

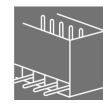
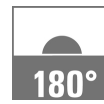
S2L-SMT 3.50/28/180G 3.5SN BK BX**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Product image

Similar to illustration

High-temperature-resistant, double-row pin header for all common soldering methods. Optimised for automatic assembly. Packed in box or tape. Solder pin 3.2 mm long, suitable for reflow and wave soldering. The male connectors provide space for labelling and can be coded.

General ordering data

Version	PCB plug-in connector, male header, closed side, THT/THR solder connection, 3.50 mm, Number of poles: 28, 180°, Solder pin length (l): 3.5 mm, tinned, black, Box
Order No.	1794640000
Type	S2L-SMT 3.50/28/180G 3.5SN BK BX
GTIN (EAN)	4032248231829
Qty.	36 pc(s).
Product data	IEC: 160 V / 10 A UL: 150 V / 10 A
Packaging	Box

Creation date October 30, 2021 12:21:12 PM CEST

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Technical data**Dimensions and weights**

Depth	10.8 mm	Depth (inches)	0.425 inch
Height	14.3 mm	Height (inches)	0.563 inch
Height of lowest version	14.2 mm	Width	50.4 mm
Width (inches)	1.984 inch	Net weight	7.8 g

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	180°
Number of poles	28	Number of solder pins per pole	1
Solder pin length (l)	3.5 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	45.5 mm	L1 in inches	1.791 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) 50 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 Box

VPE length 342 mm

VPE width 134 mm

VPE height 23 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

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 colours on request
- Gold-plated contact surfaces on request
- Spacing between rows: see hole layout
- 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 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

S2L-SMT 3.50/28/180G 3.5SN BK BX

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Drawings**Product image**

Similar to illustration

Dimensional drawing

Dimensions without tolerances are no check dimensions

The English version is binding



coding not possible at end poles



pin length l	tolerance
1,5	0,0 -0,3
3,2	0,0 -0,3
4,5	0,0 -0,3

P = 3.50 Raster Pitch
D = Ø1,3^{+0.1}
Ø0.051^{+0.1}
d = 1mm oktagon
0.039" octogonal

SHOWN: S2L-SMT 3.50/08/180 G

36	59.50	2.343	±0.2
34	56.00	2.205	
32	52.50	2.067	
30	49.00	1.929	
28	45.50	1.791	
26	42.00	1.654	±0.15
24	38.50	1.516	
22	35.00	1.378	
20	31.50	1.240	
18	28.00	1.102	±0.1
16	24.50	0.965	
14	21.00	0.827	
12	17.50	0.689	
10	14.00	0.551	
8	10.50	0.413	
6	7.00	0.276	
4	3.50	0.138	
n Poles	L1 [mm]	L1 [inch]	Tolerance

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 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 occurring of electrical, mechanical, thermic and corrosive stress will be satisfied.

General tolerance:
DIN ISO 2768-mK



Scale: 2/1

Supersedes: .

99684/4
02.03.18 HELIS_MA 00

Modification

Date Name

Drawn 10.06.2008 HELIS_MA

Responsible AMANN_A

Checked 19.03.2018 HELIS_MA

Approved LANG_T

Weidmüller



Cat.no.: .
3 32319 35

Drawing no. Issue no.
Sheet 02 of 04 sheets

S2L-SMT 3.50/./180...
STIFTLEISTE
PIN HEADER

Product file: S2L-SMT 3.50

7272

Recommended wave soldering profiles

Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 16
D-32758 Detmold
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.

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.