

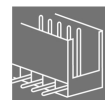
S2L-SMT 3.50/10/90 3.2SN BK RL**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Product image

Similar to illustration

High-temperature-resistant, straight, 2-tier male connector for all common soldering methods. Optimised for automatic assembly. Packed in box or tape. 3.2 mm solder pin suitable for reflow and wave soldering. These male connectors can be labelled and coded.

General ordering data

Version	PCB plug-in connector, male header, open side, THT/THR solder connection, 3.50 mm, Number of poles: 10, 90°, Solder pin length (l): 3.2 mm, tinned, black, Tape
Order No.	1807390000
Type	S2L-SMT 3.50/10/90 3.2SN BK RL
GTIN (EAN)	4032248278688
Qty.	235 pc(s).
Product data	IEC: 160 V / 10 A UL: 150 V / 10 A
Packaging	Tape

Creation date March 25, 2021 12:01:08 PM CET

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Technical data**Dimensions and weights**

Depth	14.2 mm	Depth (inches)	0.559 inch
Height	14 mm	Height (inches)	0.551 inch
Height of lowest version	10.8 mm	Net weight	4.03 g
Width	17.5 mm	Width (inches)	0.689 inch

System specifications

Product family	OMNIMATE Signal - series B2L/S2L 3.50 - 2-row	Type of connection	Board connection
Mounting onto the PCB	THT/THR solder connection	Pitch in mm (P)	3.5 mm
Pitch in inches (P)	0.138 inch	Outgoing elbow	90°
Number of poles	10	Number of solder pins per pole	1
Solder pin length (l)	3.2 mm	Solder pin dimensions	d = 1.0 mm, Octagonal
Solder eyelet hole diameter (D)	1.3 mm	Solder eyelet hole diameter tolerance (D) + 0,1 mm	
Outside diameter of solder pad	2.1 mm	Template aperture diameter	1.9 mm
L1 in mm	14 mm	L1 in inches	0.551 inch
Number of rows	2	Pin series quantity	2
Touch-safe protection acc. to DIN VDE 57 106	Safe from back-of-hand touch	Touch-safe protection acc. to DIN VDE 0470	IP 10
Can be coded	Yes	Plugging force/pole, max.	3 N
Pulling force/pole, max.	6 N		

Material data

Insulating material	LCP GF	Colour	black
Colour chart (similar)	RAL 9011	Insulating material group	IIIb
Comparative Tracking Index (CTI)	≥ 175	Moisture Level (MSL)	1
UL 94 flammability rating	V-0	Contact material	Copper alloy
Contact surface	tinned	Layer structure of solder connection	2...3 µm Ni / 5...7 µm Sn glossy
Layer structure of plug contact	2...5 µm Sn / 1...3 µm Ni	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)	10 A
Rated current, max. number of poles (Tu=20°C)	10 A	Rated current, min. number of poles (Tu=40°C)	9 A
Rated current, max. number of poles (Tu=40°C)	8.5 A	Rated voltage for surge voltage class / pollution degree II/2	160 V
Rated voltage for surge voltage class / pollution degree III/2	125 V	Rated voltage for surge voltage class / pollution degree III/3	50 V
Rated impulse voltage for surge voltage class/ pollution degree II/2	1.5 kV	Rated impulse voltage for surge voltage class/ pollution degree III/2	1.5 kV
Rated impulse voltage for surge voltage class/ contamination degree III/3	2.5 kV	Short-time withstand current resistance	3 x 1s with 77 A

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Technical data**Rated data acc. to CSA**

Institute (CSA)



Certificate No. (CSA)

200039-1176845

Rated voltage (Use group B / CSA) 150 V

Rated voltage (Use group C / CSA) 50 V

Rated voltage (Use group D / CSA) 150 V

Rated current (Use group B / CSA) 5 A

Rated current (Use group C / CSA) 9.5 A

Rated current (Use group D / CSA) 9.5 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) 150 V

Rated voltage (Use group C / UL 1059) 50 V

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

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

Reference to approval values

Specifications are maximum values, details - see approval certificate.

