Surface Mount Terminal Blocks

TYPE 140-A-524-SMD

5 mm spacing - 2 to 12 poles

Distributor Stock Check

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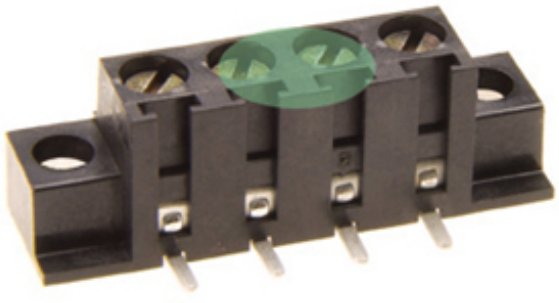
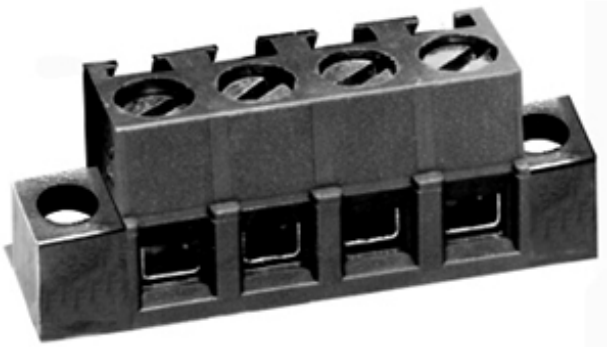
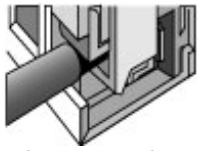


Rear view

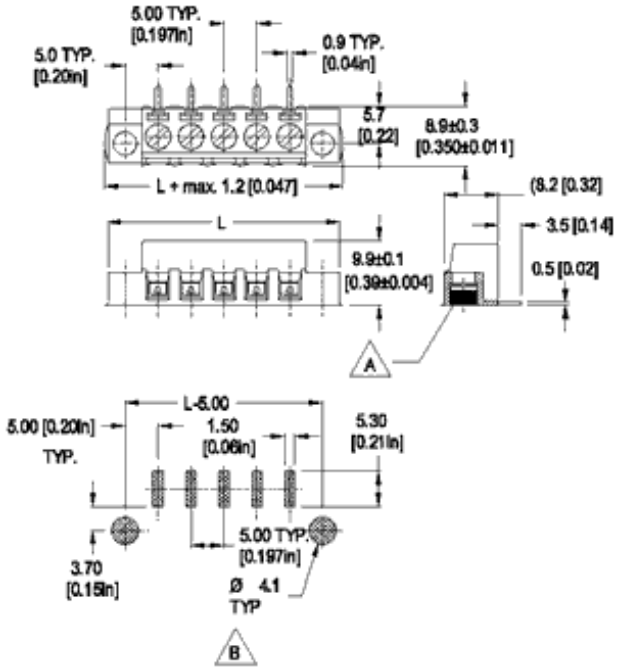


Front view



Elevator Style Clamping

RoHS WEEE Pb free compliant



Dimensions: mm (in.)

Length of Connector (L)
L = No. of Poles x Center to Center Spacing + 10 mm
(A) Retention System (Patent Pending)
(B) Recommended Pad Layout
Stencil Thickness: 0.20 mm (0.08 in.)

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

Description

Approval Information

UL File No.E69841
CSA File No.LR24322

US Patent 6,966,795
Flat contact leads provide a large surface area for reliable solder joints. 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. In terms of co-planarity, tolerances of 0.2 mm or less are present for 2 to 6 poles, and 0.3 mm or less for 7 to 12 poles. The elevator style contacts ensure a reliable electrical and mechanical interconnect solution. This lead coplanarity and the retention devices create a solid connection resulting in high process yields with no open circuits and high infield reliablity to human factors in use, installation and maintenance. Material will handle reflow temperatures well without deforming or melting.

- Flat leads
- Wire entrance parallel to PC Board
- Typical peel off forces: 30 kg on any devices (depending on soldering process)
- Typical PCB retention force of anchoring elements against peel off force is 66 lbs (30 kg).

Technical Data

Center to Center Spacing: 5 mm (0.197 in.)
Nominal Cross Section:
1.5 mm^2 (2325 $mils^2$)
Wire Stripping Length: 6 mm (0.25 in.)

Application

You can now convert one more component on your board to a genuine surface mount. You can increase packaging and component density, use both sides of the PCB, reduce and eliminate set-up costs and simplify and streamline your processes. Flat contact leads provide a large surface area where screw torque is not transmitted to the solder joint, and integrated solderable retention devices ensure in field reliability in thermal cycling and protect against human factors during in field use. These solder joints have the strength and the shape required to make a consistently safe and reliable field-proven connection that meet application and regulatory requirements. The elevator-style-clamping mechanism allows an almost unlimited number of connections and disconnections of the wire.

