

SL-SMART 5.0XHC/03/180 1.5SN BK RL**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Product image

High-temperature resistant, modular pin header. Packed in tape with 1.5mm solder pin, optimised for automatic assembly and suitable for reflow soldering. The male connectors provide space for labelling and can be coded. HC = High Current.

General ordering data

Version	PCB plug-in connector, male header, open side, THT/THR solder connection, 5.08 mm, Number of poles: 3, 180°, Solder pin length (l): 1.5 mm, tinned, black, Tape
Order No.	1812460000
Type	SL-SMART 5.0XHC/03/180 1.5SN BK RL
GTIN (EAN)	4032248294046
Qty.	270 pc(s).
Product data	IEC: 400 V / 27.5 A UL: 300 V / 15 A
Packaging	Tape

Creation date October 28, 2021 1:22:13 AM CEST

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Technical data**Dimensions and weights**

Depth	8.3 mm	Depth (inches)	0.327 inch
Height	13.5 mm	Height (inches)	0.531 inch
Height of lowest version	12 mm	Width	15 mm
Width (inches)	0.591 inch	Net weight	2.344 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	180°
Number of poles	3	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	10.16 mm
L1 in inches	0.4 inch	Number of rows	1
Pin series quantity	1	Protection degree	IP20
Volume resistance	≤5 mΩ	Can be coded	Yes
Plugging force/pole, max.	8.5 N	Pulling force/pole, max.	8 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)

200039-1176845

Rated voltage (Use group B / CSA) 300 V

Rated voltage (Use group D / CSA) 300 V

Rated current (Use group B / CSA) 15 A

Rated current (Use group D / CSA) 15 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) 15 A

Rated current (Use group D / UL 1059) 10 A

Reference to approval values

Specifications are maximum values, details - see approval certificate.

Packing

Packaging	Tape	VPE length	331 mm
VPE width	331 mm	VPE height	38 mm
Tape depth (T2)	16.25 mm	Tape width (W)	32 mm
Tape pocket depth (K0)	15.75 mm	Tape pocket height (A0)	8 mm
Tape pocket width (B0)	0 mm	Tape pocket separation (P1)	16 mm
Tape hole separation (E)	1.75 mm	Tape pocket separation (F)	14.2 mm
Tape reel diameter $\varnothing$ (A)	330 mm	Surface resistance	$R_s = 10^9 - 10^{12} \Omega$

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		

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.
 - 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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www.weidmueller.com**Technical data****Approvals**

Approvals



ROHS	Conform
UL File Number Search	E60693

Downloads

Approval/Certificate/Document of Conformity	Declaration of the Manufacturer
Engineering Data	STEP
Catalogues	Catalogues in PDF-format
Brochures	FL DRIVES EN MB DEVICE MANUF. EN FL DRIVES DE FL BUILDING SAFETY EN FL APPL LED LIGHTING EN FLIndustr.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

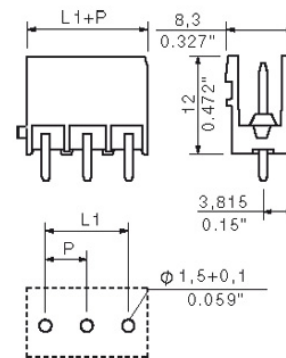
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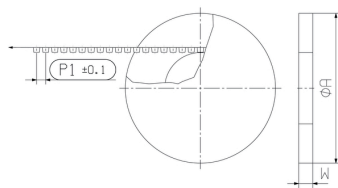
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Drawings

