

Surface Mount Terminal Blocks

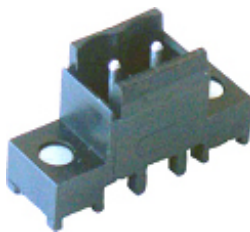
TYPE 120-M-227-SMD

5 mm spacing - 2 to 22 poles

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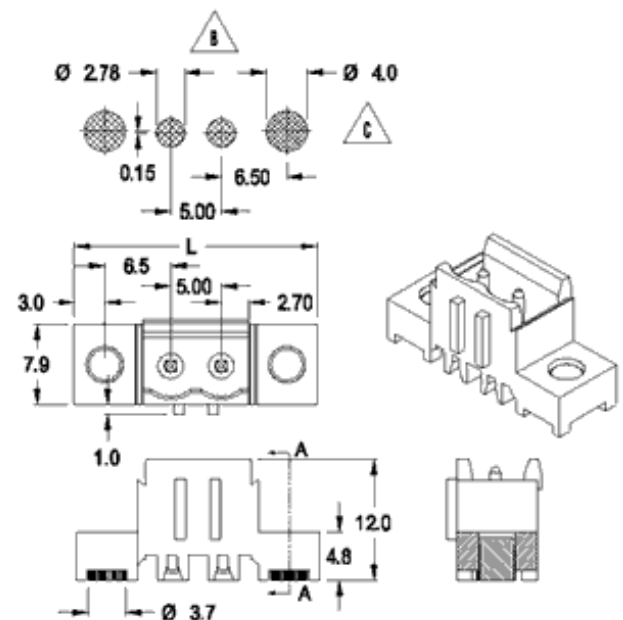
Series	Download PDF	3D Model	Can plug with	How to order	Color specifications	Print
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120-M-227-SMD



RoHS WEEE Pb free
compliant



Dimensions: mm (in.)

Length of Connector (L)

L = No. of Poles x Center to Center Spacing + 14 mm
(A)

(B) Recommended Stencil Thickness: 0.15 mm (0.006 in.)

(C) PCB Pad layout

When locating connector, allow 0.5 mm clearance around it for process-induced variations.

Description

Approval Information

Rating	Current(A)	Voltage(V)	Application group	AWG
UL CSA	15			

* UL and CSA approvals are pending.

Material

US Patent 6,966,795

The solder retention devices (SMT anchors) provide an exceptionally high retention force for the terminal block to the PCB. The most significant benefit of this design is the protection it provides to the solder joints against stresses encountered in field-installations. This is the strongest SMT retention method in the industry. The anchoring element constitutes a Universal SMT retention method (can be licensed for other applications). It eliminates completely CTE mismatch (Coefficient of thermal expansion) and provide total coplanarity (contains position adapting pin) The 120-M-227-SMD is also equipped with keyed pick-cap that ensures "Poka-Yoke" functionality in conjunction with automated vision system.

- Header
- Plug-In Direction Perpendicular to PCB and Wire Entrance Parallel to PCB when plugged with **120-D-111, 120-D-121**
- Plug-In Direction and Wire Entrance Perpendicular to PCB when plugged with **120-A-111**
- Typical pull off forces: 50 kg per module (depending on soldering process).
- Typical peel off forces: 30 kg per module (depending on soldering process).

Technical Data

Center to Center Spacing: 5 mm (0.197 in.)

Molding: Polyamide 4.6, 30% GF (glass fiber reinforced), self extinguishing UL 94, V-0, color grey

Temperature limits:

Short Time: 140°C (284°F)

Continuous: RTI 105°C (221°F)

Low Limit: -40°C (-40°F)

Comparative Tracking Index: CTI > 600

Oxygen Index Rating: 33%

Solder Pin: 1 x 1 mm (0.04 x 0.04 in.), Tin plated copper alloy

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How to order

Item	120-M-227-SMD
Options	CN: Consecutive Numbering (hot stamped numbers) SM: Special Marking (please provide sketch) G05: Gold Plating (5 micro inches) G30: Gold Plating (30 micro inches) S30: Silver Plating (30 micro inches) 14.5MM: Solder Pin length of 14.5 mm PCP: Removable Pick Cap
Note: Plated component: solder pin	
120-M-227-SMD POLES: 02 to 22	

Request sample

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Quantity

Accessories

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Tape & Reel technical information



Table # 1 5 mm pitch Surface Mount (SMT) connectors with anchoring elements for automatic handling	
Genuine SMT terminal block of elevator style with SM anchoring elements:	140-A-524-SMD ¹
Genuine SMT header with SM anchoring elements:	120-M-227-SMD ²

NOTES:

- All Surface Mount connectors are equipped with pick cap device for automatic handling.
 - Two laterally SMT installed anchors will add 2*5 mm = 10 mm length to the connector length.
 - In order to compute total length of connector equipped with 2 anchors, add 10 mm to the connector length without anchors.
 - The spacing between one anchor and adjacent pole is 5 mm.
- EXAMPLE: (see table 3) The length of a 4 poles connector of 5 mm pitch with two anchors is: 4*5 + 2*5 = 30 mm

