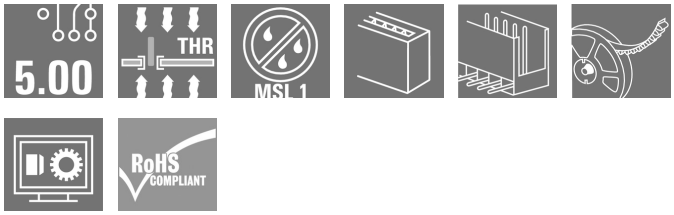
SHL-SMT 5.00/03GR 1.5RL

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, Connection element, right, male header, open side, THT/THR solder connection, 5.00 mm, Number of poles: 3, 90°, Solder pin length (l): 1.5 mm, tinned, black, Tape
Order No.	1063170000
Type	SHL-SMT 5.00/03GR 1.5RL
GTIN (EAN)	4032248814848
Qty.	175 pc(s).
Product data	IEC: 400 V UL: 300 V / 9 A / AWG 26 - AWG 12
Packaging	Tape

Creation date December 4, 2023 3:58:05 PM CET

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Technical data

Dimensions and weights

Height	14.4 mm	Height (inches)	0.567 inch
Width	15.4 mm	Width (inches)	0.606 inch
Length	23.3 mm	Length (inches)	0.917 inch
Net weight	4.337 g		

System Parameters

Product family	OMNIMATE Housing - series CH20M	Type of connection	Board connection
Pitch in mm (P)	5 mm	Pitch in inches (P)	0.197 inch
Number of poles	3	L1 in mm	10 mm
L1 in inches	0.394 inch	Number of rows	1
Pin series quantity	1	Protection degree	IP20
Volume resistance	≤5 mΩ	Can be coded	Yes

Material data

Insulating material	LCP	Colour	black
Colour chart (similar)	RAL 9011	Insulating material group	IIIa
Comparative Tracking Index (CTI)	175 ≤ CTI < 400	Moisture Level (MSL)	1
UL 94 flammability rating	V-0	Contact material	Cu-alloy
Contact surface	tinned	Storage temperature, min.	-40 °C
Storage temperature, max.	70 °C	Operating temperature, min.	-40 °C
Operating temperature, max.	120 °C	Temperature range, installation, min.	-30 °C
Temperature range, installation, max.	120 °C		

Rated data acc. to IEC

tested acc. to standard	IEC 60664-1, IEC 61984	Rated current, max. number of poles (Tu=20°C)	10 A
Rated current, max. number of poles (Tu=40°C)	9 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		

Rated data acc. to CSA

Institute (CSA)		Certificate No. (CSA)	200039-70153051
Rated voltage (Use group B / CSA)	300 V	Rated voltage (Use group C / CSA)	50 V
Rated voltage (Use group D / CSA)	300 V	Rated current (Use group B / CSA)	9 A
Rated current (Use group C / CSA)	9 A	Rated current (Use group D / CSA)	9 A
Wire cross-section, AWG, min.	AWG 26	Wire cross-section, AWG, max.	AWG 12
Reference to approval values	Specifications are maximum values, details - see approval certificate.		

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Technical data

Rated data acc. to UL 1059

Institute (cURus)		Certificate No. (cURus)	E60693
Rated voltage (Use group B / UL 1059)	300 V	Rated voltage (Use group C / UL 1059)	50 V
Rated voltage (Use group D / UL 1059)	300 V	Rated current (Use group B / UL 1059)	9 A
Rated current (Use group C / UL 1059)	9 A	Rated current (Use group D / UL 1059)	9 A
Wire cross-section, AWG, min.	AWG 26	Wire cross-section, AWG, max.	AWG 12
Reference to approval values	Specifications are maximum values, details - see approval certificate.		

Material data

Comparative Tracking Index (CTI)	175 ≤ CTI < 400	Insulating material	LCP
Insulating material group	IIIa	UL 94 flammability rating	V-0

General data

Colour	black	Colour chart (similar)	RAL 9011
Encapsulation option	No	Protection degree	IP20

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

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.