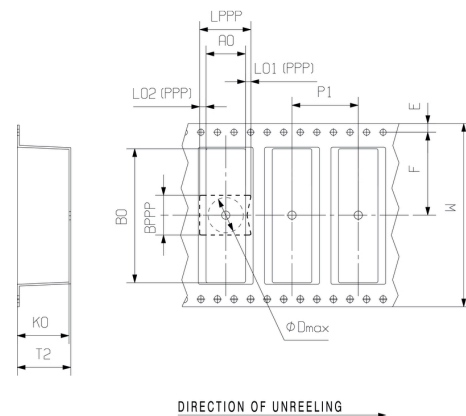
Dimensional drawing



Dimensional drawing



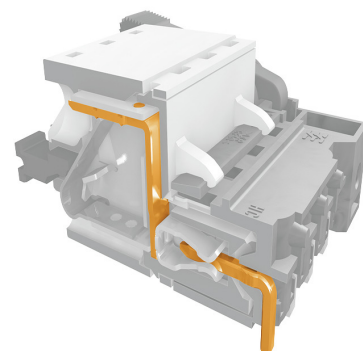
Dimensional drawing



Example of use



Product benefits



Safe power transmission
Proven properties

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Mating connector (conditionally pluggable)

BLZ 5.00/180B



Female plugs with clamping-yoke screw for wire connection with straight (180°) outlet direction. The female plugs provide space for labelling and can be coded.

General ordering data

Type	BLZ 5.00/03/180B SN BK ...	Version	Product data	Packaging
Order No.	1625770000	PCB plug-in connector, female plug, 5.00 mm, Number of poles: 3,	IEC: 400 V / 19 A / 0.5 - 2.5 mm ²	Box
GTIN (EAN)	4008190197070	180°, Clamping yoke connection, Clamping range, max. : 3.31 mm ² ,	UL: 300 V / 15 A / AWG 26 - AWG 12	
Qty.	100 pc(s).	Box		

BLZ 5.00/270



Female plugs with clamping-yoke screw for wire connection with 270° outlet direction. The female plugs provide space for labelling and can be coded.

General ordering data

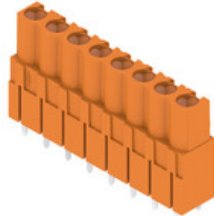
Type	BLZ 5.00/03/270 SN DKGN ...	Version	Product data	Packaging
Order No.	1649900000	PCB plug-in connector, female plug, 5.00 mm, Number of poles: 3,	IEC: 400 V / 15 A / 0.5 - 2.5 mm ²	Box
GTIN (EAN)	4008190296483	270°, Clamping yoke connection, Clamping range, max. : 3.31 mm ² ,	UL: 300 V / 10 A / AWG 26 - AWG 12	
Qty.	100 pc(s).	Box		

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www.weidmueller.com**Mating connector (conditionally pluggable)****BLL 5.08/180**

Female header for PCB mounting. The solder pin length is optimised for wave flow soldering.

General ordering data

Type	BLL 5.08/03/180 4.5SN O ...	Version	Product data	Packaging
Order No.	1646150000	PCB plug-in connector, female header, closed side, THT solder	IEC: 400 V / 23 A	Box
GTIN (EAN)	4008190285494	connection, 5.08 mm, Number of poles: 3, 180°, Solder pin length (l):	UL: 300 V / 15 A	
Qty.	100 pc(s).	4.5 mm, tinned, orange, Box		
Type	BLL 5.08/03/180 4.5 SN ...	Version	Product data	Packaging
Order No.	1646260000	PCB plug-in connector, female header, closed side, THT solder	IEC: 400 V / 23 A	Box
GTIN (EAN)	4008190285609	connection, 5.08 mm, Number of poles: 3, 180°, Solder pin length (l):	UL: 300 V / 15 A	
Qty.	120 pc(s).	4.5 mm, tinned, black, Box		

BLZ 5.00/180

Female plugs with clamping-yoke screw for wire connection with straight (180°) outlet direction. The female plugs provide space for labelling and can be coded.

