RJ45C5 R1D 3.3E4N RL

Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 26
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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. 5 , THT/ THR solder connection, 90°, Latch option: bottom, Shield tabs: 6 tabs, 30...80 µ" Ni / ≥ 30 µ" Au , LED: No, Number of poles: 8, Tape
Order No.	2562910000
Type	RJ45C5 R1D 3.3E4N RL
GTIN (EAN)	4050118571936
Qty.	200 pc(s).
Packaging	Tape

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Technical data

Dimensions and weights

Depth	21.3 mm	Depth (inches)	0.839 inch
Height	17.06 mm	Height (inches)	0.672 inch
Height of lowest version	13.76 mm	Net weight	10 g
Width	15.7 mm	Width (inches)	0.618 inch

System specifications

Category	Cat. 5	
LED	No	
Latch option	bottom	
Mounting onto the PCB	THT/THR 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	
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 length (l)	3.3 mm	
Solder pin length tolerance	+0.5 / -0.5 mm	
Solder pin length tolerance	Lower tolerance with prefix (reveals minimum)	-0.5
	Upper tolerance with prefix (reveals maximum)	+0.5
	Tolerance, unit	mm
Soldering process	Reflow soldering, Manual soldering, Wave soldering	
Type of connection	Socket connector	
Wiring	8-core	

Electrical properties

Dielectric strength, contact / contact	1000 V AC	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	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

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Packing

Packaging	Tape	VPE length	0 m
VPE width	0 m	VPE height	0 m
Tape reel diameter ⌀ (A)	330 mm	Surface resistance	Rs = 10^{9} - 10^{12} Ω

Classifications

ETIM 6.0	EC002637	ETIM 7.0	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

Approvals

Approvals	c UL us
ROHS	Conform
UL File Number Search	E471884

Downloads

Engineering Data	STEP

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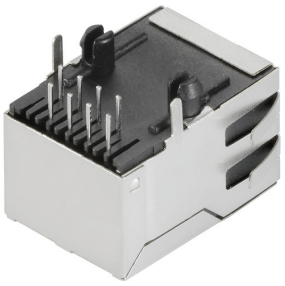
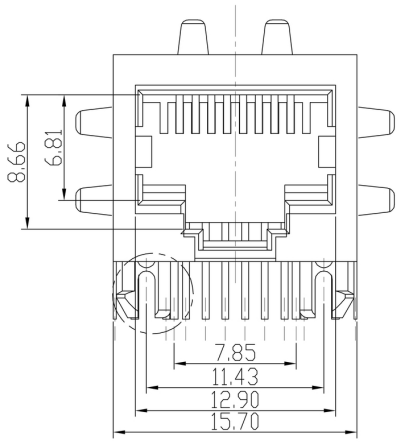
Drawings



Dimensioned drawing



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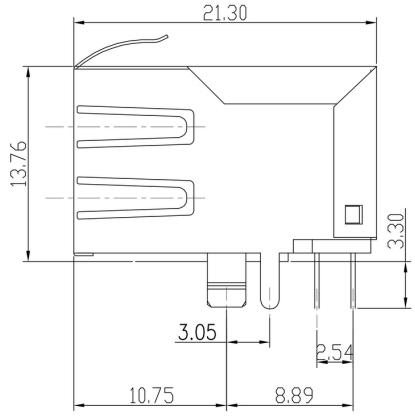

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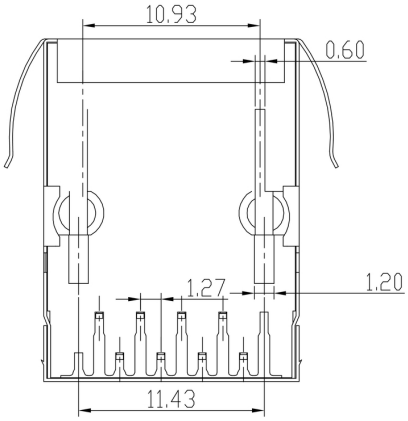
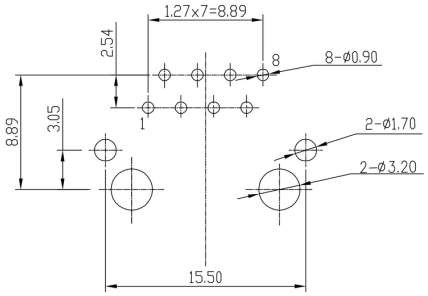


