

SL-SMT 5.08HC/02/180LF 1.5SN BK BX**Weidmüller Interfaces GmbH & Co. KG**

Postfach 3030

32760 Detmold

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Product image

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: 2, 180°, Solder pin length (l): 1.5 mm, tinned, black, Box
Order No.	1776362001
Type	SL-SMT 5.08HC/02/180LF 1.5SN BK BX
GTIN (EAN)	4032248159147
Qty.	90 pc(s).
Product data	IEC: 400 V / 27.5 A UL: 300 V / 18.5 A
Packaging	Box

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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	Width	19.96 mm
Width (inches)	0.786 inch	Net weight	2.21 g

Temperatures

Operating temperature, min.	-50 °C	Operating temperature, max.	100 °C
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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	2	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	5.08 mm
L1 in inches	0.2 inch	Number of rows	1
Pin series quantity	1	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.	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)

www.weidmueller.com

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	Box	VPE length	341 mm
VPE width	134 mm	VPE height	21 mm

Classifications

ETIM 6.0	EC002637	ETIM 7.0	EC002637
ETIM 8.0	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

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+0.1mm
 - Solder eyelet diameter D = 1.5 + 0.1 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

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info@weidmueller.comwww.weidmueller.com**Technical data****Approvals**

Approvals



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

Downloads

Approval/Certificate/Document of Conformity	CB Certificate CB Testreport Declaration of the Manufacturer
Engineering Data	CAD data – STEP
Engineering Data	WSCAD
Product Change Notification	PCN_2017_164_PL30_Gerichtete_Verpackung_SL-SMT5.0x_DE PCN_2017_164_PL30_Sorted_Packaging_SL-SMT5.0x_EN
Catalogues	Catalogues in PDF-format
Brochures	FL DRIVES EN MB SMT EN FL DRIVES DE MB DEVICE MANUF. EN FL BUILDING SAFETY EN FL APPL LED LIGHTING EN FL INDUSTR.CONTROLS EN FL MACHINE SAFETY EN FL HEATING ELECTR EN FL APPL INVERTER EN FL_BASE_STATION_EN FL ELEVATOR EN FL POWER SUPPLY EN FL 72H SAMPLE SER EN PO OMNIMATE EN PO OMNIMATE EN
White paper surface mount technology	Download Whitepaper

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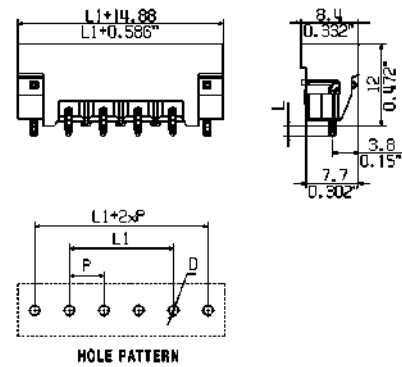
Drawings