Packing

Packaging	Tape	VPE length	35 mm
VPE width	330 mm	VPE height	330 mm
Tape depth (T2)	15.1 mm	Tape width (W)	32 mm
Tape pocket depth (K0)	14.6 mm	Tape pocket height (A0)	14.5 mm
Tape pocket width (B0)	22.1 mm	Tape pocket separation (P1)	20 mm
Tape hole separation (E)	1.75 mm	Tape pocket separation (F)	14.2 mm
Tape reel diameter Ø (A)	330 mm	Surface resistance	$R_s = 10^9 - 10^{12} \Omega$

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	• Gold-plated contact surfaces on request • Rated current related to rated cross-section & min. No. of poles. • Spacing between rows: see hole layout • Rated current related to rated cross-section & min. No. of poles. • Diameter of solder eyelet D = 1.3+0.1 mm • 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

Approvals

Approvals



ROHS	Conform
UL File Number Search	E60693

Downloads

Approval/Certificate/Document of Conformity	Declaration of the Manufacturer
Engineering Data	STEP

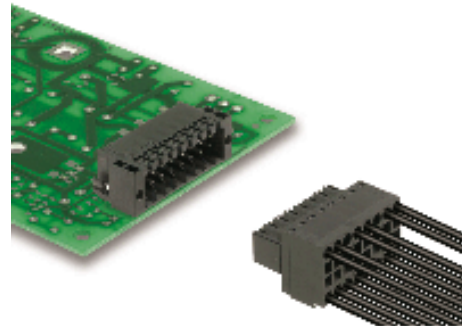
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Drawings

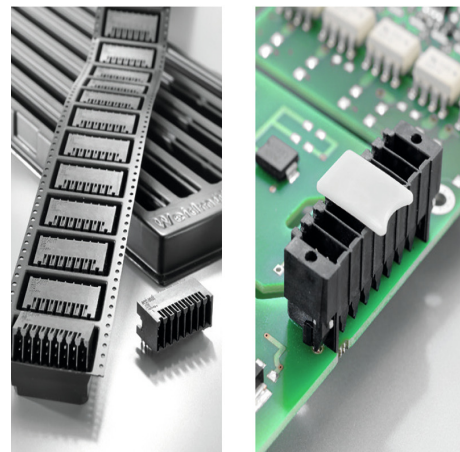
Example of use



Example of use



Product benefits



Optimised for the SMT process
Safe board-to-board connection

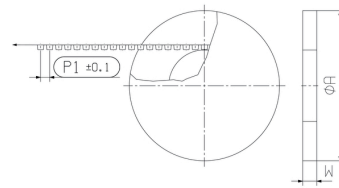
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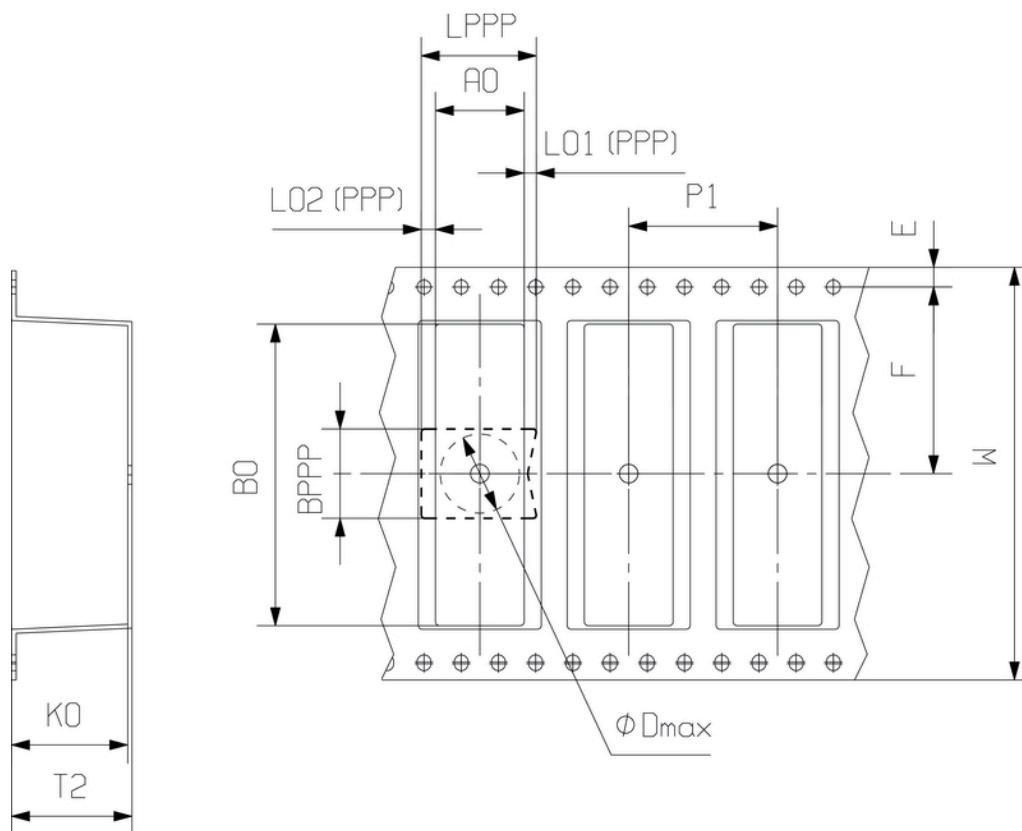
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Drawings

