

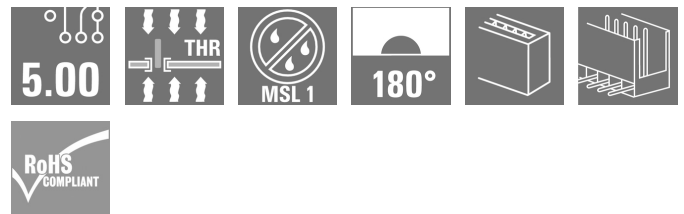
**SL-SMT 5.00HC/02/180 3.2SN BK RL****Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

**Product image**

High-temperature-resistant, straight, open pin header.  
Packed in box or tape. On tape and with 1.5 mm solder pin, optimised for automatic assembly. 3.2 mm solder pin suitable for reflow and wave soldering. The pin headers provide space for labelling and can be coded. HC = High Current.

**General ordering data**

Version	PCB plug-in connector, male header, open side, THT/THR solder connection, 5.00 mm, Number of poles: 2, 180°, Solder pin length (l): 3.2 mm, tinned, black, Tape
Order No.	<a href="#">2441050000</a>
Type	SL-SMT 5.00HC/02/180 3.2SN BK RL
GTIN (EAN)	4050118455083
Qty.	250 pc(s).
Product data	IEC: 400 V / 27.5 A UL: 300 V / 18.5 A
Packaging	Tape

Creation date July 7, 2024 6:39:24 PM CEST

Catalogue status 29.06.2024 / We reserve the right to make technical changes.

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**Technical data****Dimensions and weights**

Depth	8.5 mm	Depth (inches)	0.335 inch
Height	15.2 mm	Height (inches)	0.598 inch
Height of lowest version	12 mm	Width	10 mm
Width (inches)	0.394 inch	Net weight	1.067 g

**System specifications**

Product family	OMNIMATE Signal - series BL/SL 5.00	Type of connection	Board connection
Mounting onto the PCB	THT/THR solder connection	Pitch in mm (P)	5 mm
Pitch in inches (P)	0.197 "	Outgoing elbow	180°
Number of poles	2	Number of solder pins per pole	1
Solder pin length (l)	3.2 mm	Solder pin length tolerance	+0.1 / -0.2 mm
Solder pin dimensions	d = 1.2 mm, Octagonal	Solder pin dimensions = d tolerance	0 / -0,03 mm
Solder eyelet hole diameter tolerance (D)+ 0,1 mm		L1 in mm	5 mm
L1 in inches	0.197 "	Number of rows	1
Pin series quantity	2	Touch-safe protection acc. to DIN VDE 57 106	finger-safe unplugged/ back-of-hand-safe plugged
Touch-safe protection acc. to DIN VDE 0470	IP20 plugged/ IP10 unplugged	Protection degree	IP20
Volume resistance	≤5 mΩ	Can be coded	Yes
Plugging force/pole, max.	7 N	Pulling force/pole, max.	5.5 N

**Material data**

Insulating material	LCP GF	Colour	black
Colour chart (similar)	RAL 9011	Insulating material group	IIIa
Comparative Tracking Index (CTI)	≥ 175	Moisture Level (MSL)	1
UL 94 flammability rating	V-0	Contact material	Cu-alloy
Contact surface	tinned	Layer structure of solder connection	1...3 µm Ni / 2...4 µm Sn matt
Layer structure of plug contact	1...3 µm Ni / 2...4 µm Sn matt	Storage temperature, min.	-40 °C
Storage temperature, max.	70 °C	Operating temperature, min.	-50 °C
Operating temperature, max.	100 °C	Temperature range, installation, min.	-30 °C
Temperature range, installation, max.	100 °C		

**Rated data acc. to IEC**

tested acc. to standard	IEC 60664-1, IEC 61984	Rated current, min. number of poles (Tu=20°C)	27.5 A
Rated current, max. number of poles (Tu=20°C)	19 A	Rated current, min. number of poles (Tu=40°C)	24 A
Rated current, max. number of poles (Tu=40°C)	16.5 A	Rated voltage for surge voltage class / pollution degree II/2	400 V
Rated voltage for surge voltage class / pollution degree III/2	320 V	Rated voltage for surge voltage class / pollution degree III/3	250 V
Rated impulse voltage for surge voltage class/ pollution degree II/2	4 kV	Rated impulse voltage for surge voltage class/ pollution degree III/2	4 kV
Rated impulse voltage for surge voltage class/ contamination degree III/3	4 kV		

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## Technical data

## Rated data acc. to CSA

Rated voltage (Use group B / CSA)	300 V	Rated voltage (Use group D / CSA)	300 V
Rated current (Use group B / CSA)	15 A	Rated current (Use group D / CSA)	15 A

## Rated data acc. to UL 1059

Institute (UR)		Certificate No. (UR)	E60693
Rated voltage (Use group B / UL 1059)	300 V	Rated voltage (Use group D / UL 1059)	300 V
Rated current (Use group B / UL 1059)	18.5 A	Rated current (Use group D / UL 1059)	10 A
Reference to approval values	Specifications are maximum values, details - see approval certificate.		