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Product image



Dimensional drawing



Product benefits



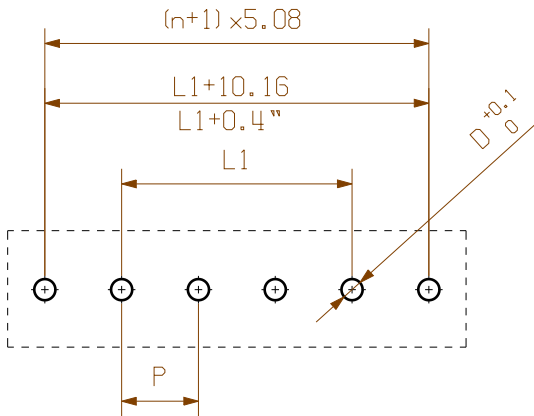
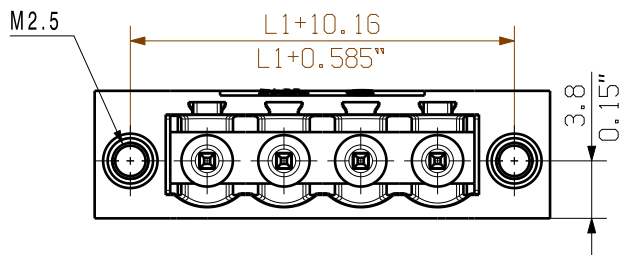
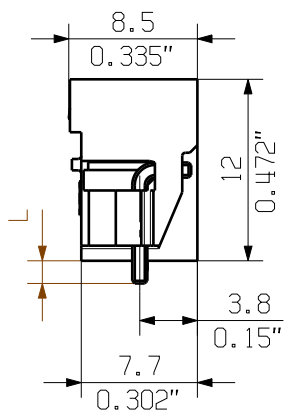
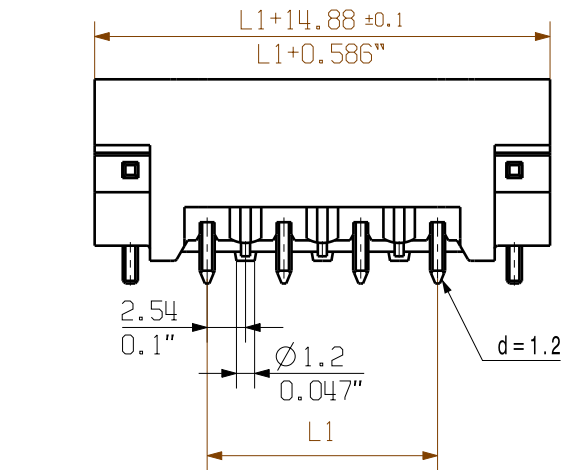
Safe power transmission
Proven properties

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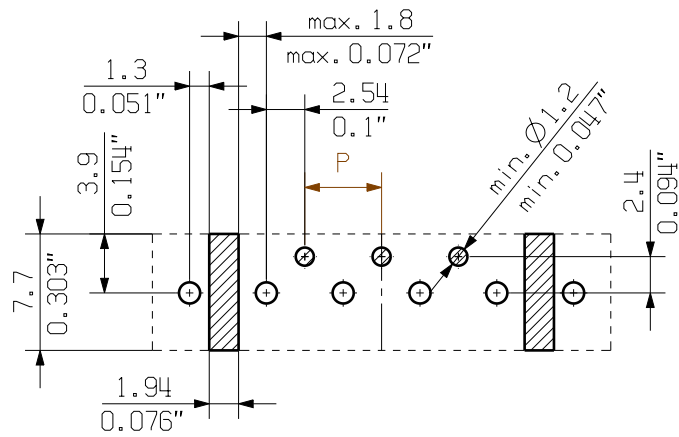
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Dimensions without tolerances are no check dimensions

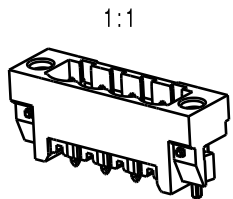
The English version is binding



HOLE PATTERN



PASTE-FREE AREA



D = 1.5/0.059" (REFLOW SOLDERING)
RECOMMENDATION FOR AUTOMATIC ASSEMBLY

n = POLZAH/ NO OF POLES

P = RASTER/PITCH

SHOWN: SL-SMT 5.08HC/04/180 LF

1,5	0,0	24	116,84	4,600
	-0,3			
3,2	0,1	23	111,76	4,400
	-0,3			
4,5	0,1	22	106,68	4,200
	-0,3			
n	0,1	21	101,60	4,000
	-0,3			
STIFTLAENGE L	TOLERANZ	20	96,52	3,800
n	L1 [mm]	19	91,44	3,600
	L1 [Inch]			

For the mounting of PCBs, it should be noted that the rated data relates only to the PCB components alone. The necessary creepage and clearance paths must be observed in connection with the respective applicant in accordance to IEC 664 / VDE 0110. The current-carrying capacity and pitch tolerance is to be determined according to DIN IEC 326 part 3 very fine.