Approvals

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

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Technical data

Downloads

Approval/Certificate/Document of Conformity	CSA Certificate of Compliance
Engineering Data	CAD data – STEP CAD data – Design IN construction drawings 5.0 CAD data – Design IN PCB layout 5.0 CAD data – PCB_position_70149_LP-POSITION_17MM CAD data – Pin_header_pin_length_CH20M_A_OV_PCB-SHL_70315
User Documentation	Through-Hole-Reflow Design Anwendungsempfehlung Through-Hole-Reflow design recommendation for use
Catalogues	Catalogues in PDF-format
Brochures	FL ANALO.SIGN.CONV. EN MB DEVICE MANUF. EN FL MACHINE SAFETY EN FL 72H SAMPLE SER EN PO OMNIMATE EN PO OMNIMATE EN

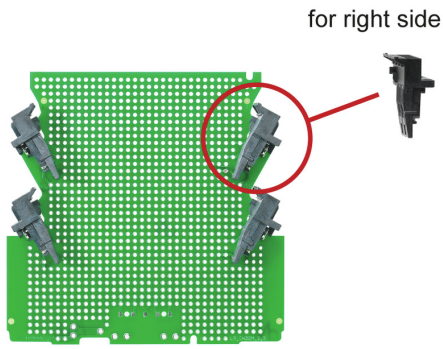
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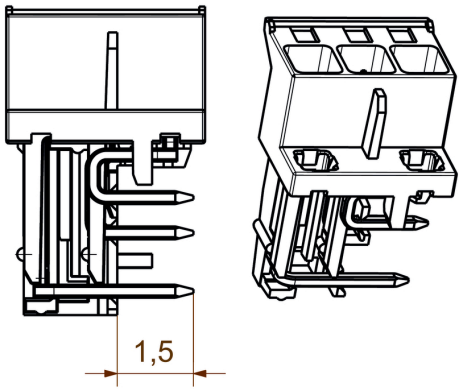
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Drawings