General ordering data

Type	BLZ 5.00/03/180 SN DKGN ...	Version	Product data	Packaging
Order No.	1646830000	PCB plug-in connector, female plug, 5.00 mm, Number of poles: 3,	IEC: 400 V / 19 A / 0.5 - 2.5 mm ²	Box
GTIN (EAN)	4008190288037	180°, Clamping yoke connection, Clamping range, max. : 3.31 mm ² ,	UL: 300 V / 15 A / AWG 26 - AWG 12	
Qty.	100 pc(s).	Box		

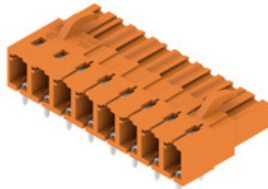
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Mating connector (conditionally pluggable)

BLL 5.08/90



Female header for PCB mounting. The solder pin length is optimised for wave flow soldering.

General ordering data

Type	BLL 5.08/03/90 4.5 SN O ...	Version	Product data	Packaging
Order No.	1645930000	PCB plug-in connector, female header, closed side, THT solder connection, 5.08 mm, Number of poles: 3, 90°, Solder pin length (l): 4.5 mm, tinned, orange, Box	IEC: 400 V / 23 A UL: 300 V / 15 A	Box
GTIN (EAN)	4008190285272			
Qty.	120 pc(s).			

BLZF 5.08/180



Female plugs with tension-clamp wire connection system, straight 180° outlet direction. The female plugs provide space for labelling and can be coded.

General ordering data

Type	BLZF 5.08/03/180 SN GY ...	Version	Product data	Packaging
Order No.	1708080000	PCB plug-in connector, female plug, 5.08 mm, Number of poles: 3, 180°, Tension-clamp connection, Clamping range, max. : 3.31 mm², Box	IEC: 400 V / 17 A / 0.2 - 2.5 mm² UL: 300 V / 15 A / AWG 26 - AWG 12	Box
GTIN (EAN)	4008190317515			
Qty.	120 pc(s).			

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Mating connector (conditionally pluggable)

BLT 5.08HC



Female plugs with TOP screw connection system for connecting wires with straight 180° outlet direction. The female connectors provide space for labelling and can be coded. HC = High Current.

General ordering data

Type	BLT 5.08HC/03/180 SN BL ...	Version	Product data	Packaging
Order No.	1499680000	PCB plug-in connector, female plug, 5.08 mm, Number of poles: 3,	IEC: 400 V / 27 A / 0.2 - 2.5 mm ²	Box
GTIN (EAN)	4032248015450	180°, TOP connection, Clamping range, max. : 2.5 mm ² , Box	UL: 300 V / 17 A / AWG 26 - AWG 14	
Qty.	120 pc(s).			

BLZ 5.08/180



Female plugs with clamping-yoke screw for wire connection with straight (180°) outlet direction. The female plugs provide space for labelling and can be coded.

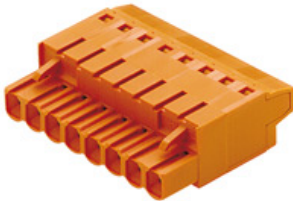
General ordering data

Type	BLZ 5.08/03/180 SN DKGN ...	Version	Product data	Packaging
Order No.	1526550000	PCB plug-in connector, female plug, 5.08 mm, Number of poles: 3,	IEC: 400 V / 19 A / 0.2 - 2.5 mm ²	Box
GTIN (EAN)	4008190143442	180°, Clamping yoke connection, Clamping range, max. : 3.31 mm ² ,	UL: 300 V / 15 A / AWG 26 - AWG 12	
Qty.	100 pc(s).	Box		
Type	BLZ 5.08/03/180 SN OR B ...	Version	Product data	Packaging
Order No.	1594250000	PCB plug-in connector, female plug, 5.08 mm, Number of poles: 3,	IEC: 400 V / 19 A / 0.2 - 2.5 mm ²	Box
GTIN (EAN)	4008190011918	180°, Clamping yoke connection, Clamping range, max. : 3.31 mm ² ,	UL: 300 V / 15 A / AWG 26 - AWG 12	
Qty.	120 pc(s).	Box		
Type	BLZ 5.08/03/180 SN GY BX	Version	Product data	Packaging
Order No.	1526500000	PCB plug-in connector, female plug, 5.08 mm, Number of poles: 3,	IEC: 400 V / 19 A / 0.2 - 2.5 mm ²	Box
GTIN (EAN)	4008190267124	180°, Clamping yoke connection, Clamping range, max. : 3.31 mm ² ,	UL: 300 V / 15 A / AWG 26 - AWG 12	
Qty.	100 pc(s).	Box		
Type	BLZ 5.08/03/180 SN BL BX	Version	Product data	Packaging
Order No.	1526580000	PCB plug-in connector, female plug, 5.08 mm, Number of poles: 3,	IEC: 400 V / 19 A / 0.2 - 2.5 mm ²	Box
GTIN (EAN)	4008190286422	180°, Clamping yoke connection, Clamping range, max. : 3.31 mm ² ,	UL: 300 V / 15 A / AWG 26 - AWG 12	
Qty.	100 pc(s).	Box		

