S2C-SMT 3.50/14/180G 3.5SN BK BX

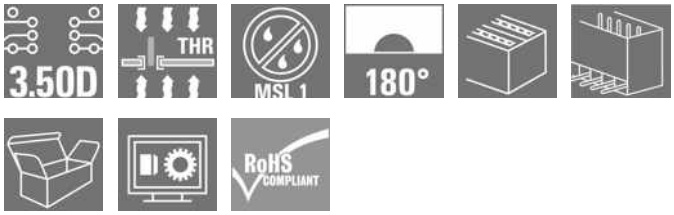
Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 26
D-32758 Detmold
Germany

www.weidmueller.com

Product image



Similar to illustration



High-temperature-resistant pin header.

- touch-safe
- can be plugged into B2CF 3.50 PUSH IN female plug
- Plug-in direction is perpendicular or parallel to the circuit board (180° / 90°)
- Housing variants: closed (G) and with solder flange (LF)
- Box packaging (BX) or, anti-static, tape-on-reel (RL)
- Suitable for reflow and wave soldering applications
- Pin length of either 1.5 mm or 3.5 mm

General ordering data

Version	PCB plug-in connector, male header, closed side, THT/THR solder connection, 3.50 mm, Number of poles: 14, 180°, Solder pin length (l): 3.5 mm, tinned, black, Box
Order No.	1290080000
Type	S2C-SMT 3.50/14/180G 3.5SN BK BX
GTIN (EAN)	4050118083187
Qty.	66 pc(s).
Product data	IEC: 200 V / 13.4 A UL: 150 V / 10 A
Packaging	Box

Creation date August 31, 2023 3:58:00 PM CEST

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Technical data

Dimensions and weights

Depth	10.8 mm	Depth (inches)	0.425 inch
Height	17.7 mm	Height (inches)	0.697 inch
Height of lowest version	14.2 mm	Width	25.9 mm
Width (inches)	1.02 inch	Net weight	4.778 g

Temperatures

Operating temperature, min.	-50 °C	Operating temperature, max.	120 °C

System specifications

Product family	OMNIMATE Signal - series B2C/S2C 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	180°
Number of poles	14	Number of solder pins per pole	1
Solder pin length (l)	3.5 mm	Solder pin length tolerance	0 / -0.3 mm
Solder pin dimensions	d = 1.0 mm, Octagonal	Solder pin dimensions = d tolerance	+0,01 / -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	21 mm	L1 in inches	0.827 inch
Number of rows	1	Pin series quantity	2
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
Can be coded	Yes	Plugging force/pole, max.	3.5 N
Pulling force/pole, max.	3.5 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	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.	120 °C	Temperature range, installation, min.	-40 °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)	13.4 A
Rated current, min. number of poles (Tu=40°C)	12 A	Rated voltage for surge voltage class / pollution degree II/2	200 V
Rated voltage for surge voltage class / pollution degree III/2	160 V	Rated voltage for surge voltage class / pollution degree III/3	80 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 80 A

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Technical data

Rated data acc. to CSA

Institute (CSA)		Certificate No. (CSA)	200039-1121690
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)	9.5 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 (cURus)		Certificate No. (cURus)	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	Box	VPE length	340 mm
VPE width	133 mm	VPE height	21 mm

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	ECLASS 12.0	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. • Spacing between rows: see hole layout • 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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Technical data

Approvals

Approvals	
ROHS	Conform
UL File Number Search	UL Website
Certificate No. (cURus)	E60693

Downloads

Approval/Certificate/Document of Conformity	Declaration of the Manufacturer
Engineering Data	CAD data – STEP
Catalogues	Catalogues in PDF-format
Brochures	FL DRIVES EN MB SMT EN FL DRIVES DE MB DEVICE MANUF. EN FL BUILDING SAFETY EN FL APPL LED LIGHTING EN FL INDUSTR.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
White paper surface mount technology	Download Whitepaper

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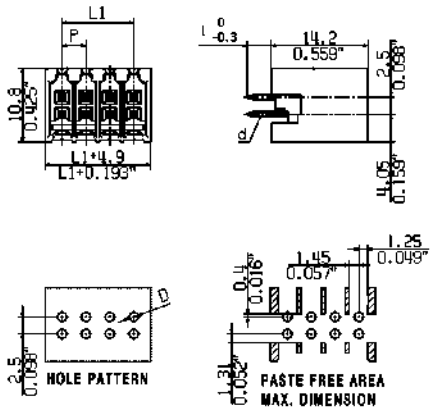
Drawings