Weidmüller PCB components are tested to the DIN EN 61984 standard, and are valid for its field of application. Provided that the components are used to the intended purpose, all requirements with respect to the occurring of electrical, mechanical, thermic and corrosive stress will be satisfied.

DIN ISO 2768-m

106339/4

30.07.18 HERTEL_S

01

Modification

Date

Name

Drawn

30.11.2007

HELIS_MA

Responsible

HERTEL_S

Checked

01.08.2018

KOCH_JG

Supersedes:

LANG_T

Weidmüller

Cat.no.: .

C 34148

Issue no. 23

Drawing no.

Sheet 03 of 04 sheets

SL-SMT 5.08HC/./180...

STIFTELEISTE

MALE HEADER

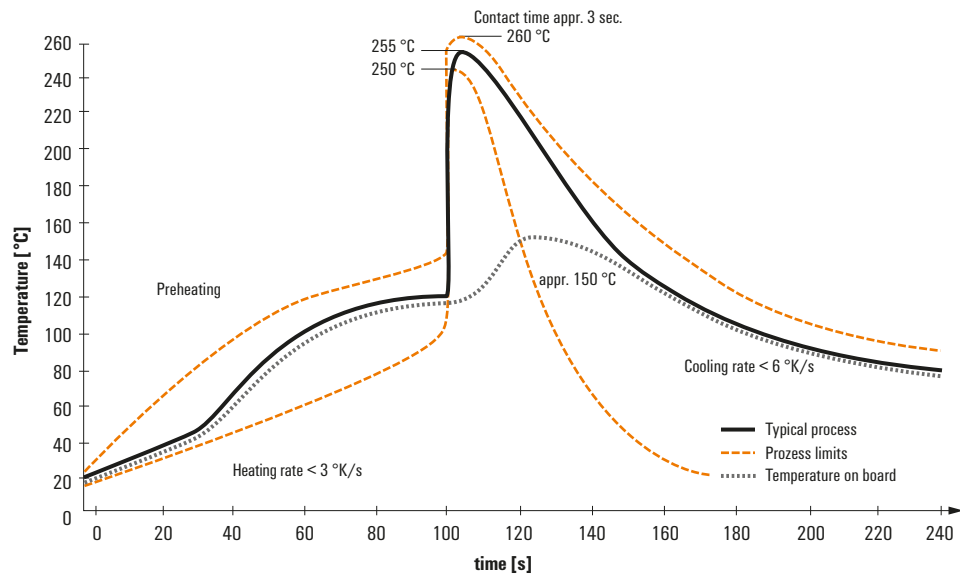
Product file: SL-SMT 5.08HC

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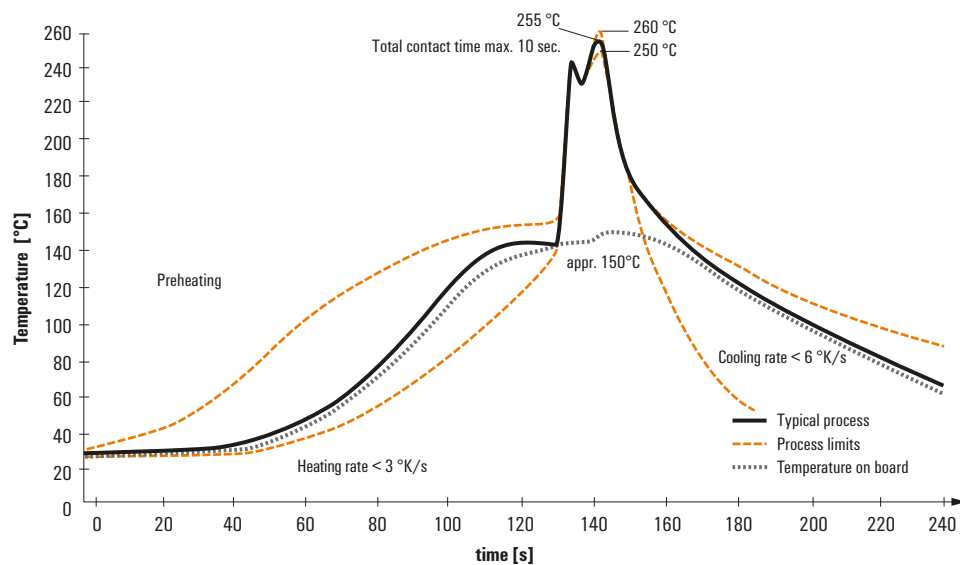
Recommended wave soldering profiles