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Mating connector (conditionally pluggable)**BLT 5.08HC/180B**

Female plugs with TOP screw connection system for connecting wires with straight 180° outlet direction. The female connectors provide space for labelling and can be coded. HC = High Current.

General ordering data

Type	BLT 5.08HC/03/180B SN B ...	Version	Product data	Packaging
Order No.	1501910000	PCB plug-in connector, female plug, 5.08 mm, Number of poles: 3,	IEC: 400 V / 27 A / 0.2 - 2.5 mm ²	Box
GTIN (EAN)	4008190863661	180°, TOP connection, Clamping range, max. : 2.5 mm ² , Box	UL: 300 V / 17 A / AWG 26 - AWG 14	
Qty.	102 pc(s).			
Type	BLT 5.08HC/03/180B SN O ...	Version	Product data	Packaging
Order No.	1501960000	PCB plug-in connector, female plug, 5.08 mm, Number of poles: 3,	IEC: 400 V / 27 A / 0.2 - 2.5 mm ²	Box
GTIN (EAN)	4008190186586	180°, TOP connection, Clamping range, max. : 2.5 mm ² , Box	UL: 300 V / 17 A / AWG 26 - AWG 14	
Qty.	102 pc(s).			

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Accessories

Additional accessories

**No task is too small when creating the perfect solution.** br />

Connections form just one part of the overall process. Small details are often the key to the perfect solution in applications where potentials are tested, grouped or even isolated.

A system is not a system without small but useful details:

- Test plugs - ensure reliable pick-up from diagnostic sockets
- Cross-connectors - ensure a stable electrical distribution contact directly at the connection
- Compartment partition elements - divide a large number of male connectors into several separate socket connector channels
- Locks and clips - optional vibration-resistant clip-on connection or mounting for male and female connectors

In tandem with the manufacturing process and application - more accessories = smaller workload

General ordering data

Type	SL AT SW	Version	Product data	Packaging
Order No.	1770240000	PCB plug-in connector, Accessories, Spacer, black, Number of poles: 1		Box
GTIN (EAN)	4032248117710			
Qty.	100 pc(s).			
Type	SL AT OR	Version	Product data	Packaging
Order No.	1598300000	PCB plug-in connector, Accessories, Spacer, orange, Number of poles: 1		Box
GTIN (EAN)	4008190189266			
Qty.	100 pc(s).			

Coding elements

**Only connects what is supposed to be connected: the right connection at the right place.**

Coding elements and locking devices clearly assign connecting elements during the manufacturing process and operation

The coding elements and locking devices are inserted prior to assembly or during the cable assembly phase.

The Weidmüller alternative: configure online using the variant configurator to precode prior to delivery.

Incorrect assembly on the circuit board and incorrect plugging of connecting elements is no longer possible.

The advantage: no troubleshooting during manufacture and no operational errors by the user.

