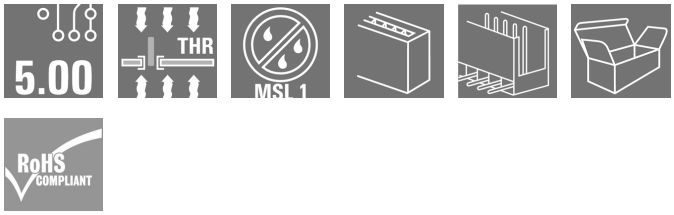
# SHL-SMT 5.00/02GR 4.2BX

**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: 2, 90°, Solder pin length (l): 1.5 mm, tinned, black, Box |
| Order No. | 1069550000 |
| Type | SHL-SMT 5.00/02GR 4.2BX |
| GTIN (EAN) | 4032248825110 |
| Qty. | 150 pc(s). |
| Product data | IEC: 400 V<br>UL: 300 V / 9 A / AWG 26 - AWG 12 |
| Packaging | Box |

Creation date March 29, 2024 5:42:40 AM CET

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## Technical data

### Dimensions and weights

| | | | |
|---|---|---|---|
| Height | 14.4 mm | Height (inches) | 0.567 inch |
| Width | 10.4 mm | Width (inches) | 0.409 inch |
| Length | 22 mm | Length (inches) | 0.866 inch |
| Net weight | 1.83 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 " |
| Number of poles | 2 | L1 in mm | 5 mm |
| L1 in inches | 0.197 " | 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. | | |

# SHL-SMT 5.00/02GR 4.2BX

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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 | 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. |

### Approvals

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

## SHL-SMT 5.00/02GR 4.2BX

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# Technical data

### Downloads

| | |
|---|---|
| Approval/Certificate/Document of Conformity | CSA Certificate of Compliance |
| Engineering Data | CAD data – STEP<br>CAD data – Design IN construction drawings 5.0<br>CAD data – Design IN PCB layout 5.0<br>CAD data – PCB_position_50880_LP-POSITION_12MM<br>CAD data – Pin_header_pin_length_CH20M_A_OV_PCB-SHL_70315 |
| User Documentation | Through-Hole-Reflow Design Anwendungsempfehlung<br>Through-Hole-Reflow design recommendation for use |
| Catalogues | Catalogues in PDF-format |
| Brochures | FL ANALO.SIGN.CONV. EN<br>MB DEVICE MANUF. EN<br>FL MACHINE SAFETY EN<br>FL 72H SAMPLE SER EN<br>PO OMNIMATE EN<br>PO OMNIMATE EN |

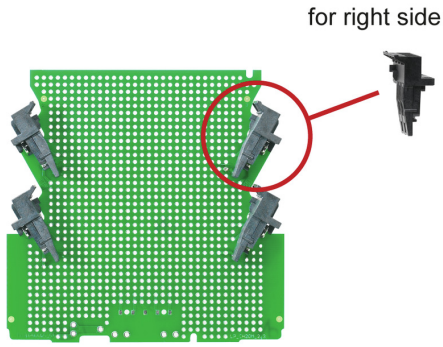
## SHL-SMT 5.00/02GR 4.2BX

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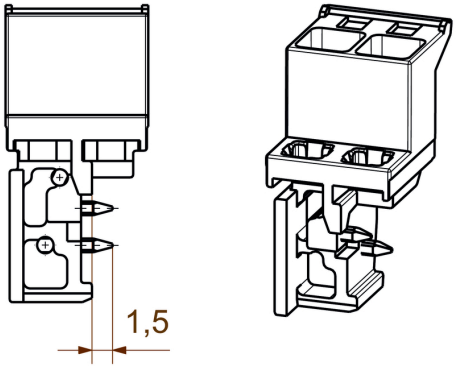
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# Drawings

