

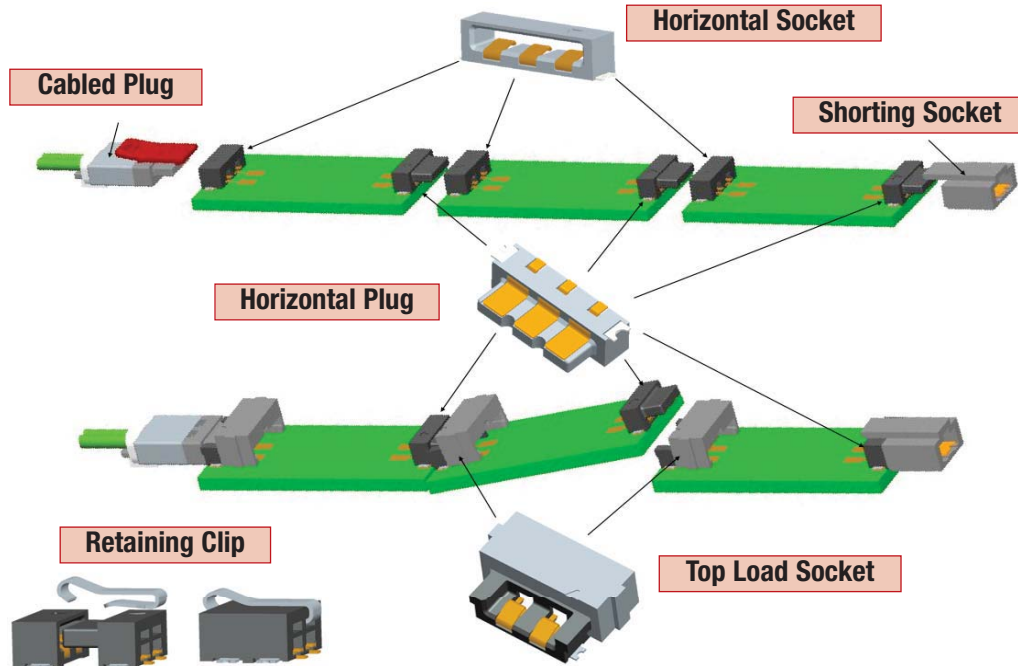
AVX Solid State / LED Lighting Connectors



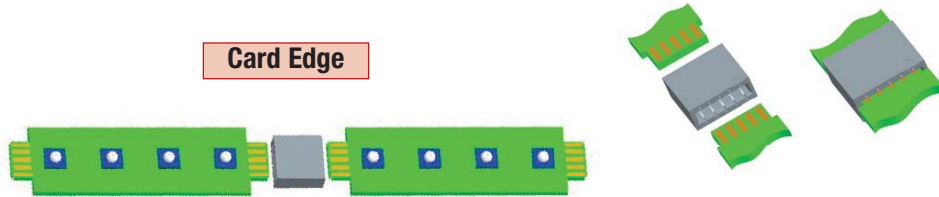
Version 10.3



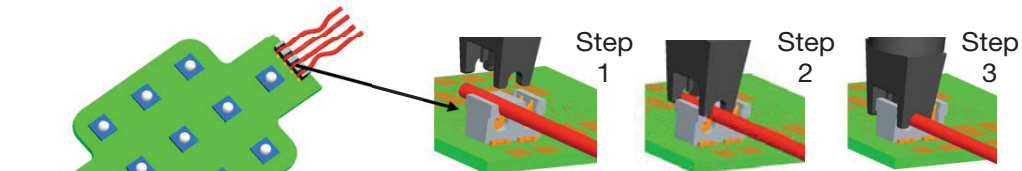
2-PIECE BOARD-TO-BOARD AND WIRE-TO-BOARD CONNECTORS



1 PIECE BOARD-TO-BOARD



WIRE-TO-BOARD

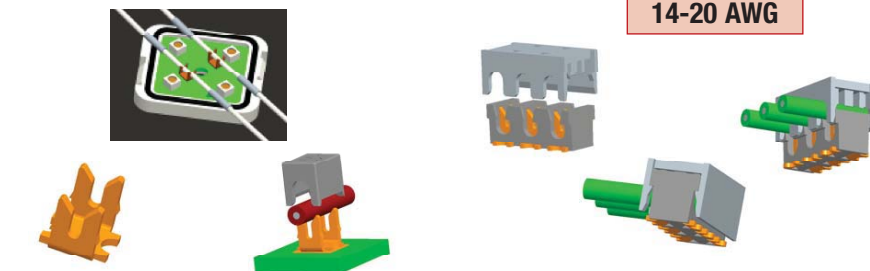


Discrete Wire Insulation Displacement

26-28 AWG

18-24 AWG

14-20 AWG



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Accessory Caps: 18-24 AWG

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SSL - Horizontal Plug



Series 9159



The 9159 series of Board-to-Board interconnect system allows two PCB's to be mated end-to-end creating strips of LED lighting. Designed specifically for the unique Solid State Lighting (SSL) market requiring coplanar (horizontal-to-horizontal) PCB mating with a 5 Amp current rating in the smallest package available. These single sided SMT connectors are perfect for both FR4 and metal boards where you need to butt the boards up together to minimize separation. Availability of both white and black insulation colors make them perfect for lighting as well as industrial applications. With sizes from 2p-6p, these high reliability connectors boast gold plated beryllium copper receptacle contacts for harsh environments.

Additional components in the 9159 product family include:

- SSL - Cabled Plug; Supports wire-to-board applications (11-9159)
- SSL - Horizontal Socket; Standard 2-Piece solution (20-9159)
- SSL - Top Load Socket; ZIF style for field reparability (22-9159)
- SSL - Shorting Socket; Two position (58-9159)
- SSL - Retaining Clip; Latches BTB connectors together (80-9159)

APPLICATIONS

- Coplanar PCB mating in SSL products
- LED linear lighting strips
- Application Notes; refer to 201-01-123

FEATURES AND BENEFITS

- Single sided SMT; supports FR4 and metal PCB's
- 5 Amp current rating; exceeds general market needs
- 5.5mm mated width; minimizes PCB space to decrease LED pitch
- Gold plated BeCu spring contacts; reliability for harsh environments
- Optional retaining clip; provides positive connector mating during vibration
- Available in white; supports SSL market preferences

