Approvals	
ROHS	Conform
UL File Number Search	UL Website
Certificate No. (cURus)	E471884

Downloads

Approval/Certificate/Document of Conformity	Certificate of Compliance
Engineering Data	CAD data – STEP
Catalogues	Catalogues in PDF-format

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Drawings

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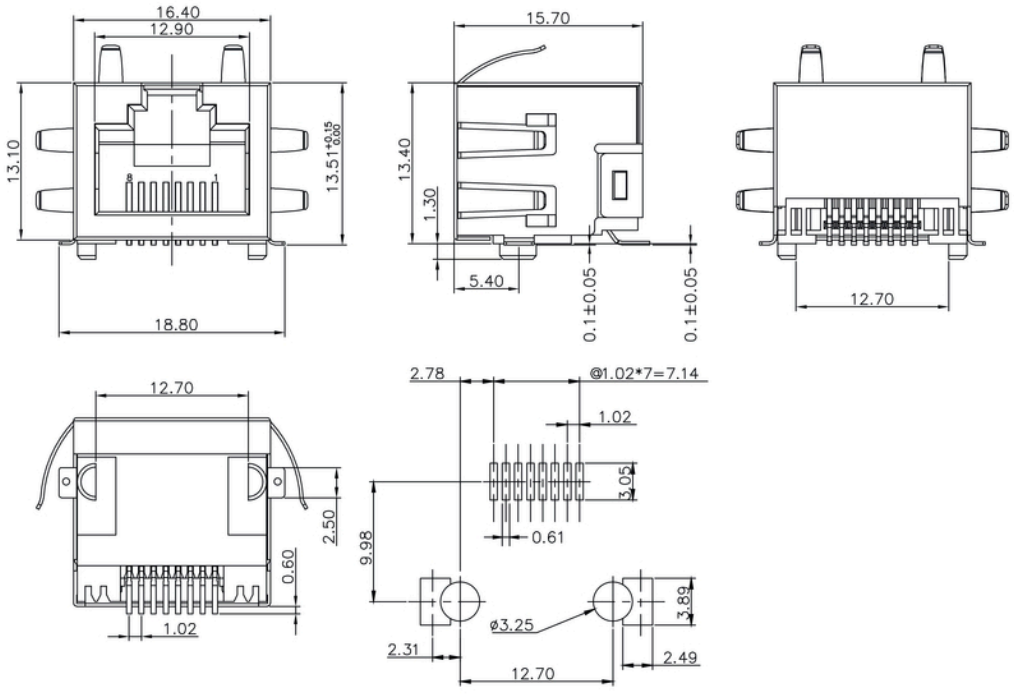
Drawings

Dimensional drawing



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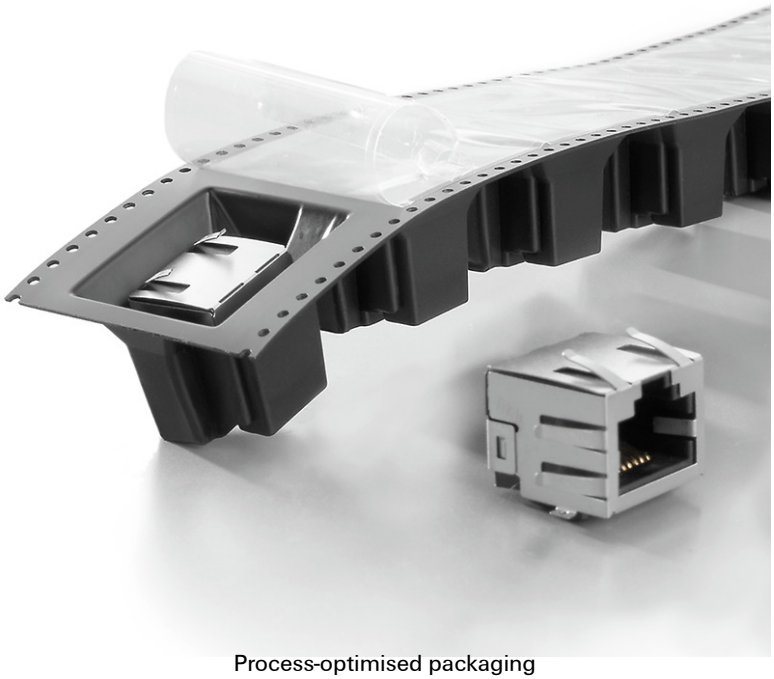
Drawings