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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

Weidmüller Interface GmbH & Co. KG

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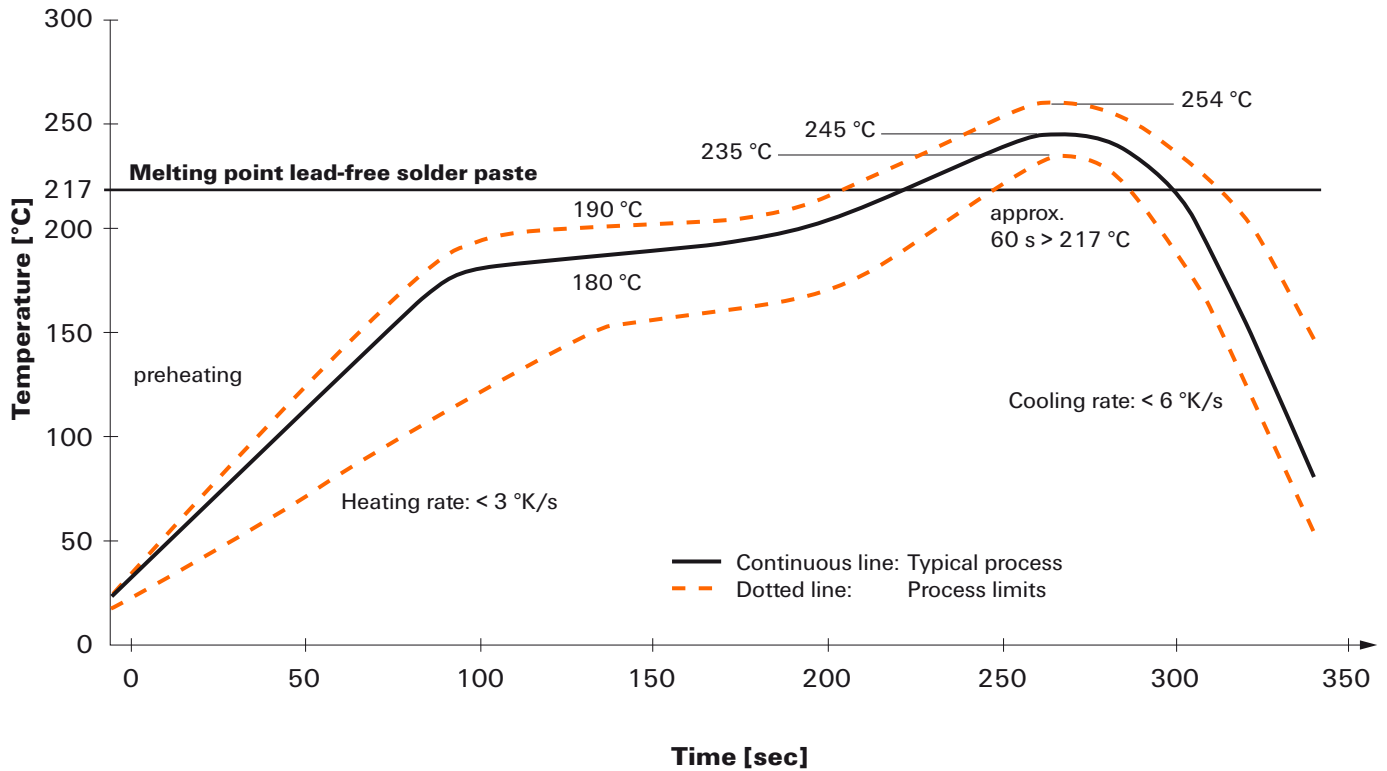
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Reflow soldering profile

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.