ELECTRICAL

- Current Rating: 5 Amps / Contact
- Voltage Rating: 125 VAC

ENVIRONMENTAL

- Operating Temperature: -40°C to +125°C

MECHANICAL

- Insulator Material: Nylon: VL94VO
- Contact Material: BeCu / Phos Bronze
- Plating: Gold / Tin over Nickel
- Durability: 10 Cycles

HOW TO ORDER

10	9159	XXX	1	01	X	16																																
Plug	Series	Number of Ways	2 Part PCB Strip Connector	Connector Pitch 01 = 3mm	Insulator Color	Plating Option																																
		<table border="1"> <thead> <tr> <th>Code</th> <th>No of Ways</th> <th>Details</th> </tr> </thead> <tbody> <tr> <td>002</td> <td>2</td> <td>Page 3</td> </tr> <tr> <td>003</td> <td>3</td> <td>Page 4</td> </tr> <tr> <td>004</td> <td>4</td> <td>Page 5</td> </tr> <tr> <td>005</td> <td>5</td> <td>Page 6</td> </tr> <tr> <td>006</td> <td>6</td> <td>Page 7</td> </tr> </tbody> </table>	Code	No of Ways	Details	002	2	Page 3	003	3	Page 4	004	4	Page 5	005	5	Page 6	006	6	Page 7		<table border="1"> <thead> <tr> <th>Code</th> <th>Color</th> <th>Application</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>Black</td> <td>Industrial</td> </tr> <tr> <td>1</td> <td>White</td> <td>Lighting</td> </tr> </tbody> </table>	Code	Color	Application	0	Black	Industrial	1	White	Lighting	<table border="1"> <thead> <tr> <th>Code</th> <th>Contact</th> <th>Bracket</th> </tr> </thead> <tbody> <tr> <td>16</td> <td>Gold in Contact Area Tin on Solder Tail</td> <td>Tin all over</td> </tr> </tbody> </table>	Code	Contact	Bracket	16	Gold in Contact Area Tin on Solder Tail	Tin all over
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		Optional Retaining Clip Page 8																																				

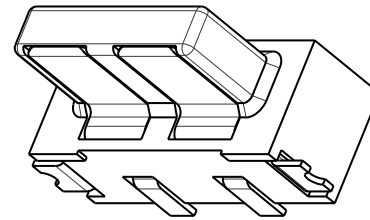
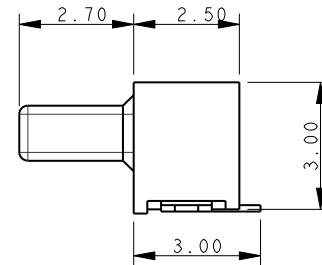
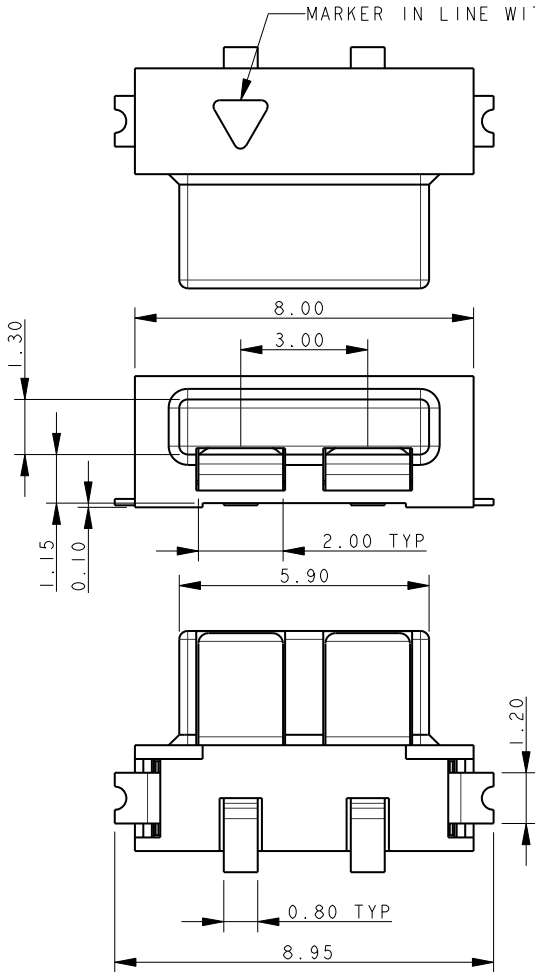


SSL - Horizontal Plug



Series 9159

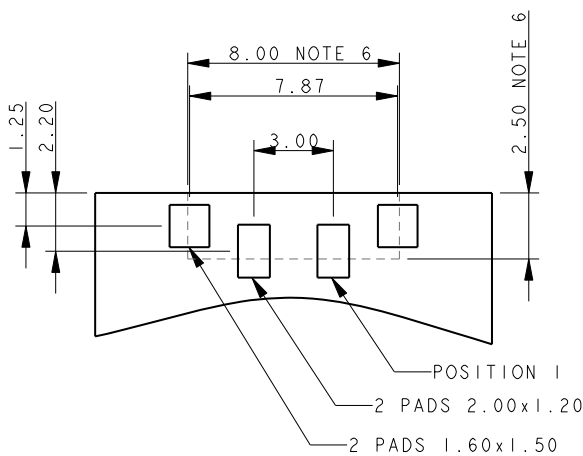
PLUG 2 WAY 2 PART PCB STRIP CONNECTOR



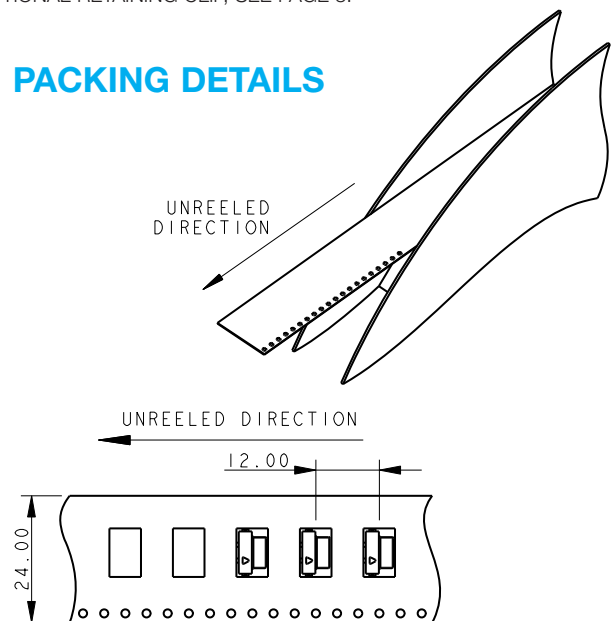
NOTES:

1. FOR MORE INFORMATION REFER TO PRODUCT SPEC 201-01-119.
2. DIMENSIONS ARE REFERENCE DIMENSIONS UNLESS TOLERANCES.
3. INSULATOR MATERIAL: NYLON 46.
4. CONTACT MATERIAL: COPPER ALLOY, SELECTIVE GOLD OVER NICKEL TIN PLATED ON TAILS.
5. BRACKETS: COPPER ALLOY, TIN PLATED.
6. OUTLINE OF CONNECTOR.
7. PACKING TAPE AND REEL, QUANTITY 1400 PER REEL.
8. OPTIONAL RETAINING CLIP, SEE PAGE 8.