Dimensional drawing



Dimensional drawing



DIRECTION OF UNREELING →

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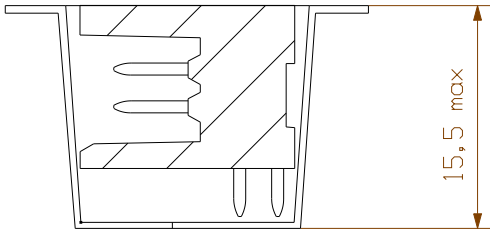
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DIMS. WITHOUT TOLERANCE ARE NOT CONTROL DIMS.

DIE DEUTSCHE VERSION IST VERBINDLICH
THE GERMAN VERSION IS BINDING

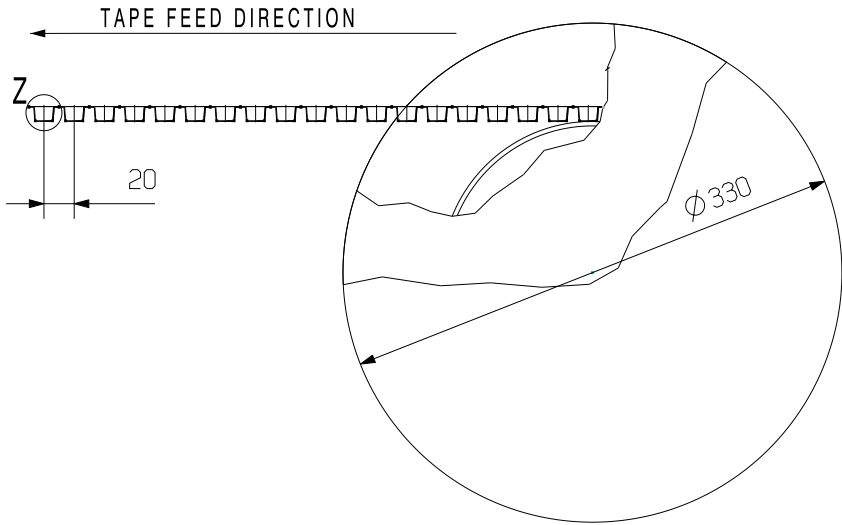
Technical Data

Rev.		
Materials		
Tape		polystyrene
colour		black
electrical properties		electric conductive
Cover Tape		polyester / polyethylene
colour		transparent
electrical properties		antistatic
Reel		polystyrene
colour		black
electrical properties		antistatic
System characteristic values		
Pitch / Row distance	mm	3.5 / 20
Solder pin length	mm	see order sheet
Downloads		
		www.weidmueller.de/...

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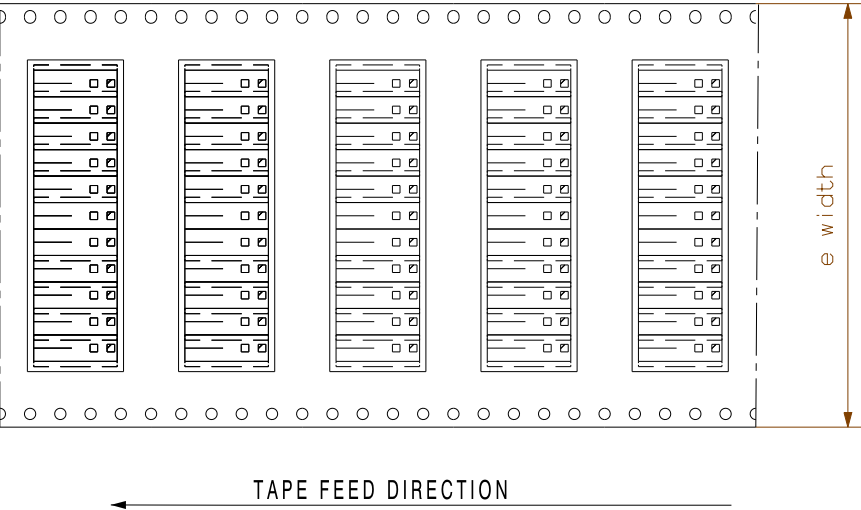
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NO OF POLES MATSCHING IN TAPE														
OPEN ENDED					CLOSED ENDED					SOLDER FLANGE ENDED				
w					w					w				
32mm	44mm	56mm	72mm	88mm	32mm	44mm	56mm	72mm	88mm	32mm	44mm	56mm	72mm	88mm
4					4					4				
6					6					6				
8					8						8			
10						10					10			
	12					12					12			
	14					14					14			
	16					16						16		
	18					18						18		
		20					20					20		
		22					22						22	
		24					24						24	
			26					26					26	
			28					28					28	
			30					30						30
			32					32						32
				34					34					34
				36					36					36
				38					38					
				40										