Table # 2 Immediately available Transfer Tube carriers for 5 mm pitch SMT connectors for automatic handling	
Genuine SMT terminal block of elevator style with SM anchoring elements:	140-A-524-SMD ¹

Table # 3 GENERAL GUIDELINE FOR SIZING EMBOSSED CARRIER TAPING		
Reference standard: EIA - 481 - C		
Number of poles	Length of connector (mm)	Tape size for single row (mm)
2	20.0	32
3	25.0	44
4	30.0	44
5	35.0	56
6	40.0	56
7	45.0	72
8	50.0	72
9	55.0	72
10	60.0	88
11	65.0	88
12	70.0	88
13	75.0	104
14	80.0	104
15	85.0	104
16	90.0	120
17	95.0	120
18	100.0	120
19	105.0	120
20	110.0	136
21	115.0	136
22	120.0	136
23	125.0	152
24	130.0	152



Table # 4 Connector Pole Quantity, Length and Mass			
Type	Poles	Length (mm)	Mass (g)
140-A-524-SMD	2 to 24	(No. poles x 5) + 10	(No. poles + 2) x 1.2
120-M-227-SMD	2 to 24	(No. poles x 5) + 10	(No. poles + 2) x 1

Table # 5 Reel sizes, hub and overall diameters:						
Carrier tape width mm	Minimum reel hub mm diam	Maximum reel overall mm diam	Carrier tape width inch	Minimum reel hub inch diam	Maximum reel overall inch diam	Preferred mfg. Method
12	50	330	0.47	2	13	punched
16	50	330	0.63	2	13	punched
24	50	360	0.94	2	14	embossed
32	50	360	1.26	2	14	embossed
44	50	360	1.73	2	14	embossed
56	100	609	2.2	4	24	embossed
72	80	609	2.83	3	24	embossed
88	80	609	3.46	3	24	embossed
104	80	609	4.09	3	24	embossed
120	80	609	4.72	3	24	embossed
136	80	609	5.35	3	24	embossed
152	80	609	5.98	3	24	embossed
168	80	609	6.61	3	24	embossed

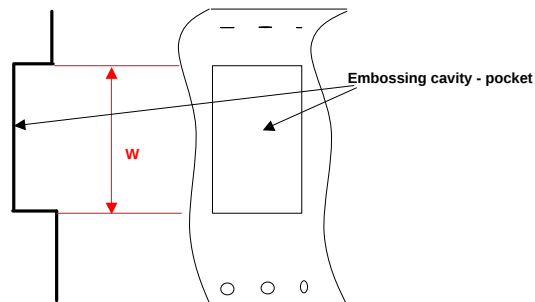
EXPLANATORY NOTES FOR REEL SIZE:

- * Typical product quantity packed in tape & reel is 200 - 300 parts per reel.
- * Quantities per reel depend of the product shape, reel's hub diameter, reel's overall diameter, the amount of empty pockets in the trailer, weight limitations and other considerations.
- * As shown in table # 3 the most popular sizes for Tape & Reel are: 44 mm and 56 mm.
- * WECO builds customized Tape & Reels addressing accommodation of two or more similar products into the same cavity.
- * The trailer is the last end out of the reel. It is inside near the hob and typically 160 mm (6 in.) long. The leader is the first end out of the reel. It is on the outside of the reel and typically 390 mm (15 in.) to 560 mm (22 in.) long.
- * Double or triple row reels can be developed if requested

GENERAL RULE FOR TAPE WIDTH:

- * Depending on shape a narrower tape may be adequate or a wider tape may be required.
- * Depending on pocket design draft angle is required.
- * 44 mm and 56 mm tapes tend to be practical.
- * 44 mm and 56 mm loaders are usually easily available and connectors fit well into these.
- * 32, 44, 56, 72, 88 & 104 mm tapes have two sets of spocket holes.
- * Appliers to deep embossed, adhesive sealed carrier tape and to mechanically interlocked tape.
- * Tape width shall be chosen as per the table # 6 (ANSI/EIA-481-C, Table 3):

Table # 6	Pocket width
Tape Size (mm)	W max (mm)
24	20
32	23
44	35
56	46
72	60
88	76
104	91
120	107
136	123
152	139
168	153
184	169
200	185



Examples of computing:

- * 5 poles connector --> 35 mm length, W = 35 mm, which fits within Wmax 46 mm, from here Tape Size = 56 mm.
- * 8 poles connector --> 50 mm length, W = 50 mm, which fits within Wmax 60 mm, from here Tape Size = 72 mm.
- * 10 poles connector --> 60 mm length, W = 60 mm, which fits within Wmax 76 mm, from here Tape Size = 88 mm.