2 WAY PCB BOARD LAYOUT



PACKING DETAILS

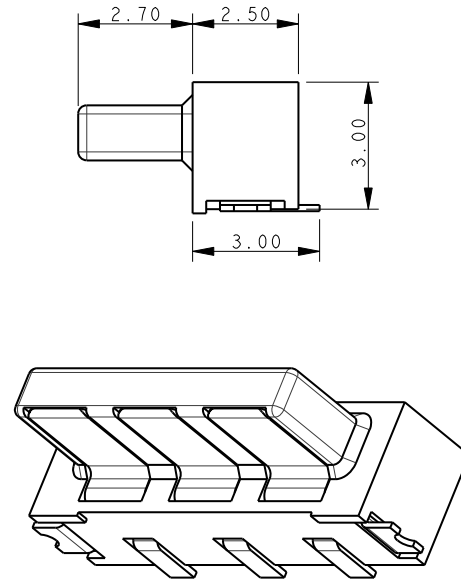
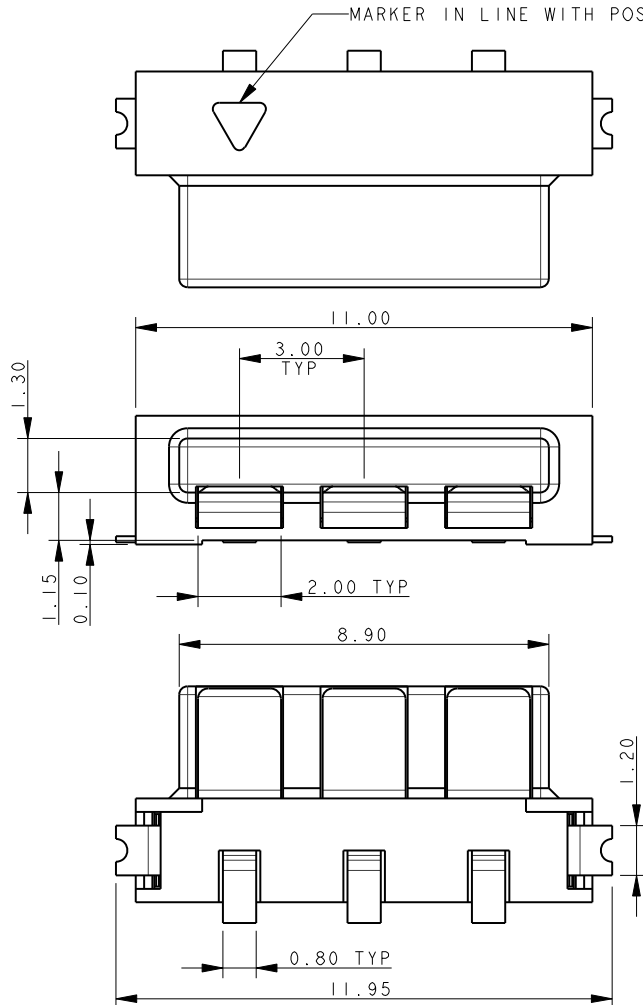


SSL - Horizontal Plug



Series 9159

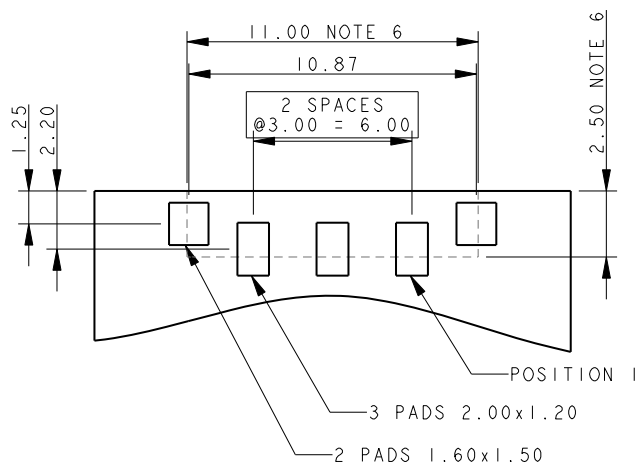
PLUG 3 WAY 2 PART PCB STRIP CONNECTOR



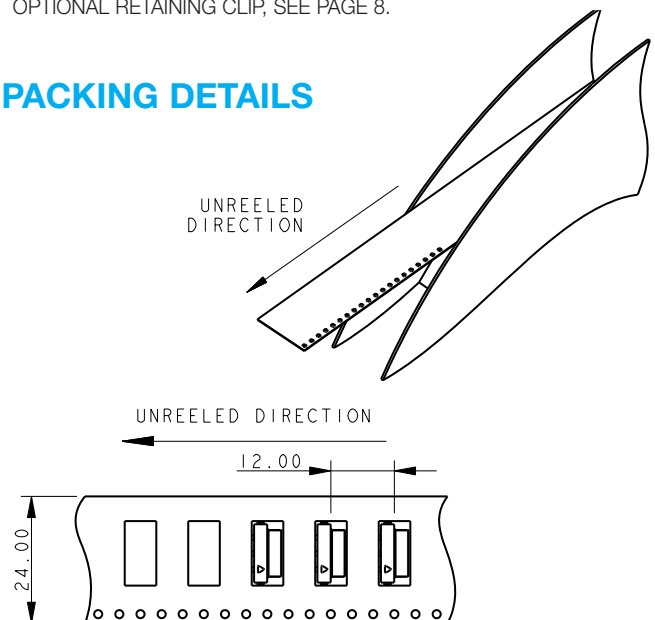
NOTES:

1. FOR MORE INFORMATION REFER TO PRODUCT SPEC 201-01-119.
2. DIMENSIONS ARE REFERENCE DIMENSIONS UNLESS TOLERANCES.
3. INSULATOR MATERIAL: NYLON 46.
4. CONTACT MATERIAL: COPPER ALLOY, SELECTIVE GOLD OVER NICKEL TIN PLATED ON TAILS.
5. BRACKETS: COPPER ALLOY, TIN PLATED.
6. OUTLINE OF CONNECTOR.
7. PACKING TAPE AND REEL, QUANTITY 1400 PER REEL.
8. OPTIONAL RETAINING CLIP, SEE PAGE 8.

