

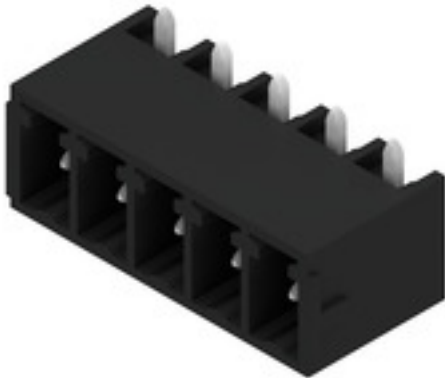
SC-SMT 3.81/05/270G 1.5SN BK RL**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Product image

The SC-SMT pin header in 270°-outlet direction: the 270° angle exists between the plugging direction and the solder pin. The plugging direction is then parallel to the PCB. Sockets blocks, however, have an overhead plugging angle.

- More freedom when designing components and devices.
- A high component density when multiple PCBs are arranged in parallel within one housing
- The housing design is application-friendly because of the additional optional wire outlet direction.
- Available in closed (G) and screw flange (F) versions.
- Pin length of either 1.5 mm or 3.2 mm

Weidmüller's 3.81-mm-pitch (0.15 inch) plug-in connectors are compatible with the layouts of standard connectors and offer space for labelling and coding.

General ordering data

Version	PCB plug-in connector, male header, closed side, THT/THR solder connection, 3.81 mm, Number of poles: 5, 270°, Solder pin length (l): 1.5 mm, tinned, black, Tape
Order No.	2457550000
Type	SC-SMT 3.81/05/270G 1.5SN BK RL
GTIN (EAN)	4050118472721
Qty.	400 pc(s).
Product data	IEC: 320 V / 17.5 A UL: 300 V / 11 A
Packaging	Tape

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Technical data

Dimensions and weights

Depth	9.2 mm	Depth (inches)	0.362 inch
Height	8.6 mm	Height (inches)	0.339 inch
Height of lowest version	7.1 mm	Width	20.44 mm
Width (inches)	0.805 inch	Net weight	1.981 g

System specifications

Product family	OMNIMATE Signal - series BC/SC 3.81	Type of connection	Board connection
Mounting onto the PCB	THT/THR solder connection	Pitch in mm (P)	3.81 mm
Pitch in inches (P)	0.15 "	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	+0,02 / -0,02 mm
Solder pin dimensions	d = 1.0 mm, Octagonal	Solder pin dimensions = d tolerance	0 / -0,03 mm
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	15.24 mm	L1 in inches	0.6 "
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
Volume resistance	≤5 mΩ	Can be coded	Yes

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	Cu-alloy
Contact surface	tinned	Storage temperature, min.	-40 °C
Storage temperature, max.	70 °C	Operating temperature, min.	-50 °C
Operating temperature, max.	120 °C	Temperature range, installation, min.	-25 °C
Temperature range, installation, max.	120 °C		

Rated data acc. to IEC

tested acc. to standard	IEC 60664-1, IEC 61984	Rated current, min. number of poles (Tu=20°C)	17.5 A
Rated current, max. number of poles (Tu=20°C)	17 A	Rated current, min. number of poles (Tu=40°C)	17.5 A
Rated current, max. number of poles (Tu=40°C)	15.1 A	Rated voltage for surge voltage class / pollution degree II/2	320 V
Rated voltage for surge voltage class / pollution degree III/2	160 V	Rated voltage for surge voltage class / pollution degree III/3	160 V
Rated impulse voltage for surge voltage class/ pollution degree II/2	2.5 kV	Rated impulse voltage for surge voltage class/ pollution degree III/2	2.5 kV
Rated impulse voltage for surge voltage class/ contamination degree III/3	2.5 kV	Short-time withstand current resistance	3 x 1s with 76 A

Rated data acc. to CSA

Rated voltage (Use group B / CSA)	300 V	Rated current (Use group B / CSA)	11 A
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Technical data

Rated data acc. to UL 1059

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) 11 A

Rated current (Use group D / UL 1059) 11 A

Packing

ESD Level packaging	static dissipative
VPE length	330 mm
VPE height	50 mm
Tape width (W)	44 mm
Tape pocket height (AO)	9.5 mm
Tape pocket separation (P1)	16 mm
Tape pocket separation (F)	20.2 mm
Surface resistance	$R_s = 10^9 - 10^{12} \Omega$

Packaging	Tape
VPE width	330 mm
Tape depth (T2)	11.1 mm
Tape pocket depth (K0)	10.6 mm
Tape pocket width (B0)	33.2 mm
Tape hole separation (E)	1.75 mm
Tape reel diameter $\varnothing$ (A)	330 mm

Classifications

ETIM 6.0	EC002637	ETIM 7.0	EC002637
ETIM 8.0	EC002637	ETIM 9.0	EC002637
ETIM 10.0	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	ECLASS 14.0	27-46-02-01
ECLASS 15.0	27-46-02-01		

