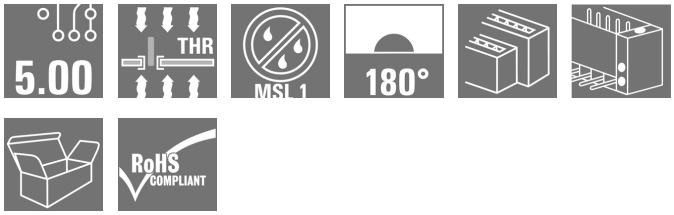
# SLDV-THR 5.00/40/180F 3.2SN BK BX

**Weidmüller Interface GmbH & Co. KG**
Klingenbergstraße 26
D-32758 Detmold
Germany

www.weidmueller.com

## Product image

Similar to illustration




High-temperature resistant, double level, laterally offset, male connector with flange or solder flange. 1.5 mm solder pin is suitable for reflow soldering. 3.2 mm solder pin suitable for reflow and wave soldering. The pin headers provide space for labelling and can be coded.

### General ordering data

| | |
|---|---|
| Version | PCB plug-in connector, male header, Flange, THT/ THR solder connection, 5.00 mm, Number of poles: 40, 180°, Solder pin length (l): 3.2 mm, tinned, black, Box |
| Order No. | 1881490000 |
| Type | SLDV-THR 5.00/40/180F 3.2SN BK BX |
| GTIN (EAN) | 4032248482771 |
| Qty. | 10 pc(s). |
| Product data | IEC: 400 V / 15 A<br>UL: 300 V / 10 A |
| Packaging | Box |

Creation date March 26, 2021 2:57:29 AM CET

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## Technical data

### Dimensions and weights

| | | | |
|---|---|---|---|
| Depth | 23.43 mm | Depth (inches) | 0.922 inch |
| Height | 29.36 mm | Height (inches) | 1.156 inch |
| Height of lowest version | 26.16 mm | Net weight | 31.4 g |
| Width | 110 mm | Width (inches) | 4.331 inch |

### System specifications

| | |
|---|---|
| Product family | OMNIMATE Signal - series BL/SL 5.00 |
| Type of connection | Board connection |
| Mounting onto the PCB | THT/THR solder connection |
| Pitch in mm (P) | 5 mm |
| Pitch in inches (P) | 0.197 inch |
| Outgoing elbow | 180° |
| Number of poles | 40 |
| Number of solder pins per pole | 1 |
| Solder pin length (l) | 3.2 mm |
| Solder pin length tolerance | +0.1 / -0.2 mm |
| Solder pin dimensions | d = 1.2 mm, Octagonal |
| Solder pin dimensions = d tolerance | 0 / -0,03 mm |
| Solder eyelet hole diameter (D) | 1.5 mm |
| Solder eyelet hole diameter tolerance (D) | + 0,1 mm |
| L1 in mm | 95 mm |
| L1 in inches | 3.74 inch |
| Number of rows | 2 |
| Pin series quantity | 2 |
| Touch-safe protection acc. to DIN VDE 57 106 | finger-safe plugged/ back-of-hand-safe unplugged |
| Touch-safe protection acc. to DIN VDE 0470 | IP20 plugged/ IP10 unplugged |
| Volume resistance | ≤5 mΩ |
| Can be coded | Yes |
| Plugging force/pole, max. | 9 N |
| Pulling force/pole, max. | 8 N |
| Tightening torque | Torque type: Mounting screw, PCB<br>Usage information: Tightening torque: min. 0.15 Nm; max. 0.2 Nm<br>Recommended screw: Part number: PTSC KA 2.2X4.5 WN1412 |

### 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 | CuSn |
| 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. | -25 °C |
| Temperature range, installation, max. | 100 °C | | |

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## Technical data

### Rated data acc. to IEC

| | | | |
|---|---|---|---|
| tested acc. to standard | IEC 60664-1, IEC 61984 | Rated current, min. number of poles (Tu=20°C) | 15 A |
| Rated current, max. number of poles (Tu=20°C) | 10.5 A | Rated current, min. number of poles (Tu=40°C) | 13 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 | Short-time withstand current resistance | 1 x 1s with 120 A |