3 WAY PCB BOARD LAYOUT



PACKING DETAILS

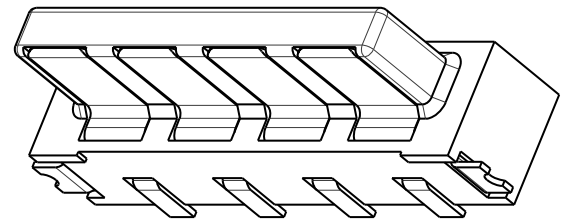
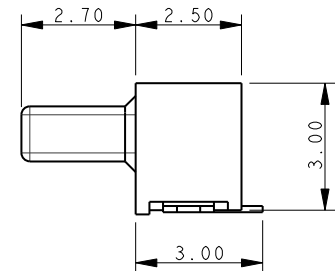
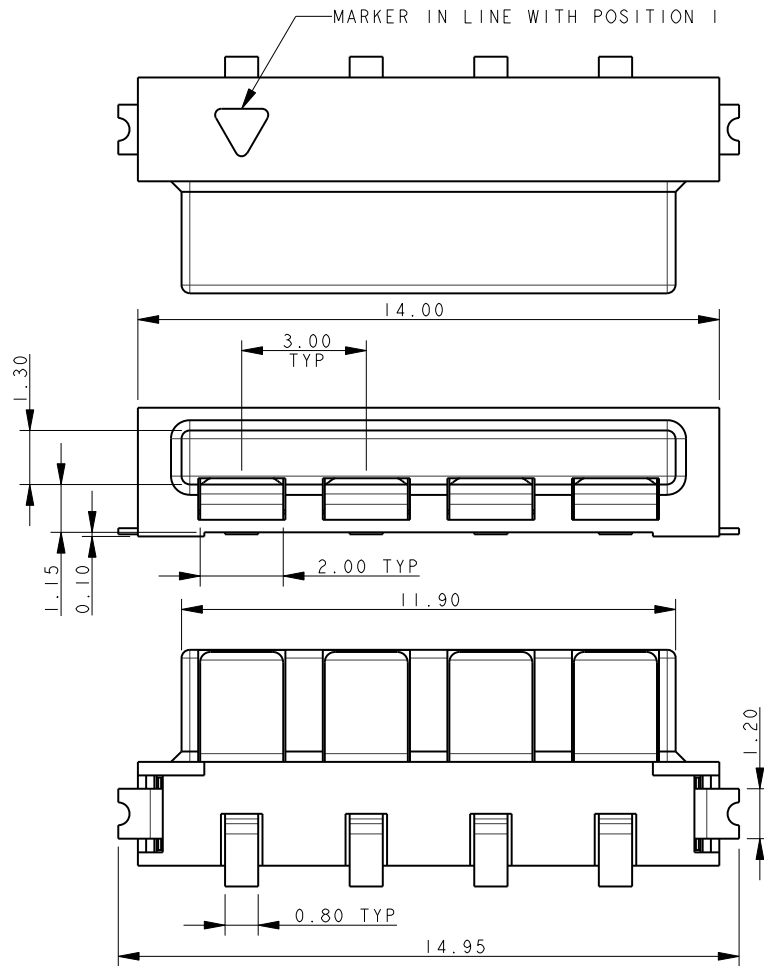


SSL - Horizontal Plug



Series 9159

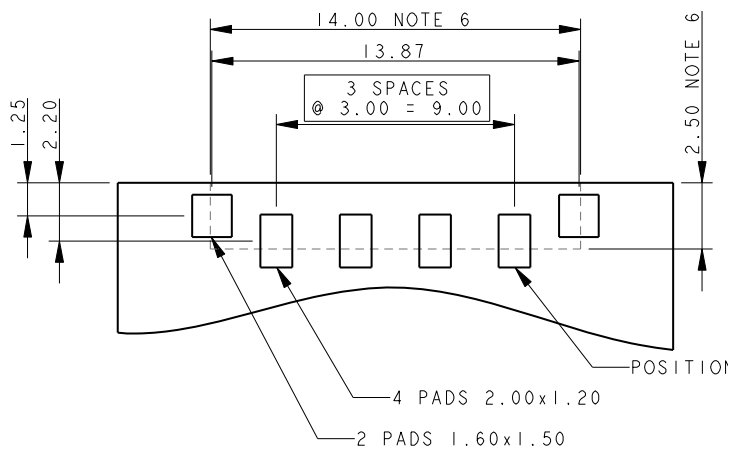
PLUG 4 WAY 2 PART PCB STRIP CONNECTOR



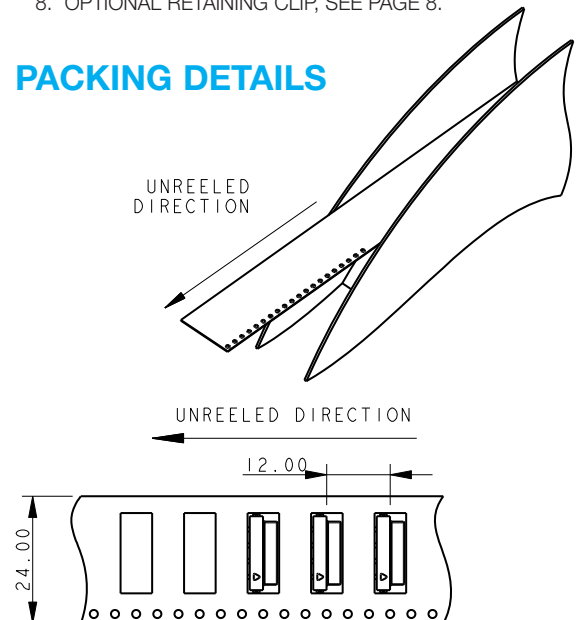
NOTES:

1. FOR MORE INFORMATION REFER TO PRODUCT SPEC 201-01-119.
2. DIMENSIONS ARE REFERENCE DIMENSIONS UNLESS TOLERANCES.
3. INSULATOR MATERIAL: NYLON 46.
4. CONTACT MATERIAL: COPPER ALLOY, SELECTIVE GOLD OVER NICKEL TIN PLATED ON TAILS.
5. BRACKETS: COPPER ALLOY, TIN PLATED.
6. OUTLINE OF CONNECTOR.
7. PACKING TAPE AND REEL, QUANTITY 1400 PER REEL.
8. OPTIONAL RETAINING CLIP, SEE PAGE 8.