PCB design



PCB LAYOUT

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Drawings

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 - TH**R** Soldering process: Wave or **R**eflow soldering
	S	**S**urface Mount Technology - **SMT** 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

Wave Solder Profile

Recommended wave solderding profiles

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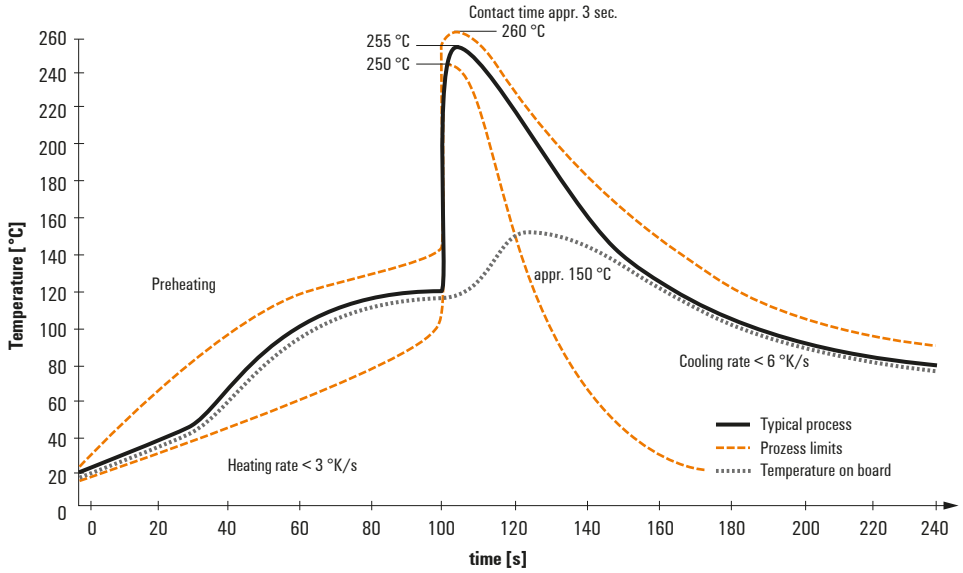
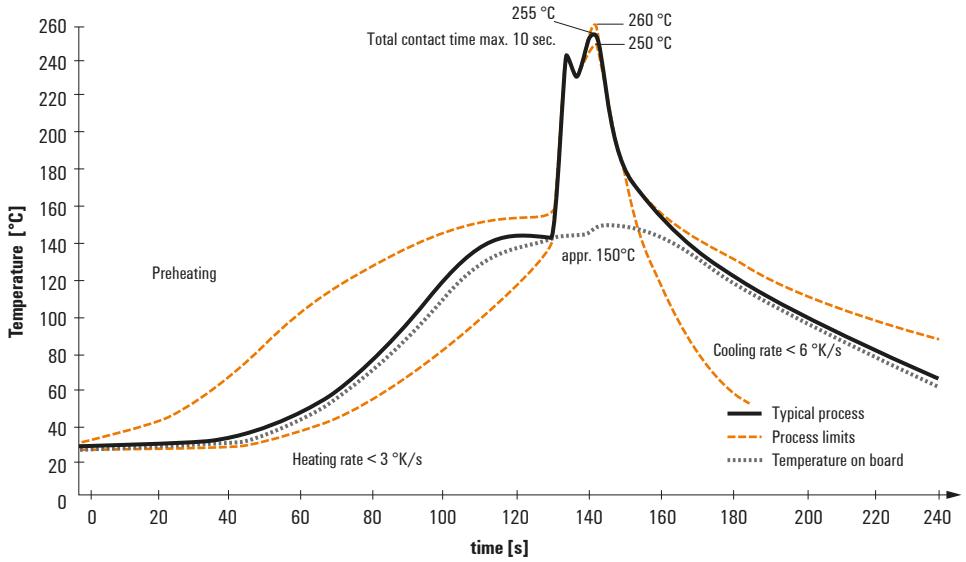
Single Wave:



Double Wave:



Wave soldering profiles

Wired connection elements should be processed in accordance with the DIN EN 61760-1 standard. We have included two recommendations for practical wave soldering profiles, with which Weidmüller PCB terminals and connectors are qualified.