### Rated data acc. to CSA

| | | | |
|---|---|---|---|
| Institute (CSA) | | Certificate No. (CSA) | 200039-1121690 |
| Rated voltage (Use group B / CSA) | 300 V | Rated voltage (Use group D / CSA) | 300 V |
| Rated current (Use group B / CSA) | 10 A | Rated current (Use group D / CSA) | 10 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 |
| Institute (cURus) | | Certificate No. (cURus) | 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) | 10 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 | 50 mm |
| VPE width | 120 mm | VPE height | 175 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 | • Rated current related to rated cross-section & min. No. of poles.<br>• Spacing between rows: see hole layout<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>• 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 | Declaration of the Manufacturer |
| Engineering Data | STEP |

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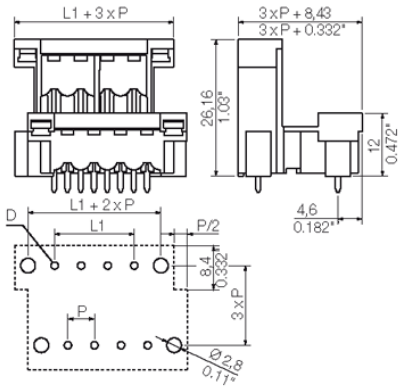
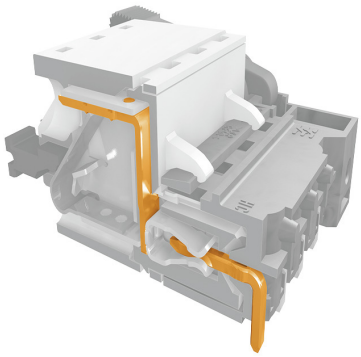
## Drawings

### Dimensional drawing




### Product benefits



Safe power transmission
Proven properties

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## Drawings

### Product benefits

Compliant with existing standards

WEITERGABE SOWIE VERVIELFAELTIGUNG DIESES DOKUMENTS, VERWERTUNG UND MITTEILUNG SEINES INHALTS SIND VERBOTEN, SOWEIT NICHT AUSDRUECKLICH GESTATTET.
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DIE DEUTSCHE VERSION IST VERBINDLICH
THE GERMAN VERSION IS BINDING

## Technical Data

Rev.

| Material data | | |
|---|---|---|
| Insulation material type | | LCP GF |
| Insulation material colours | | black |
| Insulation material flammability class | UL94 | V-0 |
| Insulation resistance | MOhm | $10^5$ |
| Contact base material | | CuSn |
| Contact plating (mating end) | | tin plated |
| Contact plating (solder end) | | tin plated |

| System characteristic values | together with counterpart | BLZ 5.00 | |
|---|---|---|---|
| Pitch **P** | mm/inch | 5.00/0.197 | |
| Number of rows | | 2 | |
| Dielectric strength (r.m.s withstand voltage) | kV | 4 | |
| Mechanical operating cycles | acc. to IEC 512 | 25 | |
| Plug in force (max.) | N/pole | n.a. | |
| Pull out force (max.) | N/pole | n.a. | |
| Through resistance (typical) | mOhm | <5 | |
| Operating temperature range | °C | -55...+100 | 1) |
| Degree of protection acc. to VDE 0106 (plugged/unplugged) | | back of hands | 7) |
| Degree of protection acc. to DIN EN 60529 (plugged/unplugged) | | IP10 | 8) |
| Solder pin length **L** | mm/inch | 3.2/0.126 ; 1.5/0.059 | |
| PCB hole diameter **D** (wave soldering) | mm/inch | 1.4/0.055 | 2) |
| PCB hole diameter **D** (reflow soldering) | mm/inch | 1.5/0.059 | 3) |
| Resistance to soldering heat acc. to DIN IEC 60512-6 | °C/sec | 260/5 | 4) |
| Resistance to soldering heat acc. to EN 61760-1 | °C/sec | 290/30 | 5) |
| Solderability classification acc. to EN 61760-1 | | class A | |
| Solder connection type | | through hole solder | |
| Solder pin diameter **d** (max.) | mm/inch | 1.2/0.047 | |