Dimensional drawing



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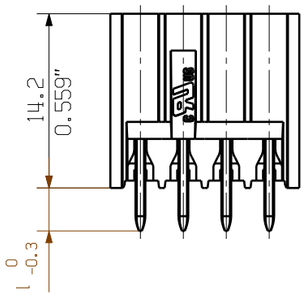
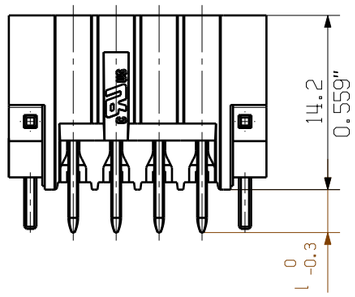
Dimensions without tolerances are no check dimensions

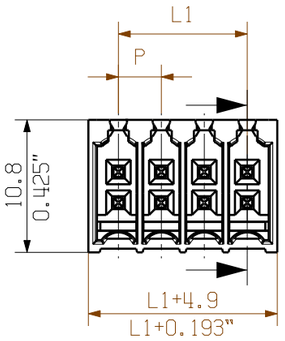
The English version is binding

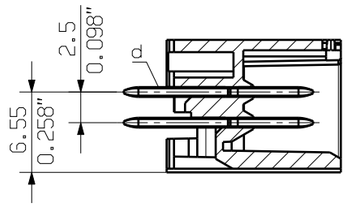


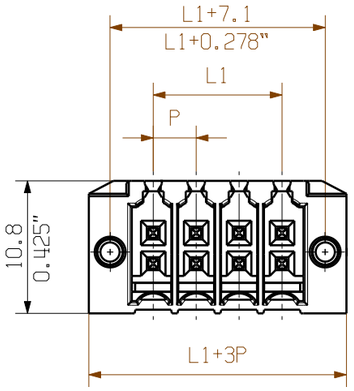
SHOWN: S2C-SMT 3.50/08/180G 3.5

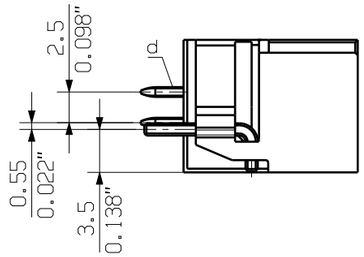


SHOWN: S2C-SMT 3.50/08/180LF 3.5





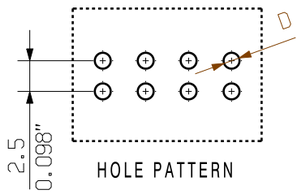




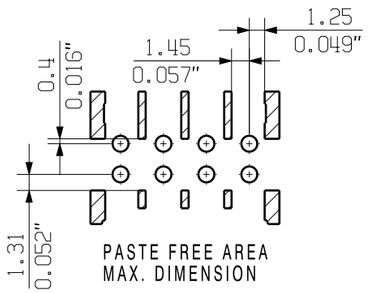
For the mounting of PCBs, it should be noted that the rated data relates only to the PCB components alone.
The neccessary creepage and clearance paths must be observed in connection with the respective applicant in accordance to IEC 664 / VDE 0110.
The current-carrying capacity and pitch tolerance is to be determined according to DIN IEC 326 part 3 very fine.

Weidmüller PCB components are tested to the DIN EN 61984 standard, and are valid for its field of application.
Provided that the components are used to the intended purpose, all requirements with respect to the occuring of electrical, mechanical, thermic and corrosive stress will be satisfied.

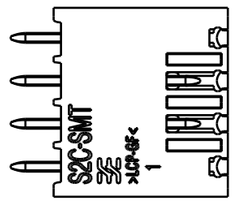
n POLZAHL POLES	L1 [mm]	L1 [inch]	TOLERANZ TOLERANCE
36	59.5	2.343	±0.2
34	56.0	2.205	
32	52.5	2.067	
30	49.0	1.929	
28	45.5	1.791	
26	42.0	1.654	±0.15
24	38.5	1.516	
22	35.0	1.378	
20	31.5	1.240	
18	28.0	1.102	±0.1
16	24.5	0.965	
16	24.5	0.965	
14	21.0	0.827	
12	17.5	0.689	
10	14.0	0.551	
8	10.5	0.413	
6	7.00	0.276	
4	3.50	0.138	

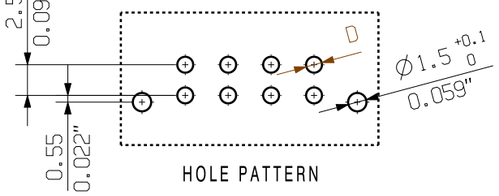


HOLE PATTERN



PASTE FREE AREA
MAX. DIMENSION





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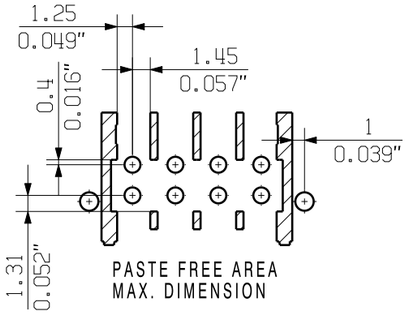