4 WAY PCB BOARD LAYOUT



PACKING DETAILS

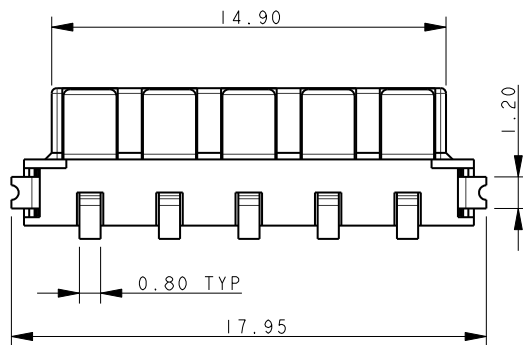
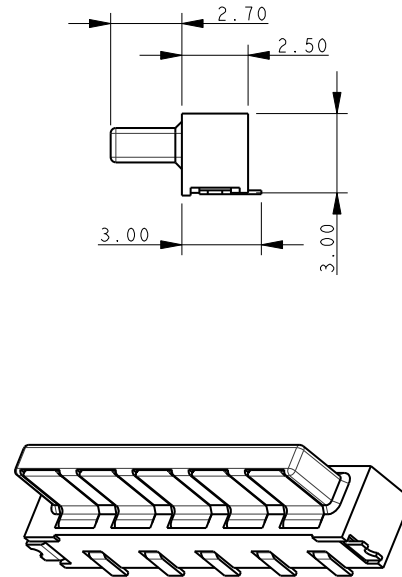
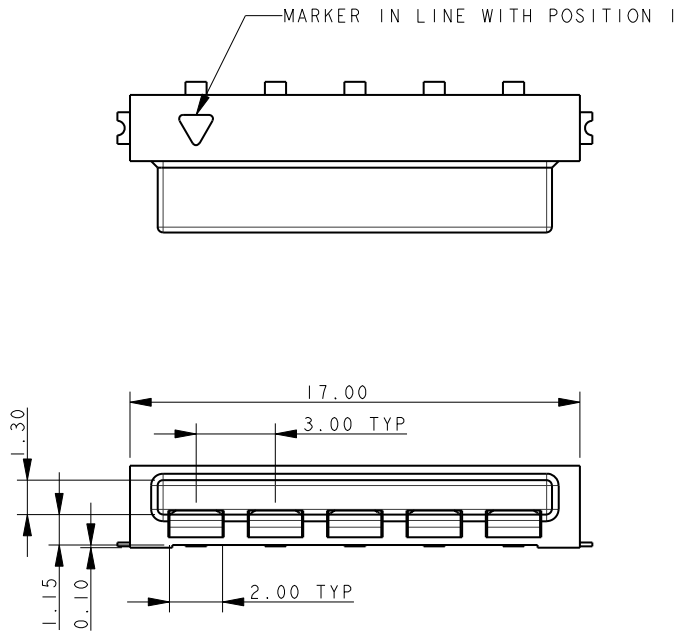


SSL - Horizontal Plug



Series 9159

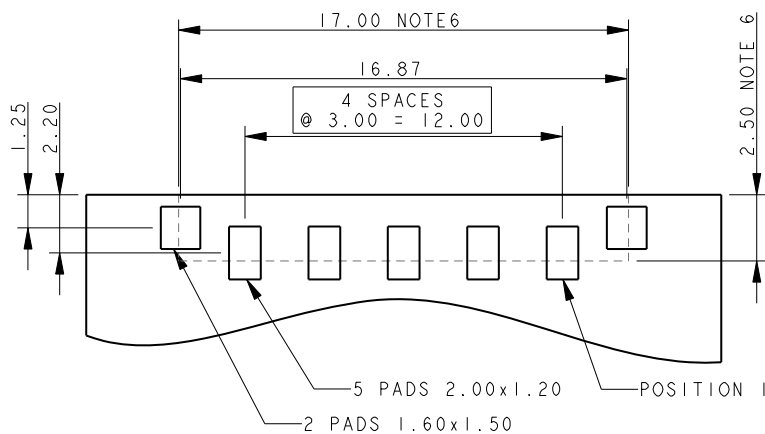
PLUG 5 WAY 2 PART PCB STRIP CONNECTOR



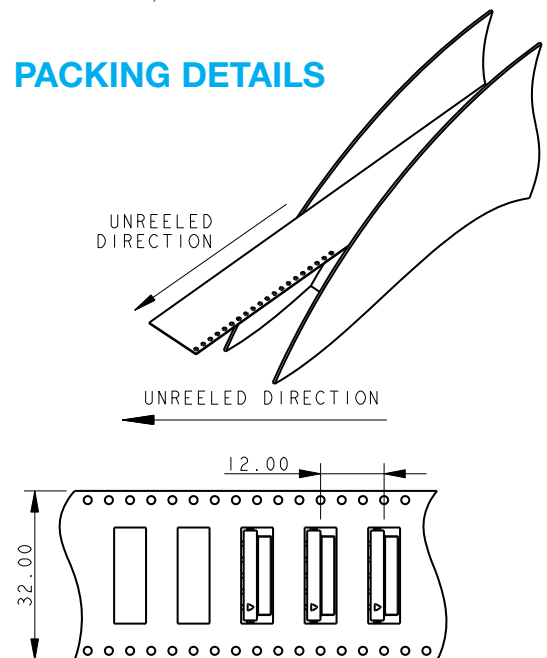
NOTES:

1. FOR MORE INFORMATION REFER TO PRODUCT SPEC 201-01-119.
2. DIMENSIONS ARE REFERENCE DIMENSIONS UNLESS TOLERANCES.
3. INSULATOR MATERIAL: NYLON 46.
4. CONTACT MATERIAL: COPPER ALLOY, SELECTIVE GOLD OVER NICKEL TIN PLATED ON TAILS.
5. BRACKETS: COPPER ALLOY, TIN PLATED.
6. OUTLINE OF CONNECTOR.
7. PACKING TAPE AND REEL, QUANTITY 1400 PER REEL.
8. OPTIONAL RETAINING CLIP, SEE PAGE 8.