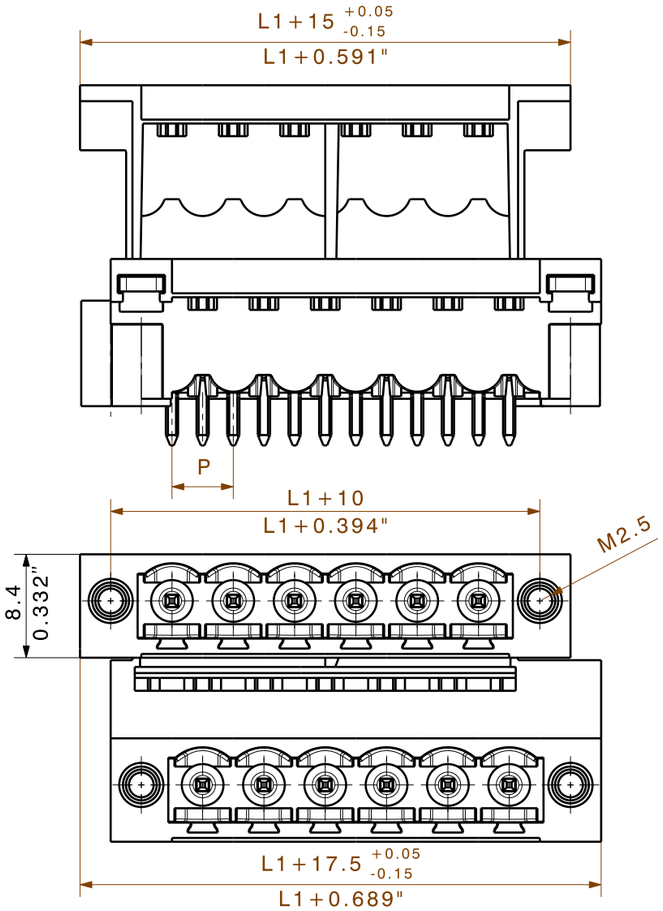
| Application notes | | |
|---|---|---|
| Coding possibility | yes/no | yes |
| Joinable without loss of pitch | yes/no | n.a. |
| Manual assembly of modules | yes/no | n.a. |
| Max. number of poles | n | 48 |

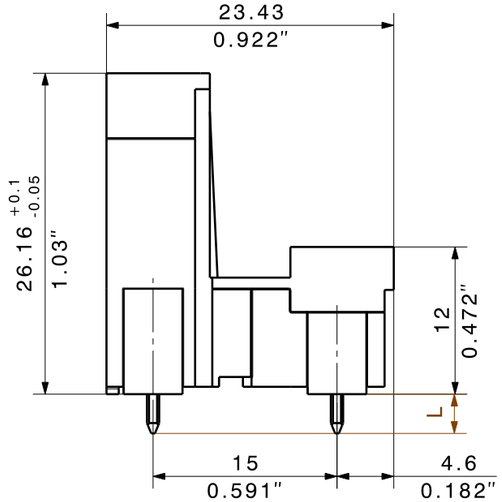
| IEC 664-1 / VDE0110 (4.97) rated data | | | | |
|---|---|---|---|---|
| Rated cross section acc. to EN 60999 | $mm^2$ | n.a. | | |
| Rated current @ 20°C ambient (together with BLZ 5.08) | A | 18.6 | | 6) |
| Rated current @ 40°C ambient (together with BLZ 5.08) | A | 16.1 | | 6) |
| **Overvoltage category / Pollution degree** | | **III/3** | **III/2** | **II/2** |
| Rated voltage | V | 250 | 320 | 400 |
| Rated impulse voltage | kV | 4.0 | 4.0 | 4.0 |

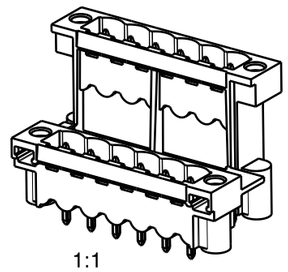
| UL 1059 rated data — File No.: E60693 | | B | C | D |
|---|---|---|---|---|
| Rated voltage | V | 300 | | 300 |
| Rated current | A | 10 | | 10 |
| AWG wire range (field wiring / factory wiring) | | n.a. | | |