Top of page

Rating	Current(A)	Voltage(V)	Application group	AWG
UL	10	300	B,C,D	30-14
CSA	15	300	B	30-14

* UL: 20A range for factory wiring only.

Screw Tightening Torque:
UL: 4.5 lfbin
CSA: 0.51 Nm
Rated Impulse Withstand Voltage: 2500 V

Material

Molding: Polyamide 4.6, 30% GF (glass fiber reinforced), self extinguishing UL 94, V-0, color black
Temperature limits:
Short Time: 260°C (500°F)
Continuous: RTI 105°C (221°F)
Low Limit: -40°C (-40°F)
Comparative Tracking Index: CTI > 250
Oxygen Index Rating: 37%

Terminal Body: Nickel plated copper alloy
Current bar: Tin plated copper alloy
Screw: M3, Slotted head, zinc plated blue passivated, steel substrate
Retention device: Tin plated copper alloy
Average weight: 1.14 gram per pole and 0.04 gram for the removable pick cap,

How to order

Item **140-A-524-SMD**

Options

- ☐ CN: Consecutive Numbering (hot stamped numbers)
- ☐ SM: Special Marking (please provide sketch)
- ☐ BS: Copper Alloy Screw
- ☐ PS: Clear Chromate Passivated, zinc plated, Steel Screws
- ☐ G05: Gold Plating (5 micro inches)
- ☐ G30: Gold Plating (30 micro inches)
- ☐ S30: Silver Plating (30 micro inches)
- ☐ TR: Tape and Reel Assembly
- ☐ PCP: Removable Pick Cap

Note: Plated component: contact spring

Ordering Note: See download PDF for complete tape and reel assembly specifications

140-A-524-SMD/ POLES: 02 to 12

- ◉ **Request sample**
- ○ **Request quote**

Quantity 1

Accessories

Add to shopping cart

ISO 9001 registered quality management system

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:
1. All Surface Mount connectors are equipped with pick cap device for automatic handling.
2. Two laterally SMT installed anchors will add 2*5 mm = 10 mm length to the connector length.
3. In order to compute total length of connector equipped with 2 anchors, add 10 mm to the connector length without anchors.
4. 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 wit 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 SMTterminal block of elevator style with SM anchoring elements:	140-A-524-SMD[1]

Table # 3 GENERAL GUIDELINE FOR SIZING EMBOSSED CARRIER TAPING

Refernce 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

Most popular Sizes

1 

2 

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

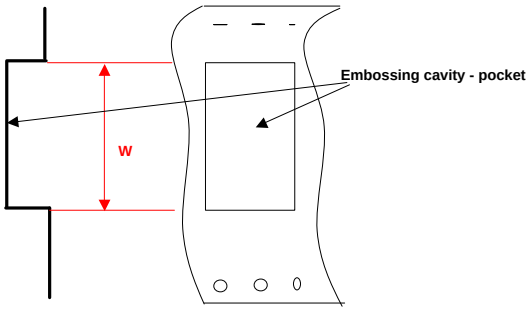
Table # 5 Reel sizes, hub and overall diameters:

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 accomodation 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**



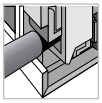
Examples of computing:
* 5 poles connector --> 35 mm length, W = 35 mm, which fits within Wmax 46 mm, from here Tape Size = 56 mm.
* 8 poles connector --> 50 mm length, W = 50 mm , which fits within Wmax 60 mm, from here Tape Size = 72 mm.
*10 poles connector --> 60 mm length, W = 60 mm , which fits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

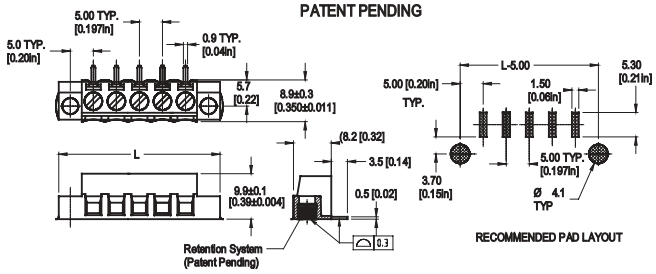
Series SMT

Type 140-A-524-SMD

5 mm spacing • 2 to 12 poles

Elevator Style Clamping





Dimensions: mm (in.) *When locating connector, allow 0.5 mm clearance around it for process-induced variations.*
Length of Connector (L) L *= No. of Poles x Center to Center Spacing + 10 mm*

DESCRIPTION

Flat contact leads provide a large surface area for reliable solder joints. The retention devices provide robust mechanical connections between terminal block and PCB and reaches up to 0.3 mm (0.012 in.) coplanarity. Patent pending.