General ordering data

Type	BLZ/SL KO OR BX	Version	Product data	Packaging
Order No.	1573010000	PCB plug-in connector, Accessories, Coding element, orange, Number of poles: 1		Box
GTIN (EAN)	4008190048396			
Qty.	100 pc(s).			

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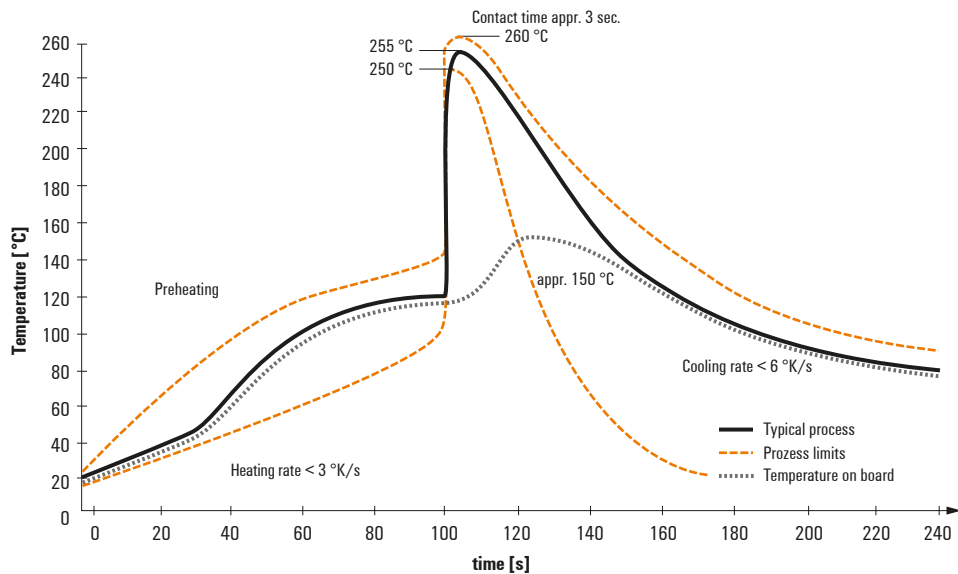
www.weidmueller.com**Accessories**

Type	BLZ/SL KO BK BX	Version	Product data	Packaging
Order No.	1545710000	PCB plug-in connector, Accessories, Coding element, black, Number		Box
GTIN (EAN)	4008190087142	of poles: 1		
Qty.	50 pc(s).			

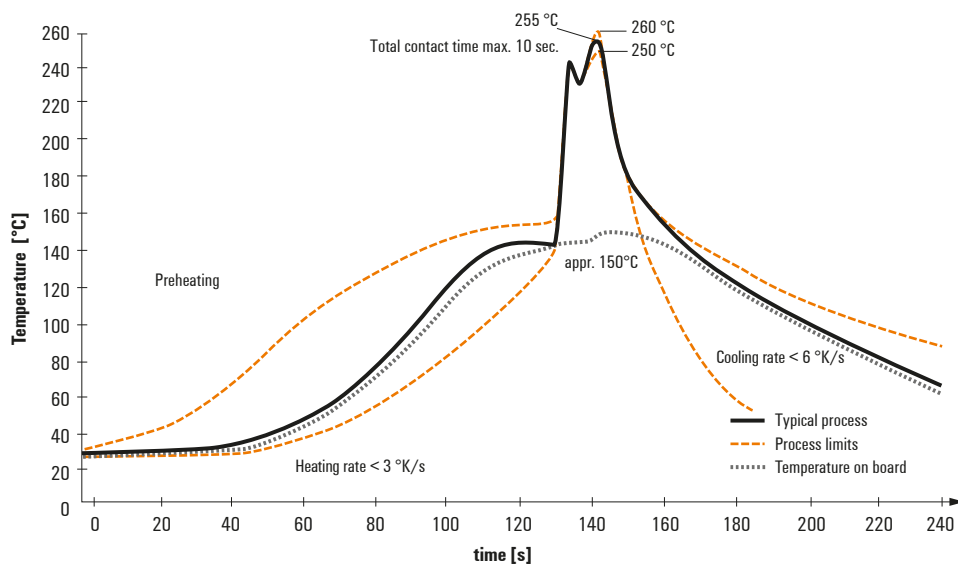
Recommended wave soldering profiles

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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

