# SL-SMT 5.08HC/05/270FH 1.5SN 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, Solder flange, THT/THR solder connection, 5.08 mm, Number of poles: 5, 270°, Solder pin length (l): 1.5 mm, tinned, black, Tape |
| Order No. | 1876950000 |
| Type | SL-SMT 5.08HC/05/270FH 1.5SN BK RL |
| GTIN (EAN) | 4032248467402 |
| Qty. | 335 pc(s). |
| Product data | IEC: 400 V / 27.5 A<br>UL: 300 V / 18.5 A |
| Packaging | Tape |

Creation date December 4, 2023 11:53:33 AM CET

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## Technical data

### Dimensions and weights

| | | | |
|---|---|---|---|
| Depth | 12 mm | Depth (inches) | 0.472 inch |
| Height | 12.5 mm | Height (inches) | 0.492 inch |
| Height of lowest version | 11 mm | Width | 35.2 mm |
| Width (inches) | 1.386 inch | Net weight | 3.332 g |

### 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 | 270° |
| 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) | 1.4 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 | 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 | IIIa |
| 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 B / CSA) | 18.5 A | Rated current (Use group D / CSA) | 18.5 A |
| Reference 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

| | | | |
|---|---|---|---|
| ESD Level packaging | static dissipative | Packaging | Tape |
| VPE length | 330 mm | VPE width | 330 mm |
| VPE height | 61 mm | Tape depth (T2) | 15.5 mm |
| Tape width (W) | 56 mm | Tape pocket depth (K0) | 15 mm |
| Tape pocket height (A0) | 12.3 mm | Tape pocket width (B0) | 35 mm |
| Tape pocket separation (P1) | 16 mm | Tape hole separation (E) | 1.75 mm |
| Tape pocket separation (F) | 26.2 mm | Tape reel diameter ⌀ (A) | 330 mm |
| Surface resistance | Rs = $10^{9}$ - $10^{12}$ Ω | | |

### 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 |

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### 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<br>• Rated current related to rated cross-section & min. No. of poles.<br>• Diameter of solder eyelet D = 1.4+0.1mm<br>• Solder eyelet diameter D = 1.5 + 0.1 mm, from 9 poles<br>• P on drawing = pitch<br>• 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.<br>• 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<br>• Long term storage of the product with average temperature of 50 °C and maximum humidity 70%, 36 months |

### Approvals

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

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## Technical data

### Downloads

| | |
|---|---|
| Approval/Certificate/Document of Conformity | Declaration of the Manufacturer |
| Engineering Data | CAD data – STEP |
| Product Change Notification | PCN_2015_208_PL30X_SC-SMT_SL_SMT_3.xx_5.xx_neue_Tapeverpackung_Step_4_DE<br>PCN_2015_208_PL30X_SC-SMT_SL_SMT_3.xx_5.xx_new_Tape_Packaging_Step_4_EN<br>Changeover to ESD bags for "Tape on Reel" products<br>Umstellung auf ESD-Beutel bei „Tape on Reel" Produkten |
| Catalogues | Catalogues in PDF-format |
| Brochures | FL DRIVES EN<br>MB SMT EN<br>FL DRIVES DE<br>MB DEVICE MANUF. EN<br>FL BUILDING SAFETY EN<br>FL APPL LED LIGHTING EN<br>FL INDUSTR.CONTROLS EN<br>FL MACHINE SAFETY EN<br>FL HEATING ELECTR EN<br>FL APPL_INVERTER EN<br>FL_BASE_STATION_EN<br>FL ELEVATOR EN<br>FL POWER SUPPLY EN<br>FL 72H SAMPLE SER EN<br>PO OMNIMATE EN<br>PO OMNIMATE EN |
| White paper surface mount technology | Download Whitepaper |

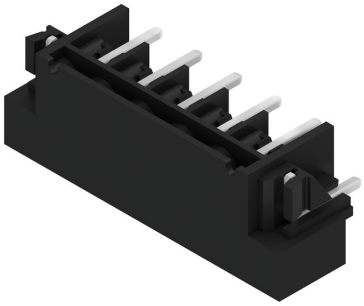
# SL-SMT 5.08HC/05/270FH 1.5SN BK RL

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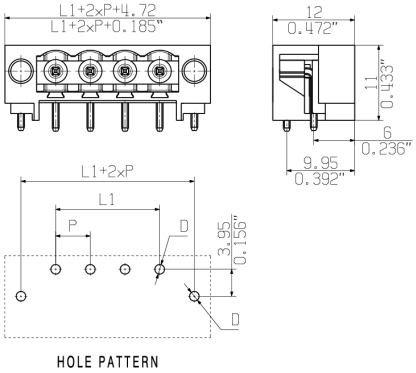
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## Drawings