ORDER NUMBERS SEE SHEET NO. 2

SHOWN: S2L-SMT 3.5/11/90°



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

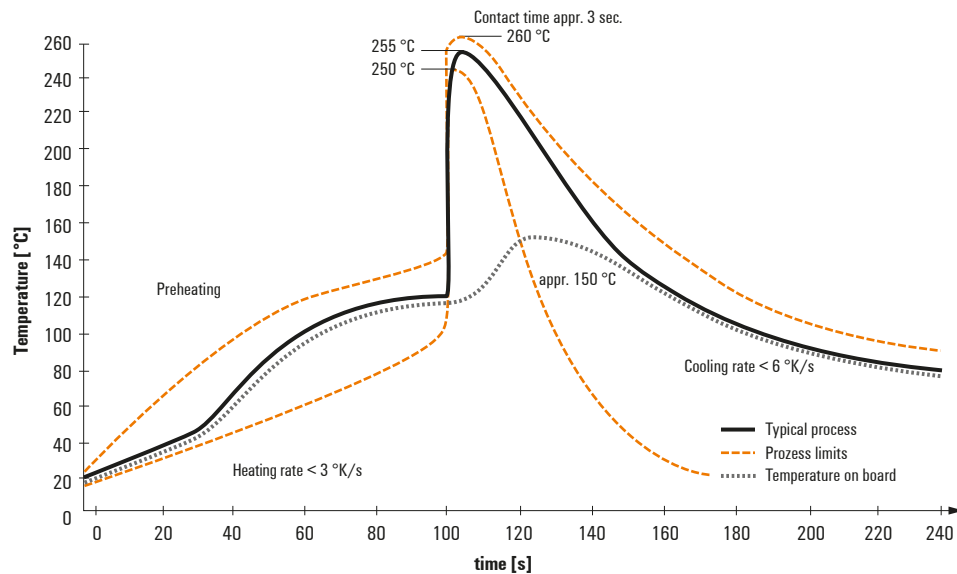
TAPE AND REEL ACCORDING TO IEC 286-3 (EN 60286-3)

	80058/3 20.01.15 HELIS_MA 00		CAT.NO.: .	
	MODIFICATION		Weidmüller	
	DRAWN	26.11.2007	HELIS_MA	
	RESPONSIBLE		LANG_T	
	CHECKED	21.01.2015	HERTEL_S	
	APPROVED		LANG_T	
SCALE: 1/1		S2L-SMT 3.50/././90...RL		
SUPERSEDES: 3 33277/04		STIFTLISTE / TAPE PIN HEADER / TAPE		
		PRODUCT FILE: S2L-SMT 3.5		
		7272		