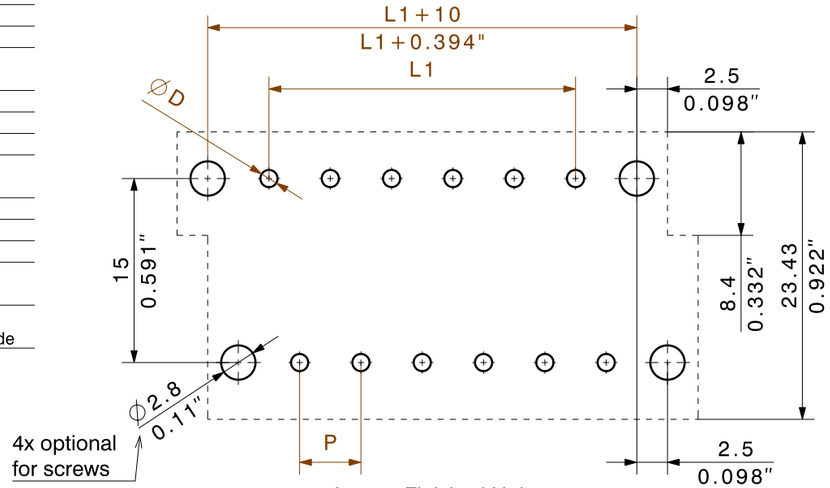
| CSA C22.2 rated data — File No.: 12400(1308147) | | B | C | D |
|---|---|---|---|---|
| Rated voltage | V | 300 | | 300 |
| Rated current | A | 10 | | 10 |
| AWG wire range (field wiring / factory wiring) | | n.a. | | |

| | |
|---|---|
| **Packaging** | carton |
| **Downloads** | www.weidmueller.de |

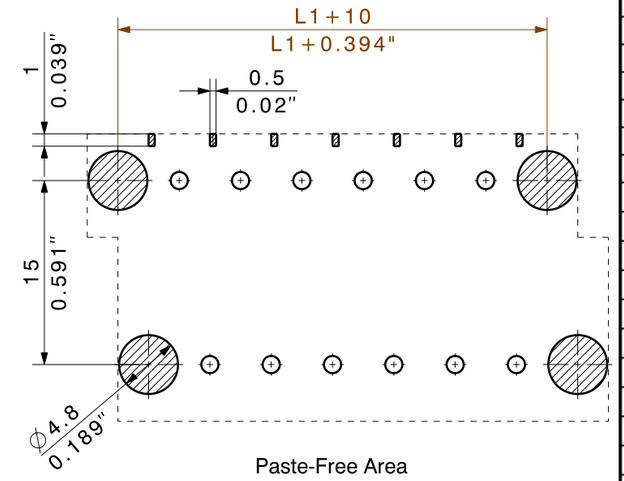



Layout Finished Holes




Paste-Free Area

| n | L1 [mm] | L1 [inch] |
|---|---|---|
| 48 | 115,00 | 4,53 |
| 46 | 110,00 | 4,33 |
| 44 | 105,00 | 4,13 |
| 42 | 100,00 | 3,94 |
| 40 | 95,00 | 3,74 |
| 38 | 90,00 | 3,54 |
| 36 | 85,00 | 3,35 |
| 34 | 80,00 | 3,15 |
| 32 | 75,00 | 2,95 |
| 30 | 70,00 | 2,76 |
| 28 | 65,00 | 2,56 |
| 26 | 60,00 | 2,36 |
| 24 | 55,00 | 2,17 |
| 22 | 50,00 | 1,97 |
| 20 | 45,00 | 1,77 |
| 18 | 40,00 | 1,57 |
| 16 | 35,00 | 1,38 |
| 14 | 30,00 | 1,18 |
| 12 | 25,00 | 0,98 |
| 10 | 20,00 | 0,79 |
| 8 | 15,00 | 0,59 |
| 6 | 10,00 | 0,39 |
| 4 | 5,00 | 0,20 |

1) Sum of ambient temperature and temperature rise
2) Recommendation for manual assembly
3) Recommendation for automatic assembly
4) Recommendation for wave soldering
5) Recommendation for reflow soldering
6) Referred to rated cross section and minimum pole number
7) Fingersafe above PC-board, if plugged with BLZ
8) IP20 above PC-board, if plugged with BLZ

n.a. = not applicable

Subject to technical changes

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.

shown: SLDV-THR 5.00/12/180F

METRIC TOLERANCES
X. = ±0.3
X.X = ±0.1
X.XX = ±0.05

RoHS ☑

37601/5 07.09.07 HERTEL_S 0
MODIFICATION

CAT.NO.:.