## Packing

ESD Level packaging	static dissipative	Packaging	Tape
VPE length	330 mm	VPE width	330 mm
VPE height	40 mm	Tape depth (T2)	17.25 mm
Tape width (W)	32 mm	Tape pocket depth (K0)	16.75 mm
Tape pocket height (A0)	8 mm	Tape pocket width (B0)	10.26 mm
Tape pocket separation (P1)	16 mm	Tape hole separation (E)	1.75 mm
Tape pocket separation (F)	14.2 mm	Tape reel diameter $\varnothing$ (A)	330 mm
Surface resistance	$R_s = 10^9 - 10^{12} \Omega$	Width Pick & Place Pad ( $W_{PPP}$ )	9.6 mm
Length Pick & Place Pad ( $L_{PPP}$ )	12.36 mm	Diameter of the withdrawal surface ( $\varnothing D_{max}$ )	8.5 mm
Protrusion 1 Pick & Place Pad ( $L_{01 (PPP)}$ )	2 mm	Protrusion 2 Pick & Place Pad ( $P_{02 (PPP)}$ )	2.3 mm

## 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	27-46-02-01

## Environmental Product Compliance

REACH SVHC /

## Important note

IPC conformity	Conformity: The products are developed, manufactured and delivered according international recognized standards and norms and comply with the assured properties in the data sheet resp. fulfill decorative properties in accordance with IPC-A-610 "Class 2". Further claims on the products can be evaluated on request.
Notes	<ul style="list-style-type: none"> <li>In accordance with IEC 61984, OMNIMATE-connectors are connectors without breaking capacity (COC). During designated use, connectors are not allowed to be engaged or disengaged when live or under load</li> <li>Long term storage of the product with average temperature of 50 °C and maximum humidity 70%, 36 months</li> </ul>

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**Technical data****Approvals**

Approvals



ROHS	Conform
UL File Number Search	UL Website
Certificate No. (UR)	E60693

**Downloads**

Product Change Notification	<a href="#">Changeover to ESD bags for "Tape on Reel" products</a> <a href="#">Umstellung auf ESD-Beutel bei „Tape on Reel“ Produkten</a>
Catalogues	<a href="#">Catalogues in PDF-format</a>
Brochures	<a href="#">FL DRIVES EN</a> <a href="#">FL DRIVES DE</a>
White paper surface mount technology	<a href="#">Download Whitepaper</a>

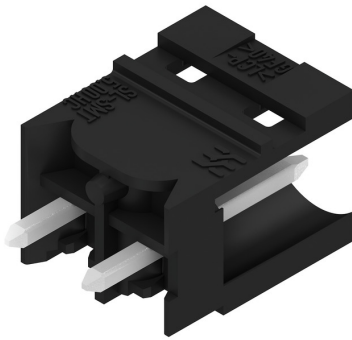
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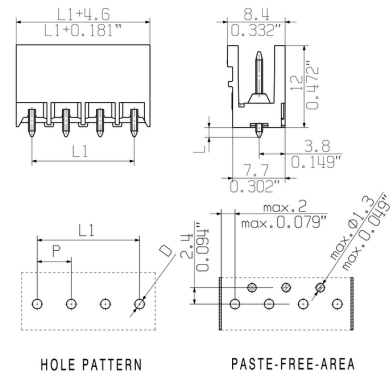
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## Drawings

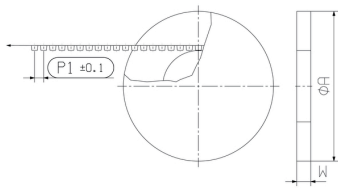
## Product image



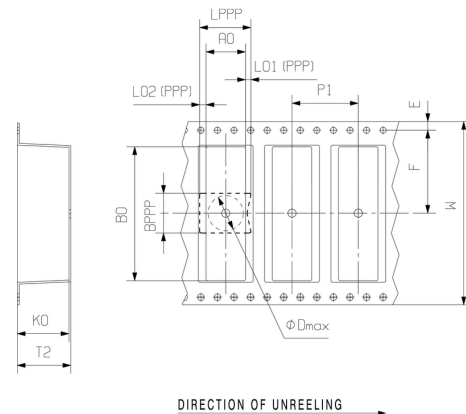
## Dimensional drawing



## Dimensional drawing



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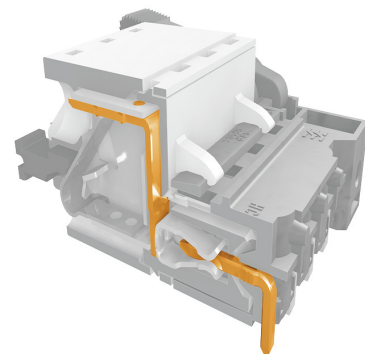