- **Flat leads** • **Wire entrance parallel to PCB**
- Typical peel off forces; 30 kg on 6 poles devices (depending on soldering process)

TECHNICAL DATA

Center to Center Spacing: 5 mm (0.197 in.)
Wire Stripping length: 6 mm (0.25 in.)
Nominal Cross Section: 1.5 mm² (2325 mils²)

APPROVAL INFORMATION

	Rating	Current (A)	Voltage (V)	AWG	Application Group	Screw Tightening Torque
File No.: E69841	UL	10	300	30-14	B,C,D	max. 4.5 lbfin.
File No.: LR24322	CSA	15	300	30-14	B	max. 0.51 Nm

UL: 20A range for factory wiring only.

Rated Impulse Withstand Voltage: 2500 V

MATERIAL

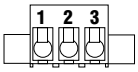
MOLDING: Polyamide 4.6, 30% GF (glass fiber reinforced), self extinguishing to UL 94, V-0, black
Material will handle reflow temperatures well without deforming or melting.

TEMPERATURE LIMITS:

Short time:	260°C (500°F)
Continuous:	RTI 105°C (221°F)
Low limit:	-40°C (-40°F)
Comparative Tracking Index:	CTI > 250
Oxygen Index Rating:	37%

Terminal Body: nickel plated copper alloy
Current bar: tin plated copper alloy
Screw: yellow chromate passivated, zinc plated, steel, M3
Retention device: Tin plated copper alloy
Average weight: 1.14 gram per pole

OPTIONS *See How to Order. If more than one option is required, please separate each option with a dash (-).*



CN: *Consecutive Numbering (hot stamped numbers)*
SM: *Special Marking (please provide sketch)*
BS: *Copper Alloy Screws*
PS: *Clear chromate passivated, zinc plated, steel screws*
G05: *Gold Plating (5 micro inches)*
G30: *Gold Plating (30 micro inches)*
S30: *Silver Plating (30 micro inches)*
TR: *Tape and Reel Assembly*
PCP: *Removable Pick Cap*
(Plated components: contact spring)

HOW TO ORDER

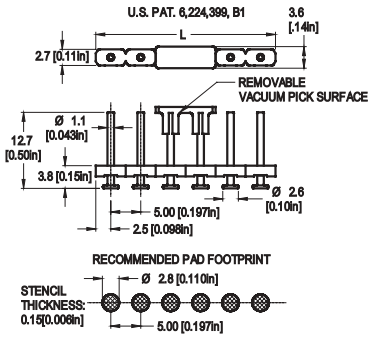
	POLES:		OPTIONS:
	02 to 12		**CN, SM, BS, PS, G05, G30, S30, TR, PCP**
140-A-524-SMD/		**-**	

■ **www.weco.ca/products/140-A-524-SMD**

Series SMT

Type 971-SLK-SMD

5 mm spacing • 2 to 12 poles



Dimensions: mm (in.) *When locating connector, allow 0.5 mm clearance around it for process-induced variations.*
Length of Connector (L) L *= No. of poles x Center to Center Spacing ± 0.4 mm*

DESCRIPTION

Patent # 6,224,399 B1

- **Pinstrip**
- Plug-In Direction Perpendicular to PCB when plugged with 950-NAF, 950-NLFL, 958-NLFL, 950-FL-DS
- Excellent coplanarity better that 0.1 mm
- Typical peel off forces; 10 kg on 6 poles devices (depending on soldering process)

TECHNICAL DATA

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

APPROVAL INFORMATION

	Rating	Current (A)	Voltage (V)
File No.: E69841	UL	10	300
File No.: LR24322	CSA	10	300

MATERIAL

MOLDING: SPS (syndiotactic polystyrene), 30% GF (glass fiber reinforced), self extinguishing to UL 94, V-0, white
Material will handle reflow temperatures well without deforming or melting.

TEMPERATURE LIMITS:

Short time:	240°C (464°F)
Continuous:	RTI 105°C (221°F)
Low limit:	-40°C (-40°F)
Comparative Tracking Index:	CTI > 250
Oxygen Index Rating:	28%

Solder Pin: tin plated copper alloy, 1 mm (0.04 in.)
Average weight: 0.15 gram per pole
Pick Cap weight: 0.04 gram

OPTIONS *See How to Order. If more than one option is required, please separate each option with a dash (-).*

G05: *Gold Plating (5 micro inches)*
G30: *Gold Plating (30 micro inches)*
S30: *Silver Plating (30 micro inches)*
TR: *Tape and Reel Assembly*
PCP: *Removable Pick Cap*
(Plated components: solder pin)

HOW TO ORDER

	POLES:		OPTIONS:
	02 to 12		**G05, G30, S30, TR, PCP**
971-SLK-SMD/		**-**	

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