PASTE FREE AREA
MAX. DIMENSION

P= 3.50 RASTER PITCH

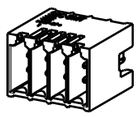
D*= Ø1.3 +0.1 0.051"

d= 0.8x0.8 0.031"x0.031"

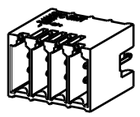
* from n (no of poles) 26
D = 1.4mm +0.1

TYP PART NAME	l [mm]	l [inch]
S2C-SMT 3.50...180LF 3.5	3.5	0.138
S2C-SMT 3.50...180LF 1.5	1.5	0.059
S2C-SMT 3.50...180G 3.5	3.5	0.138
S2C-SMT 3.50...180G 1.5	1.5	0.059

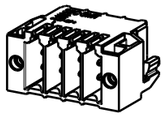
M 1/1
S2C-SMT 3.50/08/180G 1.5



M 1/1
S2C-SMT 3.50/08/180G 3.5



M 1/1
S2C-SMT 3.50/08/180LF 1.5



M 1/1
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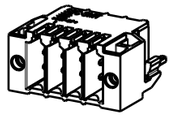

allgemeingueltige Kundenzeichnung, aktueller Stand nur auf Anfrage
general customer drawing, topical version only if required

GENERAL TOLERANCE:
DIN ISO 2768-m

Max. nos. RoHS COMPLIANT

99681/4
22.03.18 AMANN_A 01
.
Modification

. .

Cat.no.: .

Weidmüller

3 50160 06
Drawing no. Issue no.

Sheet 03 of 04 sheets

	Date	Name
Drawn	15.07.2011	FRIELING_L
Responsible		AMANN_A
Checked	04.04.2018	HELIS_MA
Approved		LANG_T

Scale: 2/1

Supersedes: .

S2C-SMT 3.50/.../...

STIFTLEISTE
MALE HEADER

Product file: B2CF/S2C 7400

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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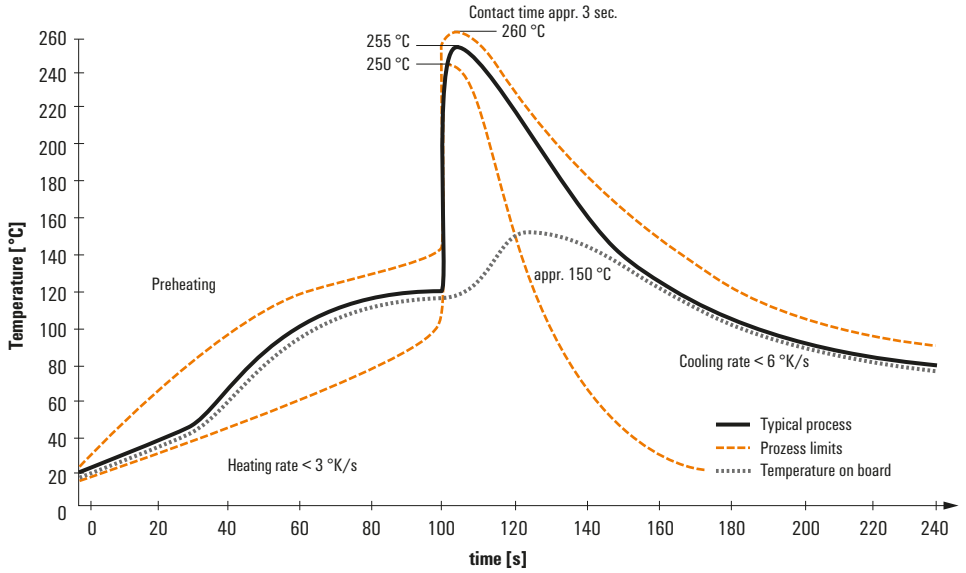
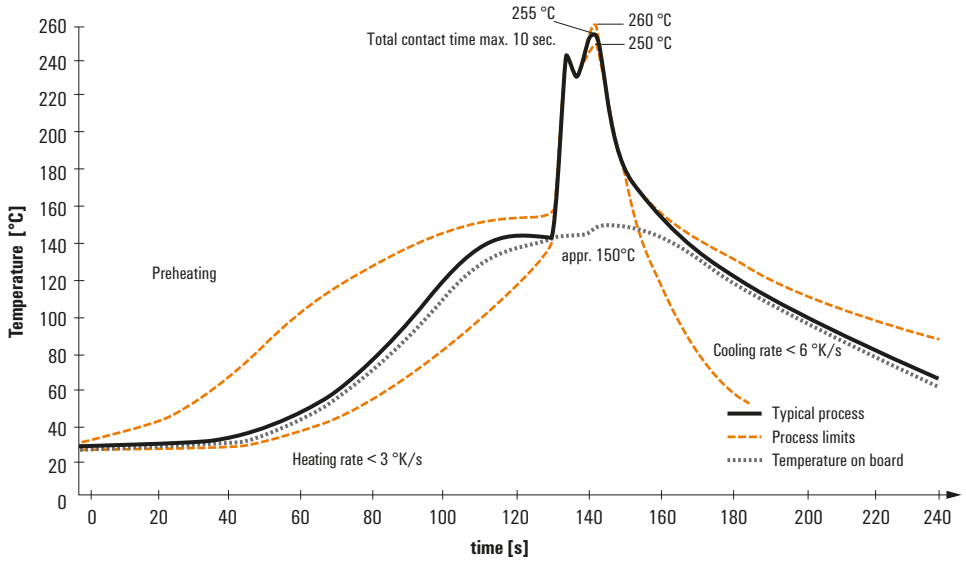
Single Wave:



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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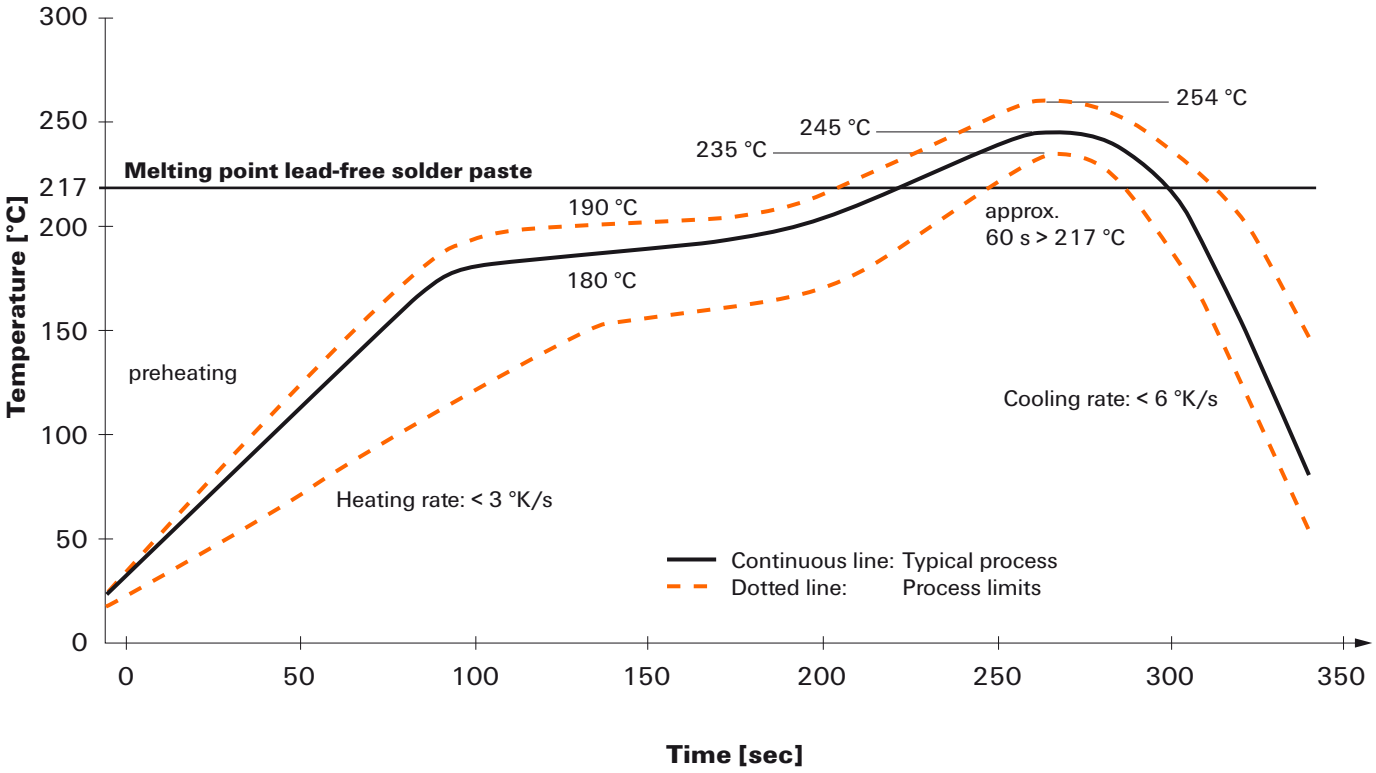

Reflow soldering profile

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.