5 WAY PCB BOARD LAYOUT



PACKING DETAILS

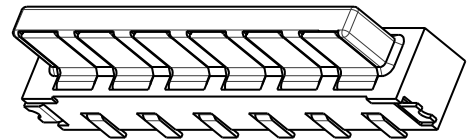
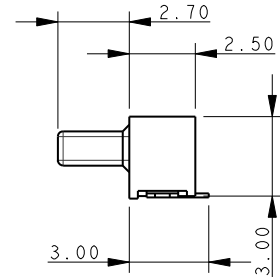
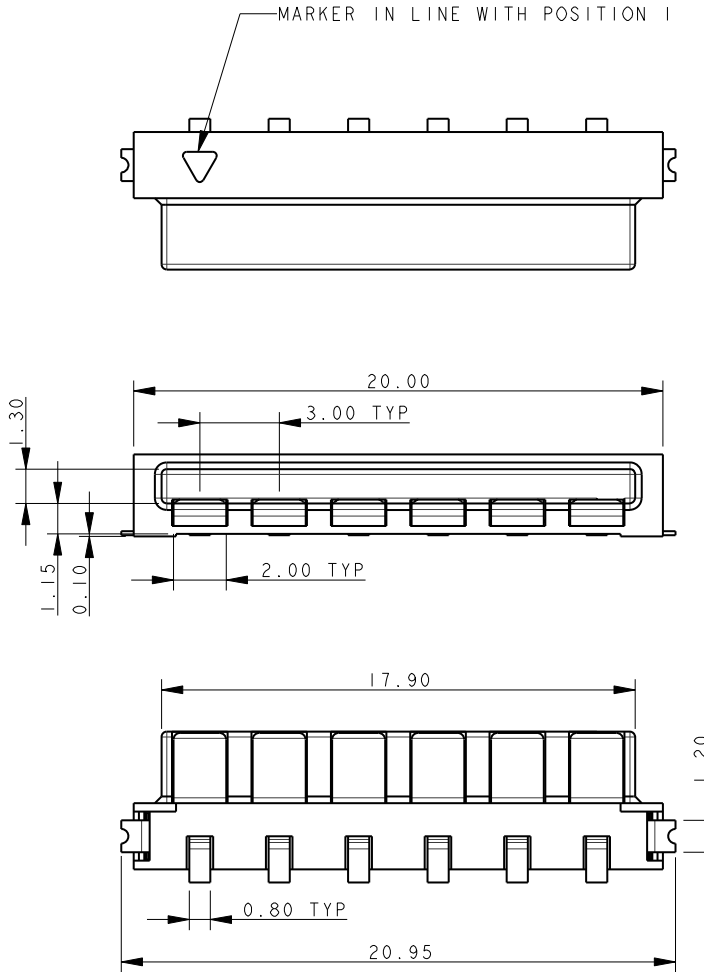


SSL - Horizontal Plug

Series 9159



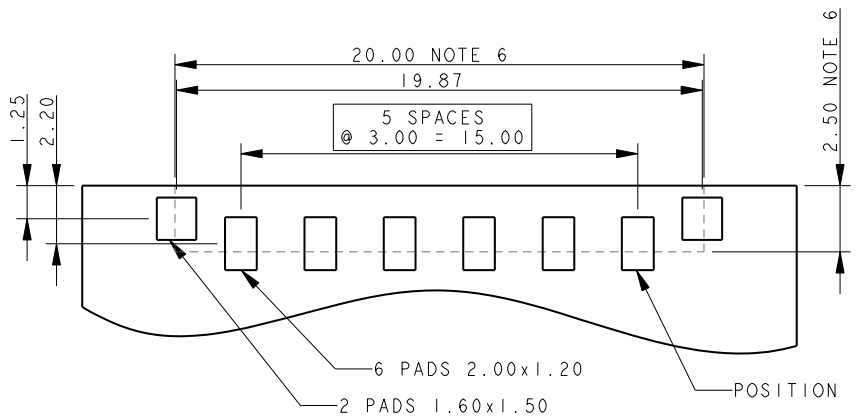
PLUG 6 WAY 2 PART PCB STRIP CONNECTOR



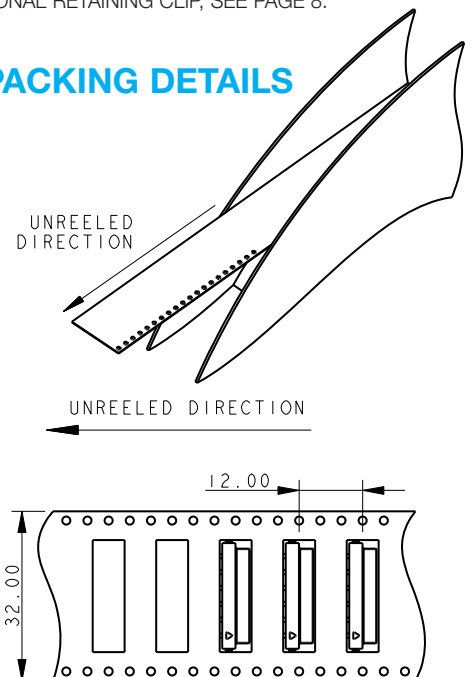
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2. DIMENSIONS ARE REFERENCE DIMENSIONS UNLESS TOLERANCES.
3. INSULATOR MATERIAL: NYLON 46.
4. CONTACT MATERIAL: COPPER ALLOY, SELECTIVE GOLD OVER NICKEL TIN PLATED ON TAILS.
5. BRACKETS: COPPER ALLOY, TIN PLATED.
6. OUTLINE OF CONNECTOR.
7. PACKING TAPE AND REEL, QUANTITY 1400 PER REEL.
8. OPTIONAL RETAINING CLIP, SEE PAGE 8.

