

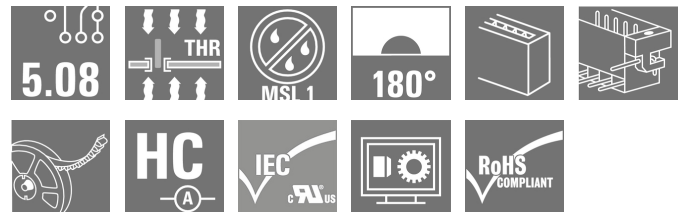
SL-SMT 5.08HC/05/180LF 1.5SN BK RL**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Product image

Similar to illustration

High-temperature-resistant pin header, packed in box or tape. On tape, 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, Solder flange, THT/THR solder connection, 5.08 mm, Number of poles: 5, 180°, Solder pin length (l): 1.5 mm, tinned, black, Tape
Order No.	1776394001
Type	SL-SMT 5.08HC/05/180LF 1.5SN BK RL
GTIN (EAN)	4032248163618
Qty.	250 pc(s).
Product data	IEC: 400 V / 27.5 A UL: 300 V / 18.5 A
Packaging	Tape

Creation date March 25, 2021 6:32:37 AM CET

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Technical data

Dimensions and weights

Depth	8.5 mm	Depth (inches)	0.335 inch
Height	13.5 mm	Height (inches)	0.531 inch
Height of lowest version	12 mm	Net weight	5.08 g
Width	35.2 mm	Width (inches)	1.386 inch

System specifications

Product family	OMNIMATE Signal - series BL/SL 5.08	Type of connection	Board connection
Mounting onto the PCB	THT/THR solder connection	Pitch in mm (P)	5.08 mm
Pitch in inches (P)	0.2 inch	Outgoing elbow	180°
Number of poles	5	Number of solder pins per pole	1
Solder pin length (l)	1.5 mm	Solder pin length tolerance	0 / -0.3 mm
Solder pin dimensions	d = 1.2 mm, Octagonal	Solder eyelet hole diameter (D)	1.5 mm
Solder eyelet hole diameter tolerance (D)+ 0,1 mm		L1 in mm	20.32 mm
L1 in inches	0.8 inch	Number of rows	1
Pin series quantity	1	Volume resistance	≤5 mΩ
Can be coded	Yes	Plugging force/pole, max.	9 N
Pulling force/pole, max.	7 N		

Material data

Insulating material	LCP GF	Colour	black
Colour chart (similar)	RAL 9011	Insulating material group	IIla
Comparative Tracking Index (CTI)	≥ 175	Moisture Level (MSL)	1
UL 94 flammability rating	V-0	Contact material	CuMg
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

Institute (CSA)



Certificate No. (CSA)

200039-1176845

Rated voltage (Use group B / CSA) 300 V

Rated voltage (Use group D / CSA) 300 V

Rated current (Use group D / CSA)
18.5 AReference to approval values
Specifications are maximum values, details - see approval certificate.

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

Packaging	Tape	VPE length	1 mm
VPE width	1 mm	VPE height	1 mm
Tape depth (T2)	17.45 mm	Tape width (W)	56 mm
Tape pocket depth (K0)	16.95 mm	Tape pocket height (A0)	8 mm
Tape pocket width (B0)	35.66 mm	Tape pocket separation (P1)	16 mm
Tape hole separation (E)	1.75 mm	Tape pocket separation (F)	26.2 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 ($L_{01 (PPP)}$)	2.3 mm
Protrusion 2 Pick & Place Pad ($P_{02 (PPP)}$)	2 mm		

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

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Technical data**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	• Gold-plated contact surfaces on request • Rated current related to rated cross-section & min. No. of poles. • Diameter of solder eyelet $D = 1.4 + 0.1 \text{ mm}$ • Solder eyelet diameter $D = 1.5 + 0.1 \text{ mm}$, from 9 poles • P on drawing = pitch • Rated data refer only to the component itself. Clearance and creepage distances to other components are to be designed in accordance with the relevant application standards. • Long term storage of the product with average temperature of 50 °C and average humidity 70%, 36 months

Approvals

Approvals



ROHS	Conform
UL File Number Search	E60693

Downloads

Approval/Certificate/Document of Conformity	CB Certificate CB Testreport Declaration of the Manufacturer
Engineering Data	STEP
Engineering Data	WSCAD

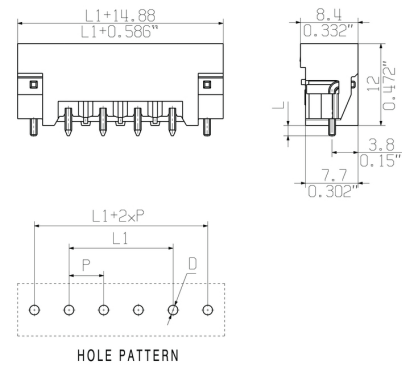
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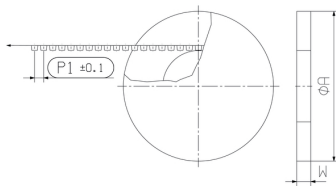
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Drawings

Dimensional drawing



Dimensional drawing



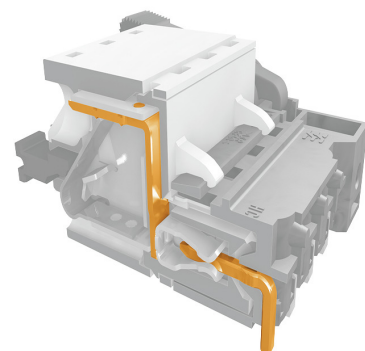
Dimensional drawing



Example of use



Product benefits



Safe power transmission
Proven properties

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.

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.