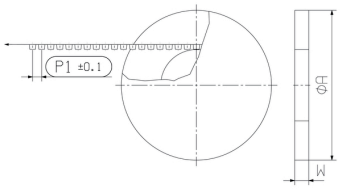
### Product image



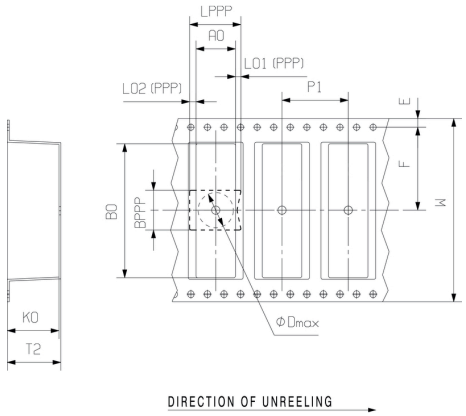
### Dimensional drawing




### Dimensional drawing



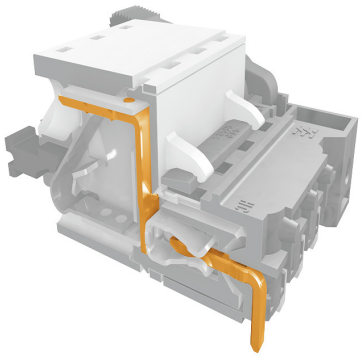

### Dimensional drawing



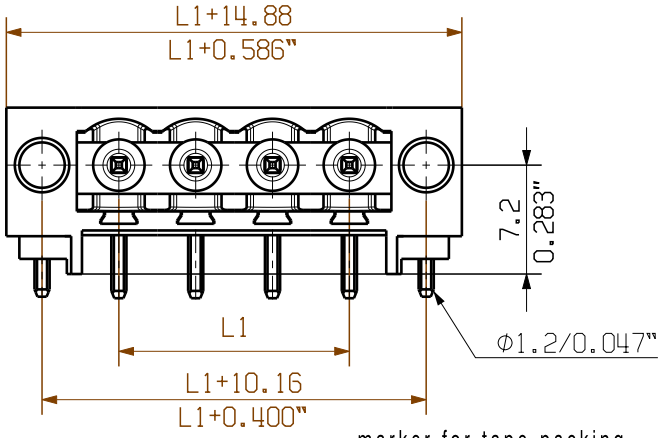

### Example of use

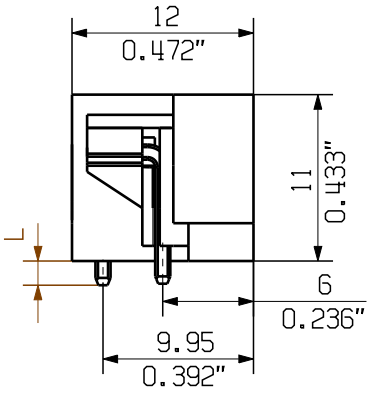


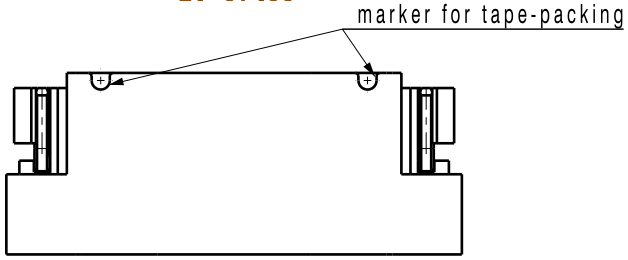
### Product benefits



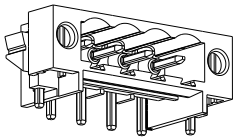
Safe power transmission
Proven properties

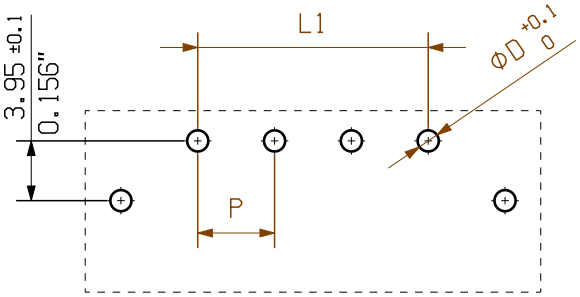


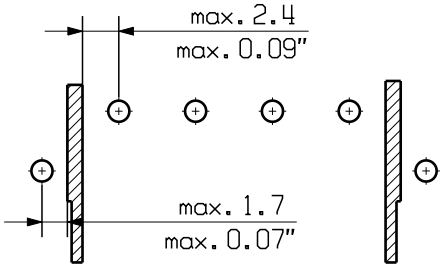




1:1






hole pattern




paste free area

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

Weidmüller connectors are tested to the DIN VDE 0627 standard, and are valid for its field of application. Provided that the connectors are used to the intended purpose, all requirements with respect to the occuring of electrical, mechanical, thermic and corrosive stress will be satisfied.