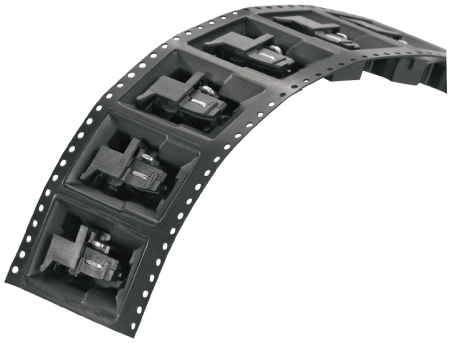
Example of use



Dimensioned drawing



Example of use



delivery

Example of use

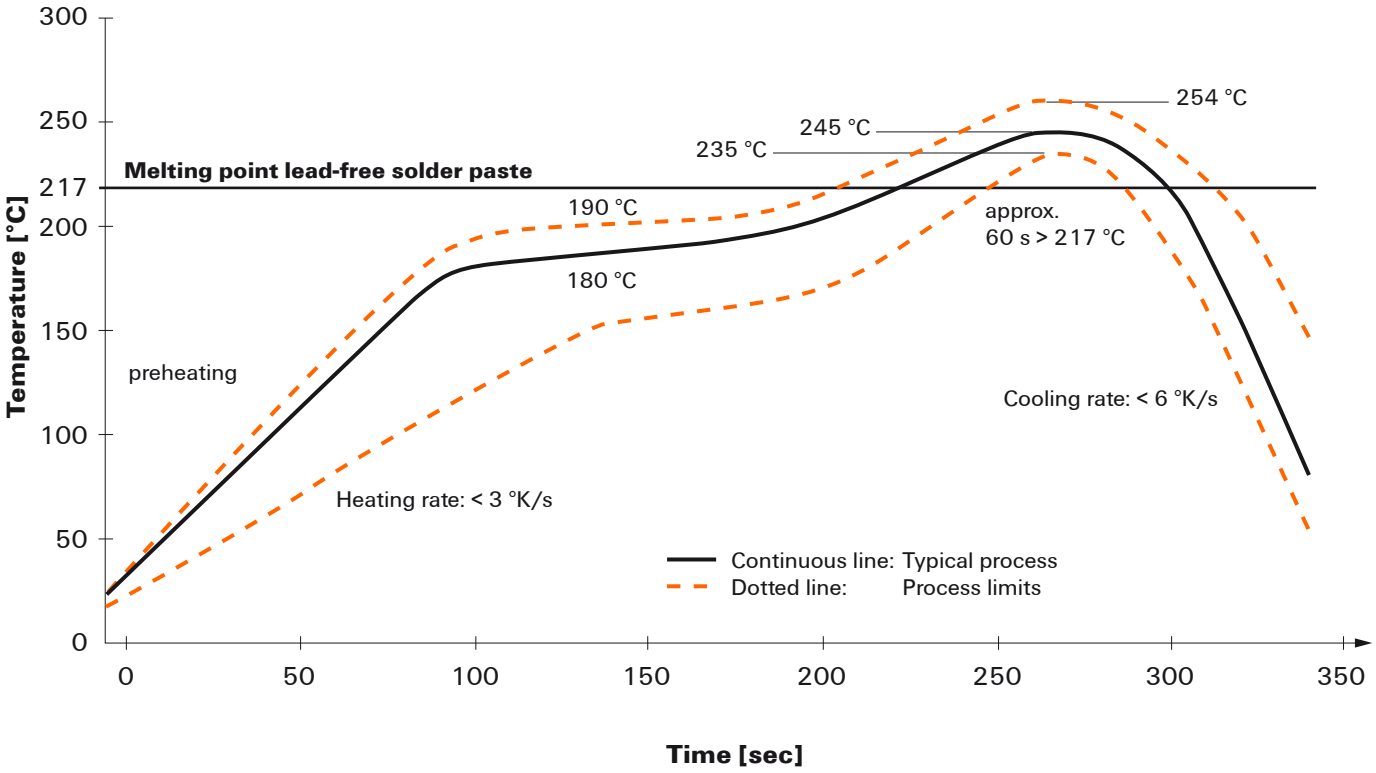


delivery

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.

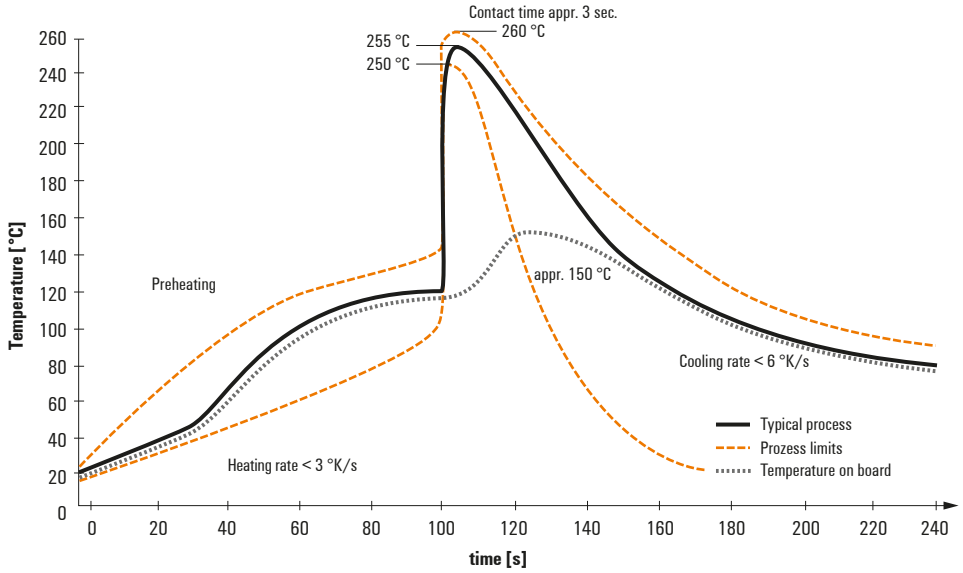
We reserve the right to make technical changes.

Wave Solder Profile

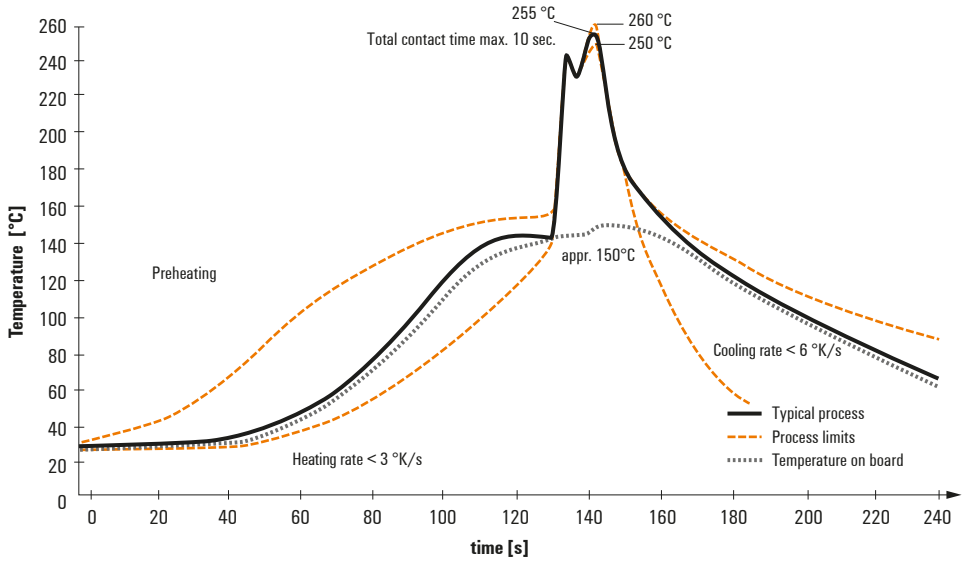
Recommended wave solderding profiles

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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.

We reserve the right to make technical changes.