Environmental Product Compliance

RoHS Compliance Status	Compliant without exemption
REACH SVHC	No SVHC above 0.1 wt%

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	- Additional variants on request - Rated current related to rated cross-section & min. No. of poles. - 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. - P on drawing = pitch - 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 - Long term storage of the product with average temperature of 50 °C and maximum humidity 70%, 36 months

Approvals

ROHS	Conform
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Technical data

Downloads

Engineering Data	CAD data – STEP
Product Change Notification	Changeover to ESD bags for "Tape on Reel" products Umstellung auf ESD-Beutel bei „Tape on Reel“ Produkten
Catalogues	Catalogues in PDF-format
Brochures	FL DRIVES EN FL DRIVES DE
White paper surface mount technology	Download Whitepaper

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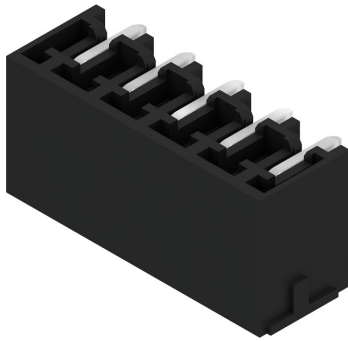
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Drawings

Product image



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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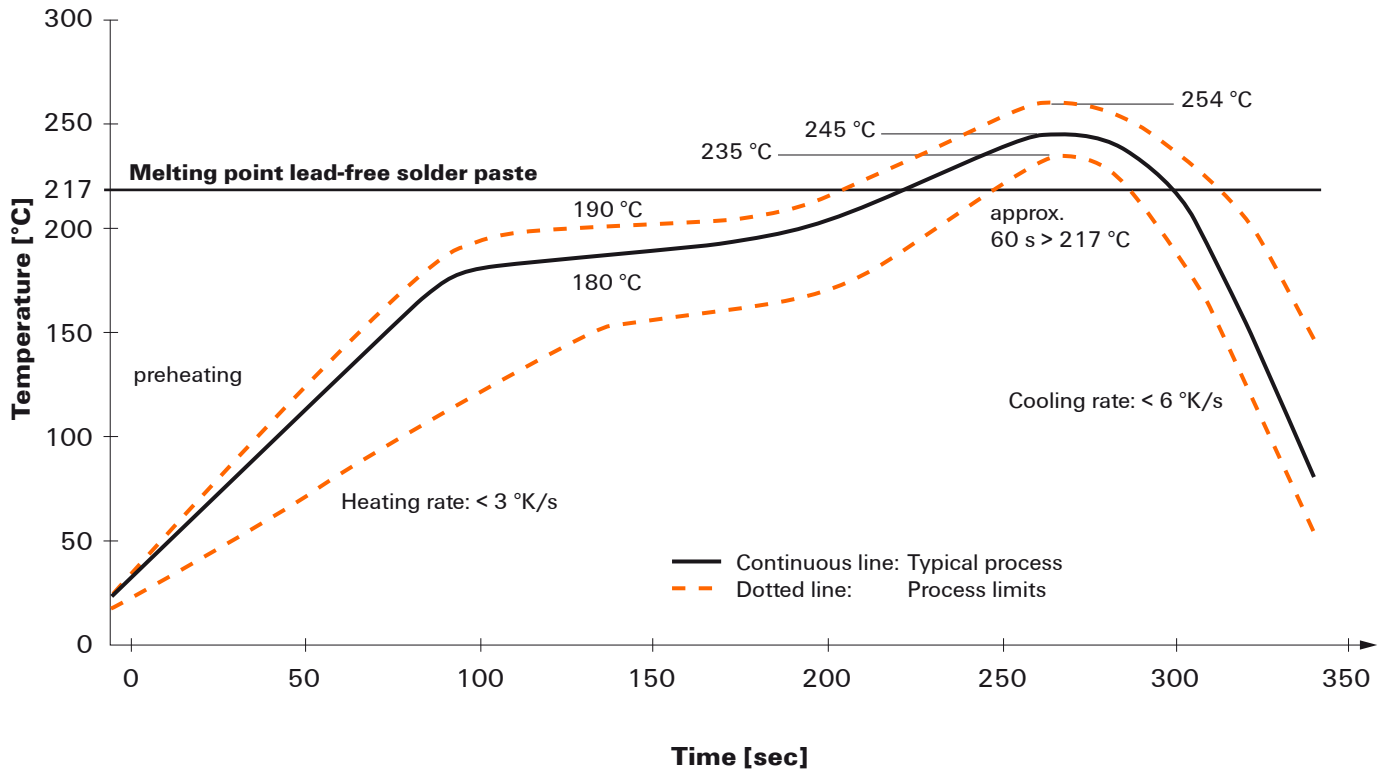
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Reflow soldering profile

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.