D=1.4/0.055" (reflow soldering)
recommendation for automatic assembly
(1.4mm for n=2...8)

P=Pitch

shown: SL-SMT 5.08HC/04/270FH

| pin lenght L | tolerance |
|---|---|
| 1,5 | 0 / -0.3 |
| 3,2 | 0.1 / -0.3 |

| n | L1 [mm] | L1 [Inch] | tolerance L1 |
|---|---|---|---|
| 8 | 35,56 | 1,400 | ±0.1 |
| 7 | 30,48 | 1,200 | |
| 6 | 25,40 | 1,000 | |
| 5 | 20,32 | 0,800 | |
| 4 | 15,24 | 0,600 | |
| 3 | 10,16 | 0,400 | |
| 2 | 5,08 | 0,200 | |

GENERAL TOLERANCE:
DIN ISO 2768-m

RoHS COMPLIANT

91033/4
03.02.17 HERTEL_S
.
00
Modification

. .

Cat.no.: .

Weidmüller

3 37899 17
Drawing no. Issue no.

Sheet 04 of 06 sheets

| | Date | Name |
|---|---|---|
| Drawn | 23.03.2004 | DOMRATH_M |
| Responsible | | HERTEL_S |
| Checked | 06.02.2017 | HELIS_MA |
| Approved | | LANG_T |

Scale: 2/1

Supersedes: .

# SL-SMT 5.08HC/../270...

STIFTLEISTE
MALE HEADER

Product file: SL-SMT 5.08 7313

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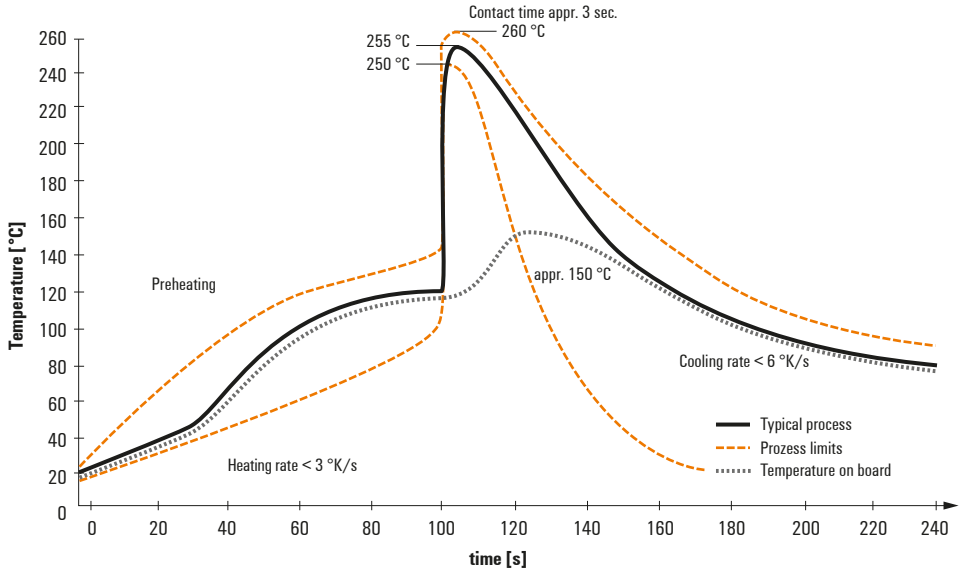
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# Wave Solder Profile