### Example of use



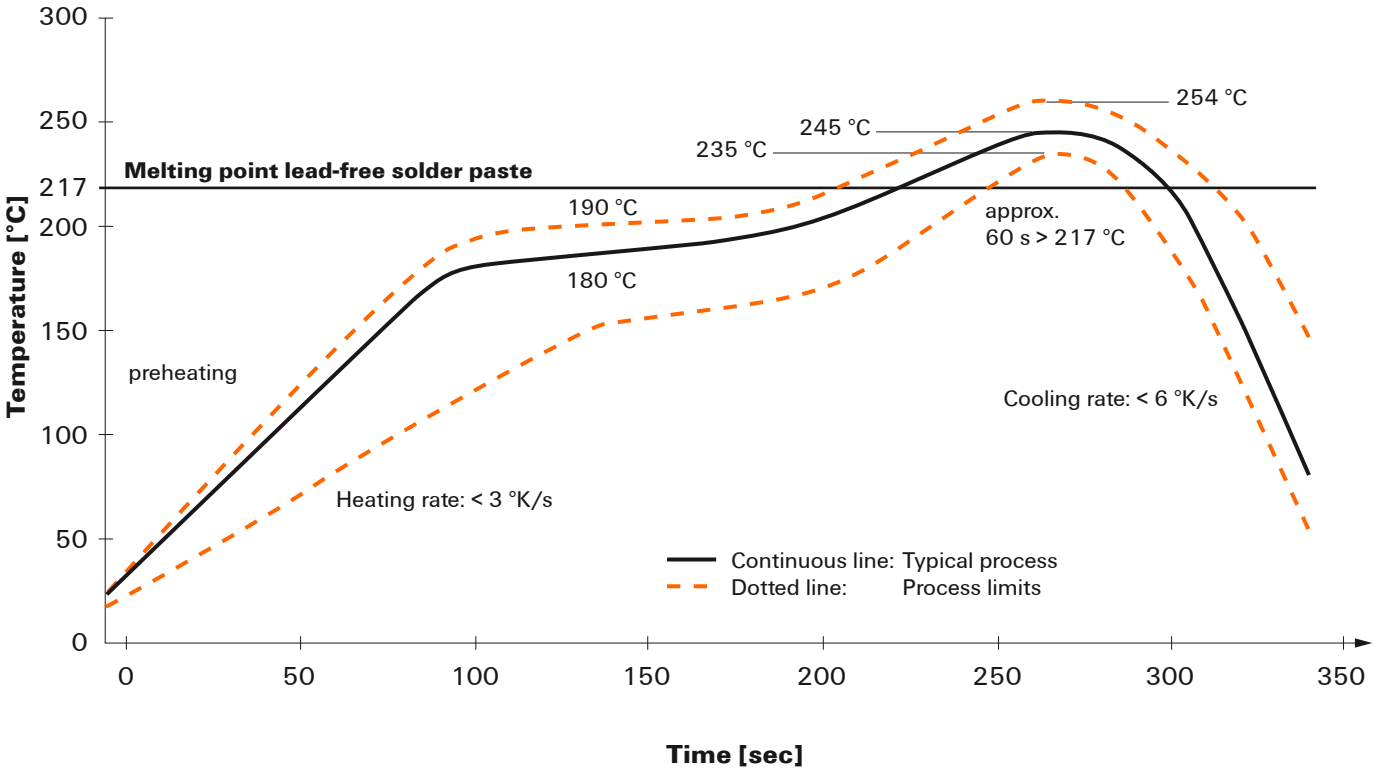

### Dimensioned drawing



# Reflow Solder Profile

## Recommended reflow soldering profile

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Germany
Fon: +49 5231 14-0
Fax: +49 5231 14-292083
www.weidmueller.com




**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.

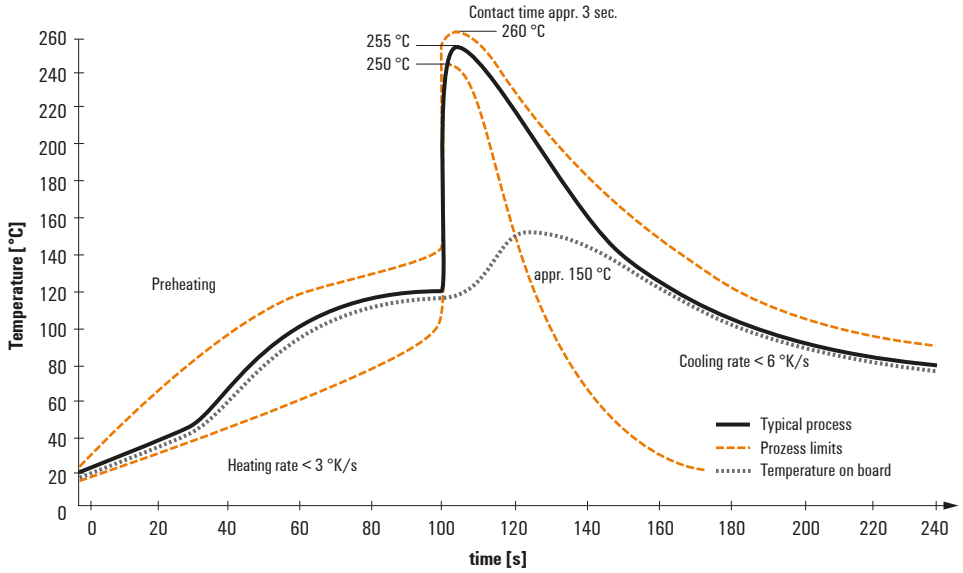
We reserve the right to make technical changes.

# Wave Solder Profile

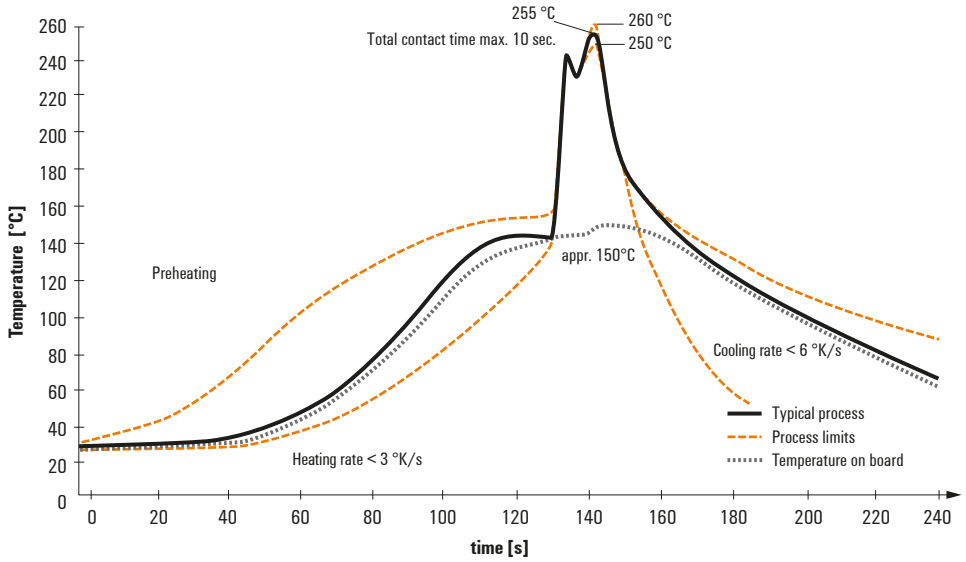
## Recommended wave solderding profiles

**Weidmüller Interface GmbH & Co. KG**
Klingenbergstraße 16
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Germany
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Fax: +49 5231 14-292083
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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.