6 WAY PCB BOARD LAYOUT



PACKING DETAILS

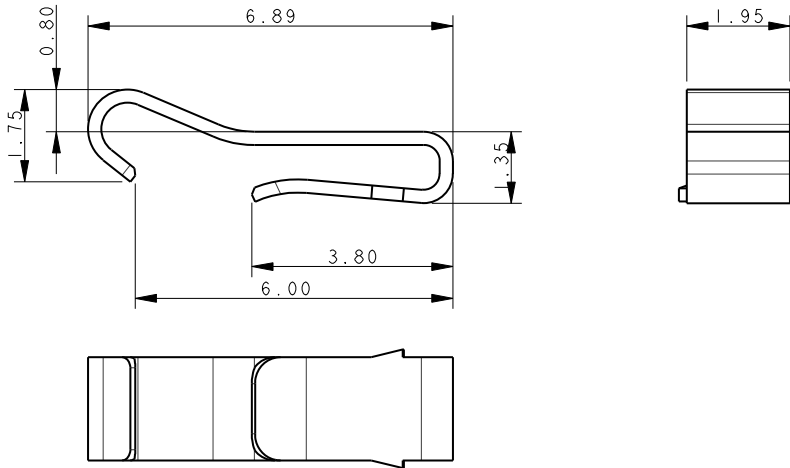


SSL - Horizontal Plug



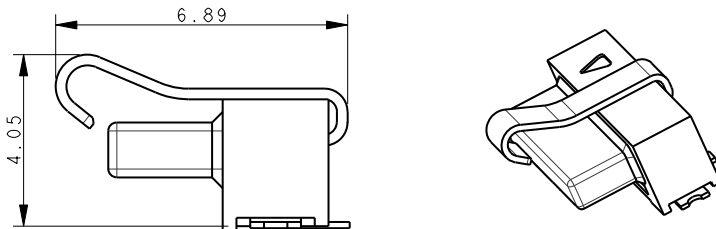
Series 9159

80-9159-4200-00-000 ACCESSORY RETAINING CLIP



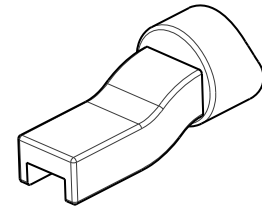
PLUG ASSEMBLY – FOR REFERENCE ONLY

CLIP INSERTED INTO 10-9159-00X-101-X06



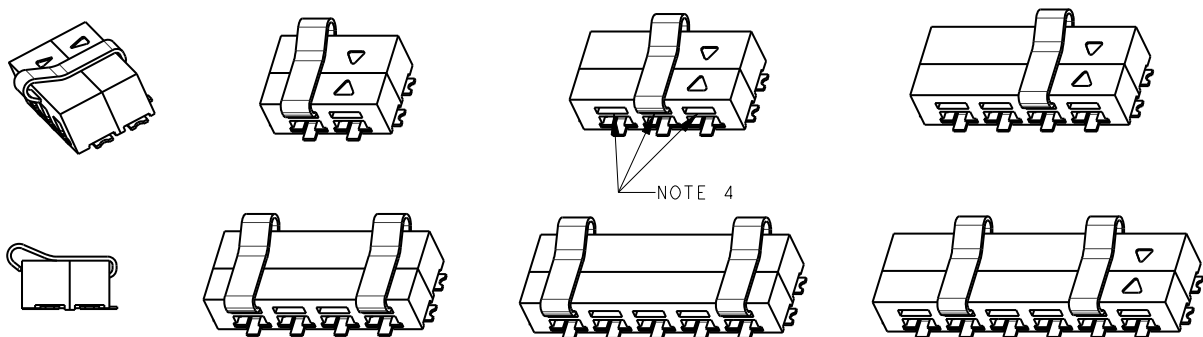
HAND INSERTION TOOL

06-9159-7025-01-000



MATED ASSEMBLY – FOR REFERENCE ONLY

10-9159-00X-101-X06 MATED WITH 20-9159-00X-X06



NOTES:

1. CLIP TO RETAIN MATED PAIR PLUG AND SOCKET. NOT SUPPLIED WITH CONNECTOR.
2. MATERIAL: STAINLESS STEEL.
3. PACKING IN BAGS, 1400 PER BAG.
4. TAIL INSERTED INTO SLOT OF 9159 2 PART PLUG (10-9159-00X-101-006). LEADING EDGE CLIPS OVER SOCKET.
5. ALL DIMENSIONS SHOWN ARE REFERENCE DIMENSIONS.
6. RECOMMENDED 1 CLIP IN 2, 3 AND 4 WAY. 2 CLIPS IN 5 AND 6 WAY. POSITIONS AT CUSTOMER DISCRETION.

SSL - Cable Plug



Series 9159



The 9159 series of Board-to-Board interconnect system allows two PCB's to be mated end-to-end creating strips of LED lighting. Designed specifically for the unique Solid State Lighting (SSL) market requiring coplanar (horizontal-to-horizontal) PCB mating with a 5 Amp current rating in the smallest package available. The cabled plug was developed to bring power and signals onto the PCB's while keeping the same board level interface. This allows the designer to build a single PCB with a receptacle on one end and a plug on the other end to minimize cost and inventory. Regardless of where the PCB is used in the system, the cabled plug connector will then create the connection to the outside world. The optional latch can be inserted into the plug housing to assure positive attachment to the PCB in harsh environments without having to change the PCB connector.

Additional components in the 9159 product family include:

- SSL - Horizontal Plug; Standard 2-Piece solution (10-9159)
- SSL - Horizontal Socket; Standard 2-Piece solution (20-9159)
- SSL - Top Load Socket; ZIF style for field reparability (22-9159)
- SSL - Shorting Socket; Two position (58-9159)
- SSL - Retaining Clip; Latches BTB connectors together (80-9159)

APPLICATIONS

- Provided Wire-to-Board capabilities to standard 9159 2-Piece connector system
- Application Notes; refer to 201-01-123

FEATURES AND BENEFITS

- Mates with standard horizontal socket; no need to change any connectors
- 5 Amp current rating; exceeds general market needs
- Wires are soldered into connector with tie wrap strain relief; simplicity
- Optional latch; provides positive attachment to PCB connector
- Available in white; supports SSL market preferences

ELECTRICAL

- Current Rating: 5 Amps / Contact
- Voltage Rating: 125 VAC

ENVIRONMENTAL

- Operating Temperature: -40°C to +125°C

MECHANICAL

- Insulator Material: Nylon: VL94VO
- Contact Material: BeCu / Phos Bronze
- Plating: Gold / Tin over Nickel
- Durability: 10 Cycles