Klingenbergstraße 16

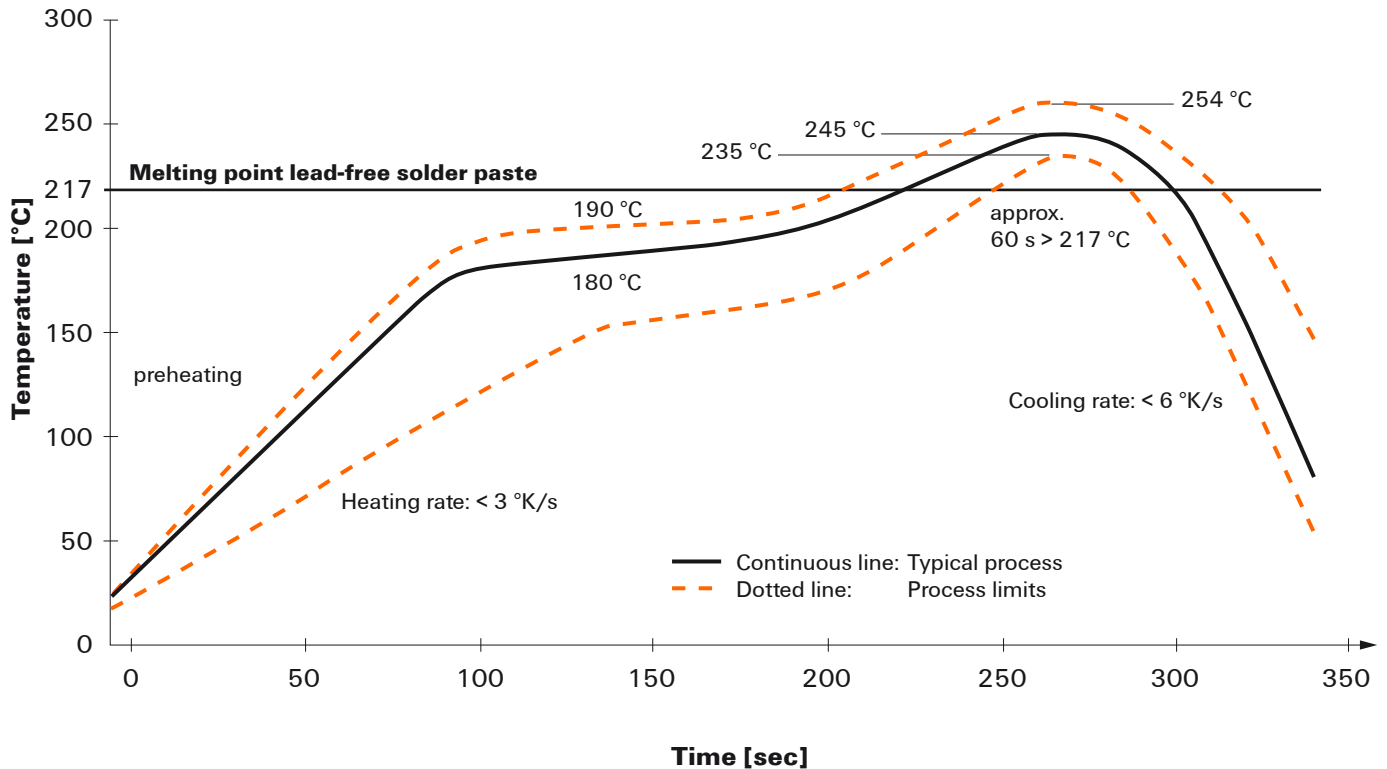
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Reflow soldering profile

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.