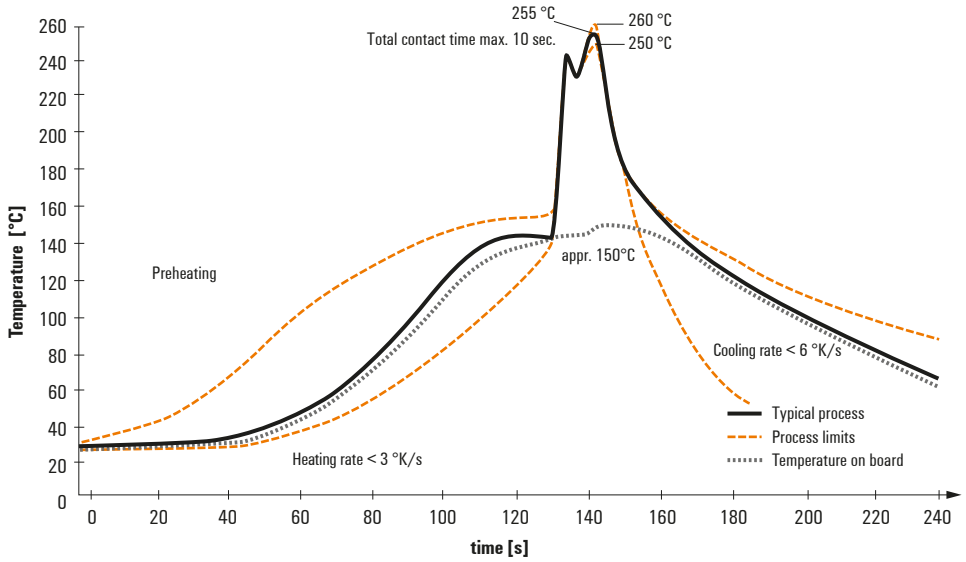
## Recommended wave solderding profiles

**Weidmüller Interface GmbH & Co. KG**
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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

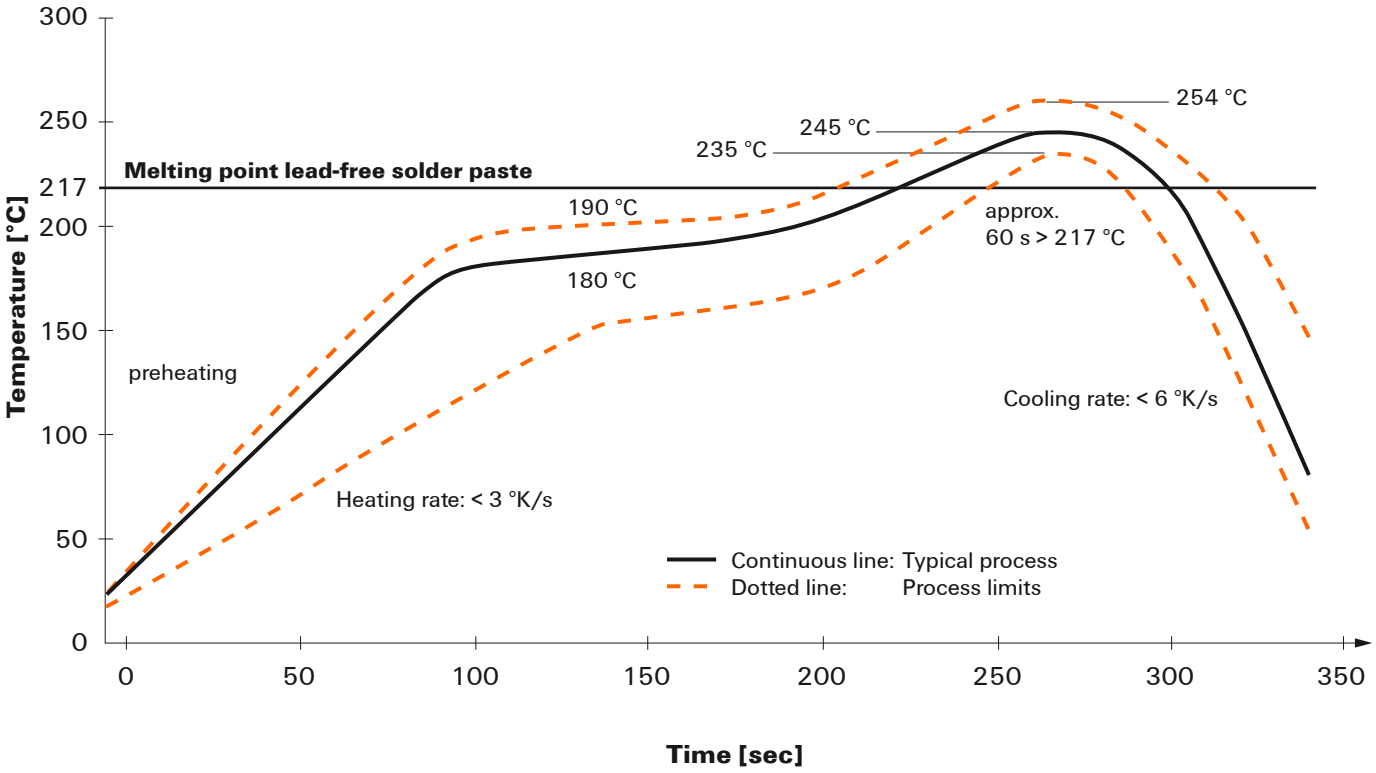
The single and double wave profiles each indicate the recommended operating range, including the maximum soldering temperature of 260°C. In practice, the maximum soldering temperature is quite often well below the above maximum profile.

We reserve the right to make technical changes.

# 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.