When choosing a suitable profile for your application, the following factors also need to be considered:
- PCB thickness
- Proportion of Cu in the layers
- Single/double-sided assembly
- Product range
- Heating and cooling rates

The single and double wave profiles each indicate the recommended operating range, including the maximum soldering temperature of 260°C. In practice, the maximum soldering temperature is quite often well below the above maximum profile.

Reflow Solder Profile

Recommended reflow soldering profile

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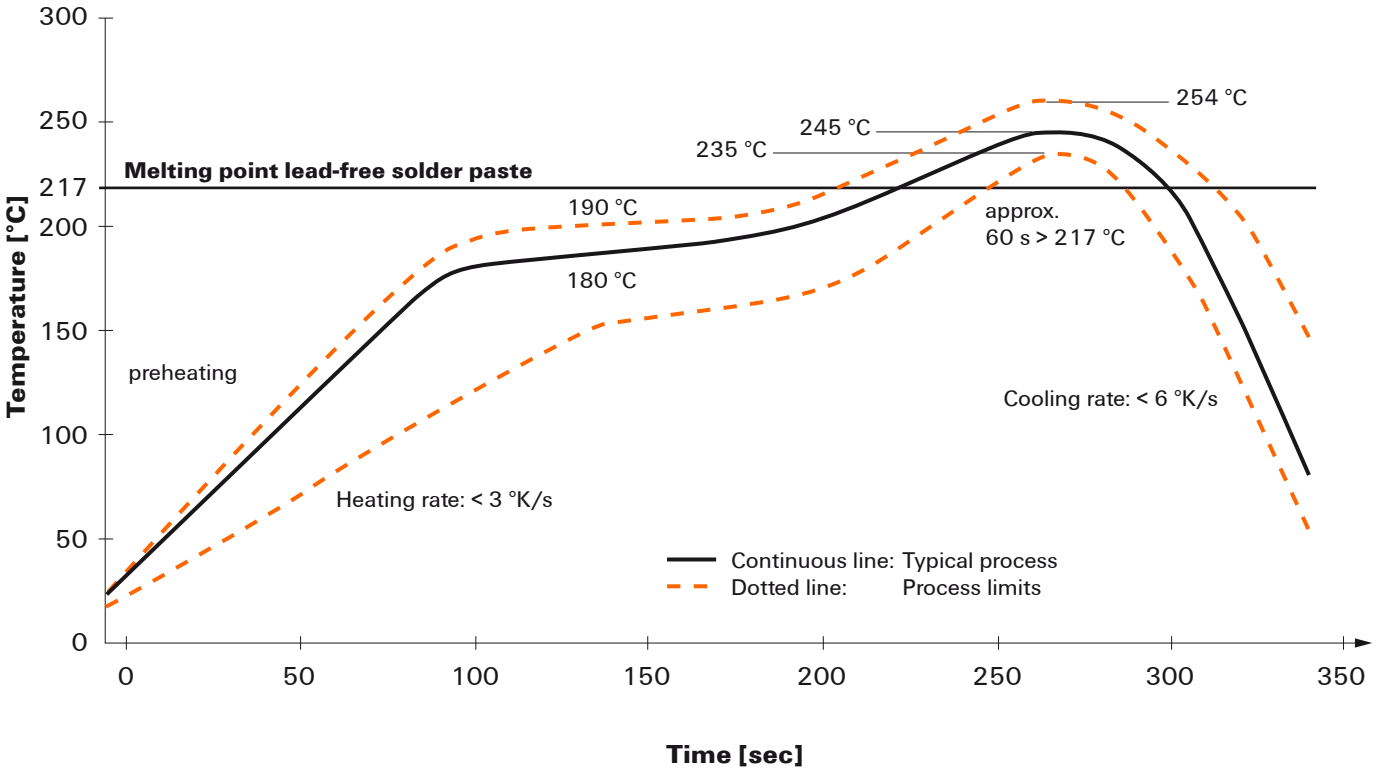

Reflow soldering profile

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.