Weidmüller

C 36148 02
DRAWING NO. ISSUE NO.
SHEET 3 OF 6 SHEETS

| | DATE | NAME |
|---|---|---|
| DRAWN | 04.08.2004 | HERTEL_S |
| RESPONSIBLE | | |
| CHECKED | 13.09.2007 | HERTEL_S |
| APPROVED | | |

SCALE: 2:1
SUPERSEDES:
SUPERSEDED BY:

SLDV-THR 5.00/../180 F
Stiftleiste
Pin header

PRODUCT FILE: SLDV-THR 5.08 None

# Wave Solder Profile

## Recommended wave solderding profiles

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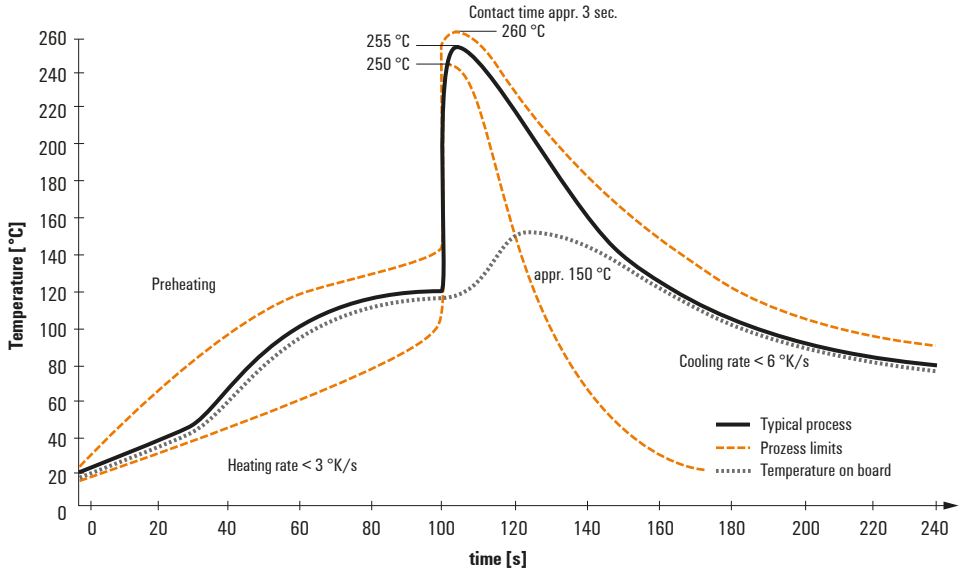
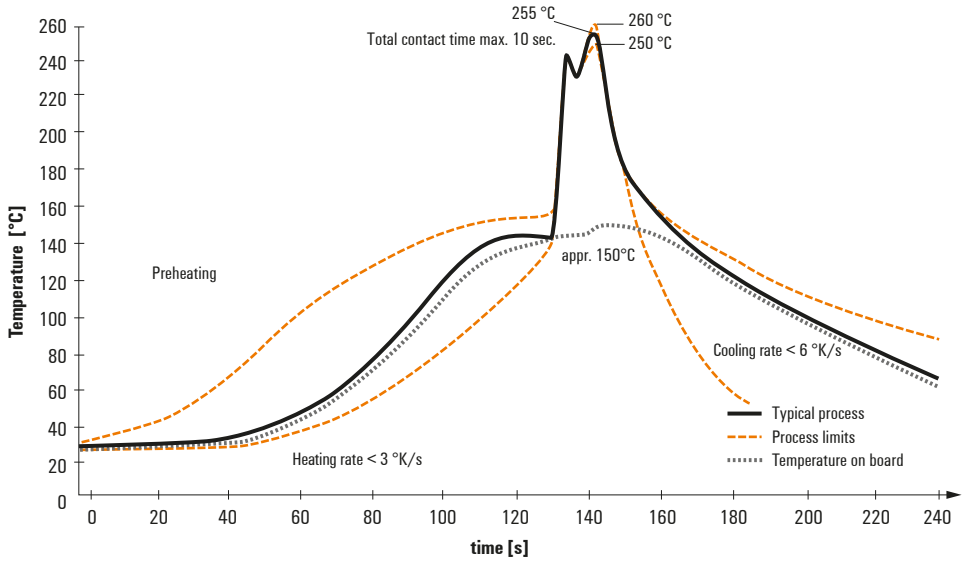
Germany
Fon: +49 5231 14-0
Fax: +49 5231 14-292083
www.weidmueller.com