## Example of use



Compliant with existing standards

## Product benefits



Safe power transmission  
 Proven properties

### SL-SMT 5.00HC/02/180 3.2SN BK RL

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## Drawings

### Product benefits



Compliant with existing standards

## Recommended wave soldering 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:

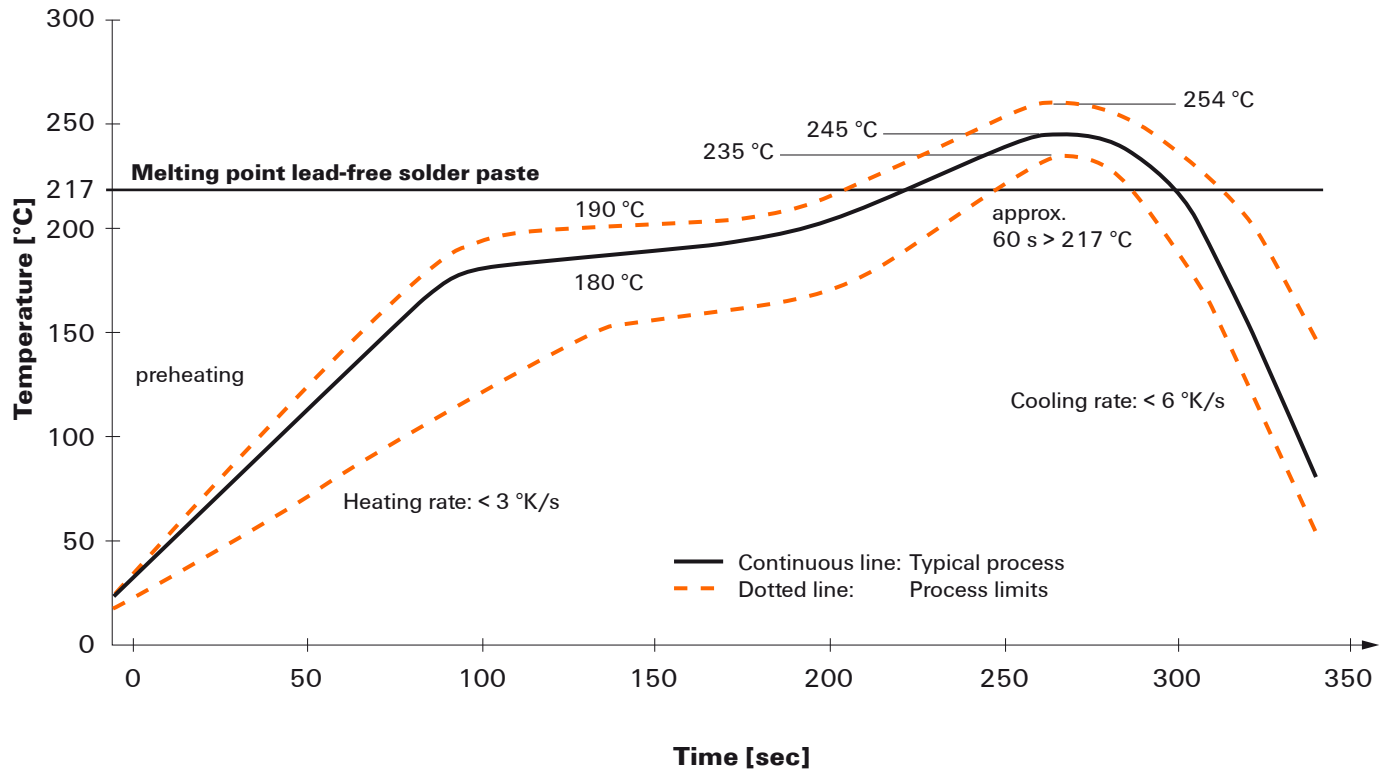
- PCB thickness
- Proportion of Cu in the layers
- Single/double-sided assembly
- Product range
- Heating and cooling rates

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.

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## 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.