Product benefits



Process-optimised packaging
Tape-on-reel or tray

RJ45 G1 R 1 U 3.2 E 4 GY/GY TY RJ45G1 R1U 3.2E4GY/GY TY

Packaging	**TY**	**T**ray in box (manual assembly)
	RL	Tape on **R**eel (automated assembly)
LED	**Y/G**	**Y**ellow/**G**reen
	G/Y	**G**reen/**Y**ellow (standard)
	GY/GY	**G**reen-**Y**ellow/**G**reen-**Y**ellow
	O/G	**O**range/**G**reen
	R/O	**R**ed/**O**range
	...	... (further combinations possible)
	N	without LED
Contact surface thickness	**4**	1 = 3µ", 2 = 6µ", 3 = 15µ", **4 = 30µ"**, 5 = 50µ"
EMI tabs (ground fingers)	**E**	**E** = with EMI tabs
	N	**N** = without EMI tabs
Solder Pin length	**3.2**	3.2 mm
	1.6	1.6 mm
	D	SM**D**
Direction, latch style	**U**	Horizontal (90°, side entry), latch **u**p
	D	Horizontal (90°, side entry), latch **d**own
	V	**V**ertical (180°, top entry)
	Y	Diagonal (45°), latch up
Number of Ports	**1**	1 Port
	12; 14; ...	multi ports side by side, Multiport
	21; 41; ...	multi ports about each other, Multilevel
Assembly on PCB	**R**	Through Hole **R**eflow - THR Soldering process: Wave or Reflow soldering
	S	**S**urface Mount Technology - **S**MT Soldering process: Reflow soldering
	T	Through Hole Technology - TH**T** Soldering process: Wave
Performance Category	**C5**	**C**ategory **5**
	C6	**C**ategory **6**
	C6A	**C**ategory **6A**
	C5e	**C**ategory **5e**
	M	10/100 Mbit
	G1	10/100/1000 Mbit
	G10	10 Gbit
	U	**U**nshielded
	MP	10/100 Mbit with **P**OE
	MP+	10/100 Mbit with **P**OE+

Legend

Reflow Solder Profile

Recommended reflow soldering profile

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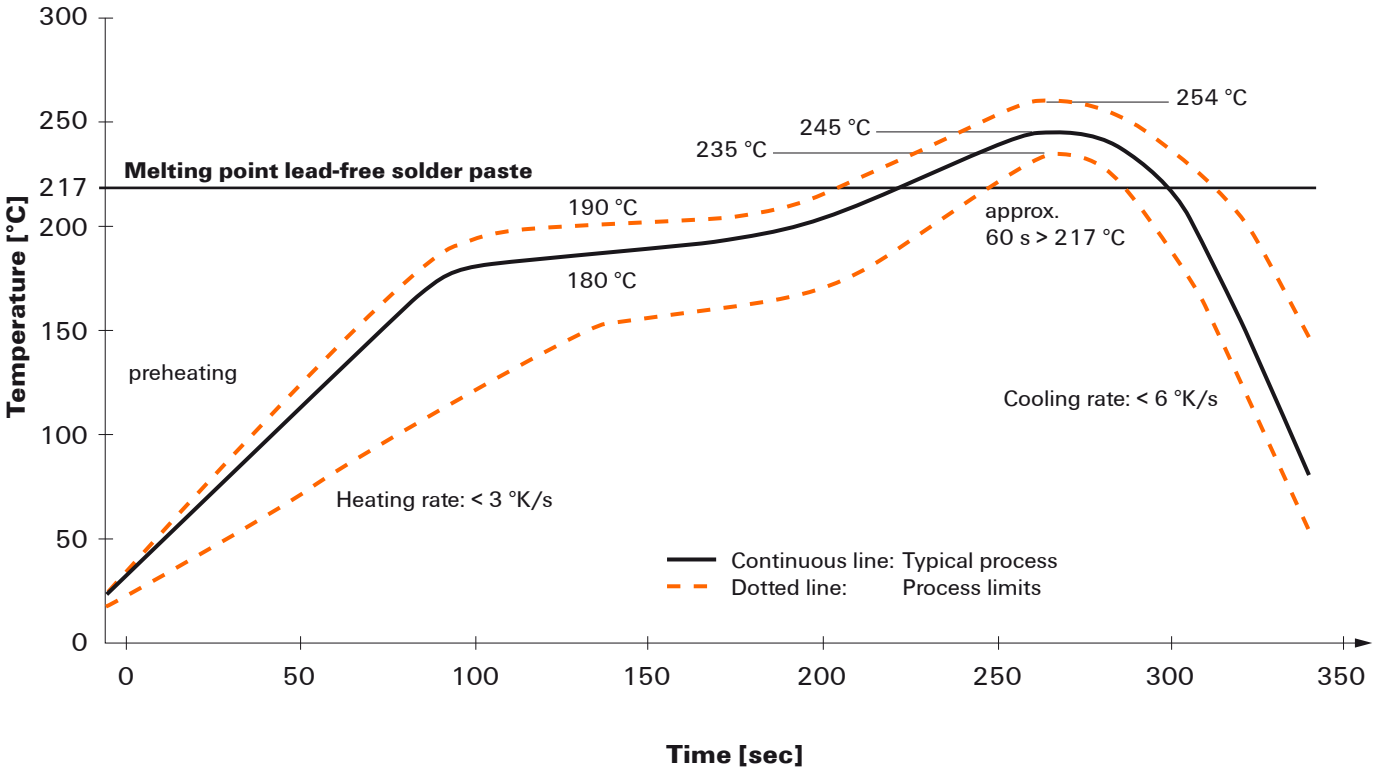

Reflow soldering profile

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.