**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

**Weidmüller Interface GmbH & Co. KG**
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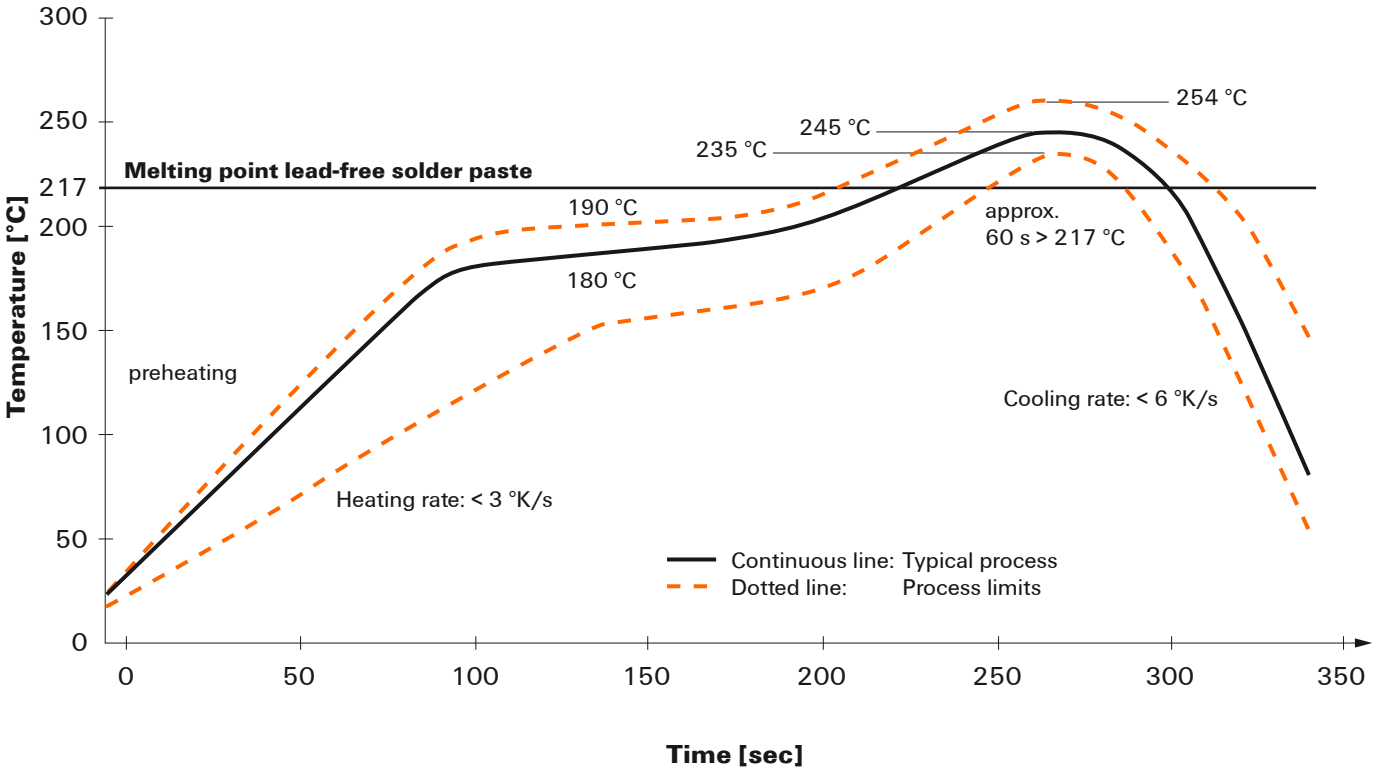


**Reflow soldering profile**

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.