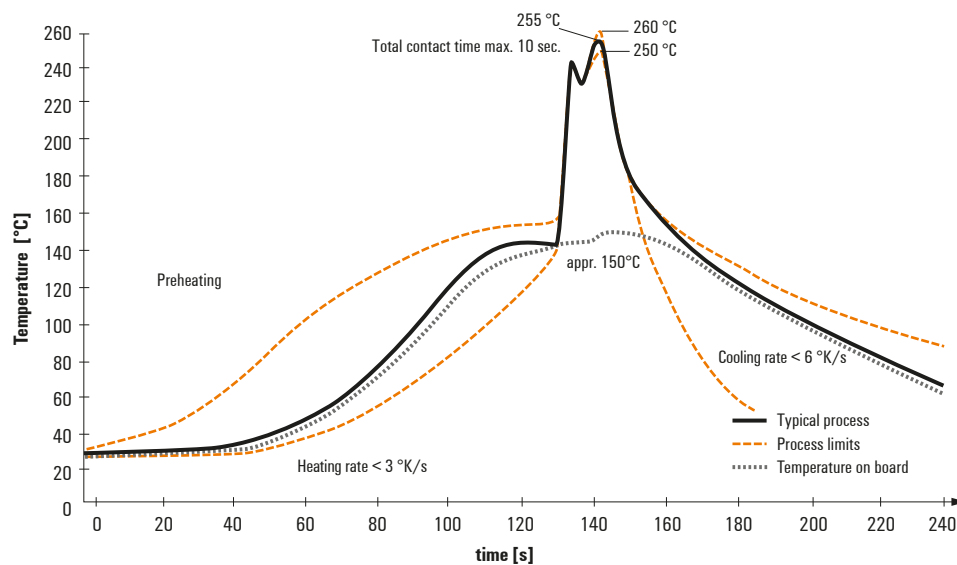
Recommended wave soldering profiles

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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:

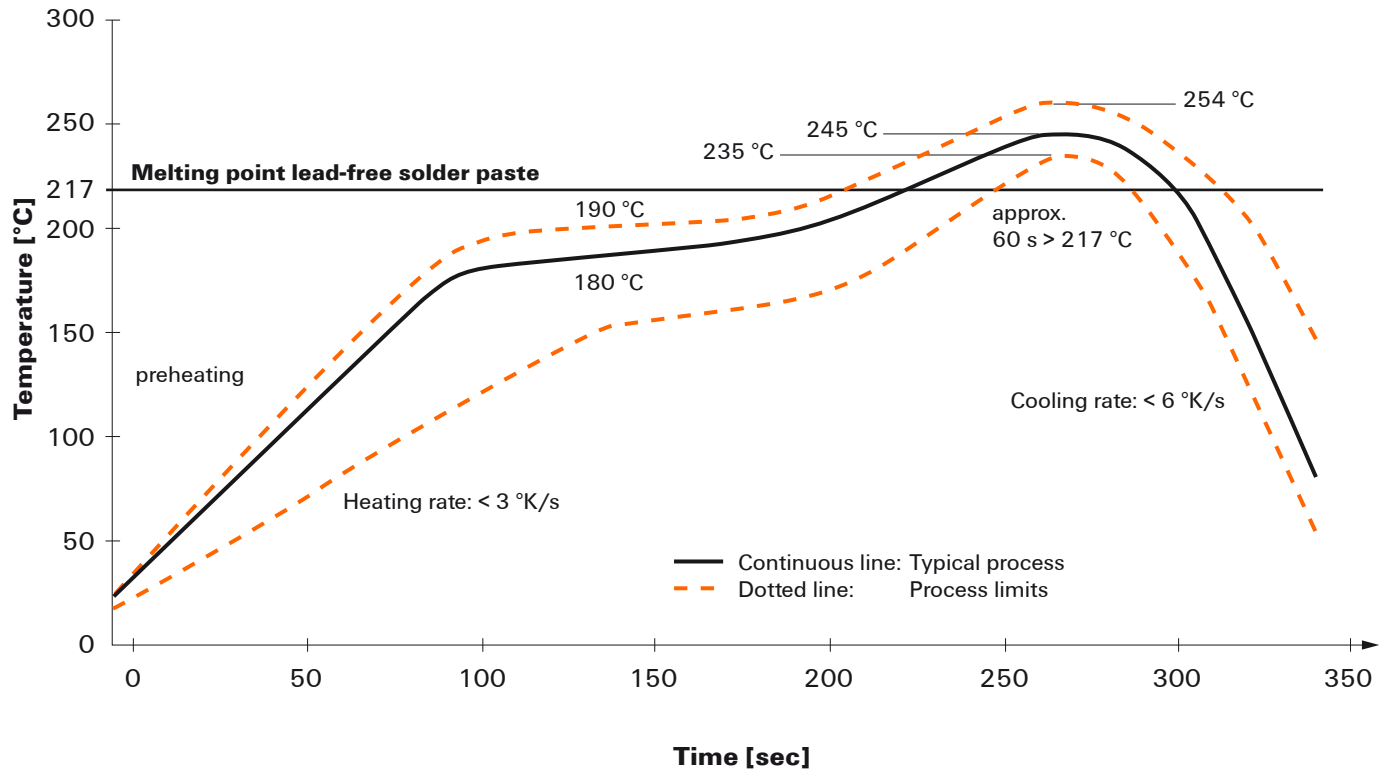
- PCB thickness
- Proportion of Cu in the layers
- Single/double-sided assembly
- Product range
- Heating and cooling rates

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

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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.