HOW TO ORDER

11	9159	XXX	1	01	X	16																														
Prefix	Series	Number of Ways	2 Part PCB Strip Connector	Connector Pitch	Color Options	Plating Option																														
Wire Plug Soldered Terminations		<table border="1"> <thead> <tr> <th>Code</th> <th>No of Ways</th> <th>Details</th> </tr> </thead> <tbody> <tr><td>002</td><td>2</td><td>Page 10</td></tr> <tr><td>003</td><td>3</td><td>Page 11</td></tr> <tr><td>004</td><td>4</td><td>Page 12</td></tr> <tr><td>005</td><td>5</td><td>Page 13</td></tr> <tr><td>006</td><td>6</td><td>Page 14</td></tr> </tbody> </table>	Code	No of Ways	Details	002	2	Page 10	003	3	Page 11	004	4	Page 12	005	5	Page 13	006	6	Page 14	01 = 3mm	<table border="1"> <thead> <tr> <th>Code</th> <th>Color</th> <th>Application</th> </tr> </thead> <tbody> <tr><td>0</td><td>Black</td><td>Industrial</td></tr> <tr><td>1</td><td>White</td><td>Lighting</td></tr> </tbody> </table>	Code	Color	Application	0	Black	Industrial	1	White	Lighting	<table border="1"> <thead> <tr> <th>Code</th> <th>Contact</th> </tr> </thead> <tbody> <tr><td>16</td><td>Gold in Contact Area Tin on Solder Tail</td></tr> </tbody> </table>	Code	Contact	16	Gold in Contact Area Tin on Solder Tail
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Code	Contact																																			
16	Gold in Contact Area Tin on Solder Tail																																			
		Optional Cover See page 15 for ordering code																																		
		Optional Latch See page 16 for ordering code																																		

NOTES: Connectors are supplied with cable ties (see page 17).
Covers/Latches are sold separately (see pages 15-16 for ordering codes).

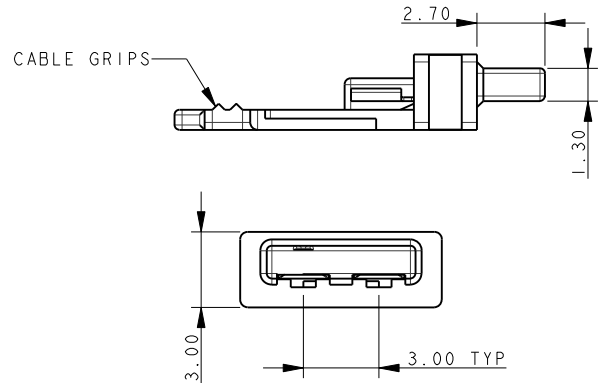
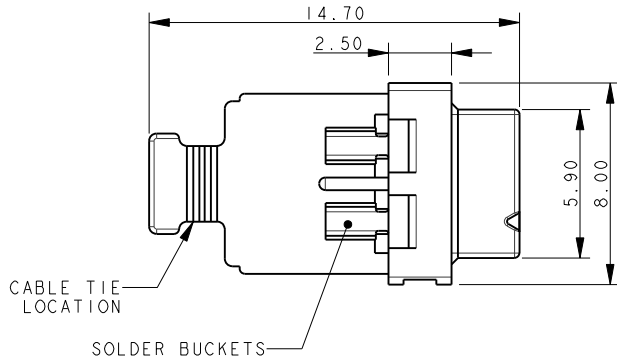


SSL - Cable Plug



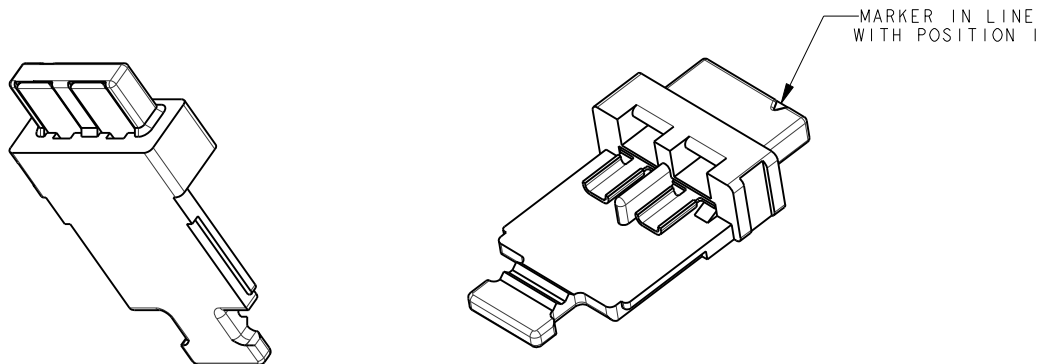
Series 9159

PLUG WIRED 2 WAY 2 PART 9159 LIGHTING CONNECTOR

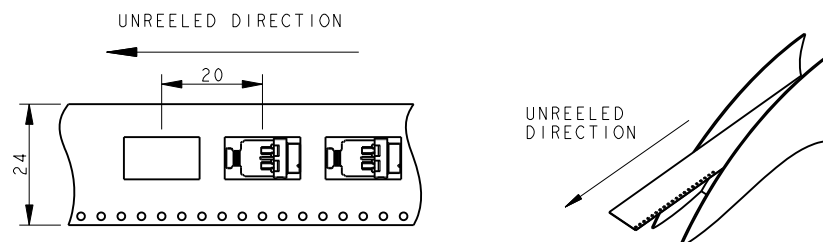


NOTES:

1. FOR MORE INFORMATION REFER TO PRODUCT SPEC 201-01-119.
2. CABLE TIE SUPPLIED FOR WIRE RETENTION, ATTACHED TO EACH REEL. SPARES CAN BE ORDERED, REFER TO PAGE 17.
3. DIMENSIONS ARE REFERENCE DIMENSIONS UNLESS TOLERANCED.
4. INSULATOR MATERIAL: NYLON 46. COLOR REFER TO PAGE 9.
5. CONTACT MATERIAL: COPPER ALLOY, SELECTIVE GOLD OVER NICKEL TIN PLATED ON TAILS.
6. PACKING IN TAPE AND REEL, QUANTITY PER REEL 700.
7. FOR ACCESSORY COVERS AND LATCHES REFER TO PAGES 15 AND 16.



PACKING DETAILS CABLE TIES SUPPLIED WITH EACH REEL

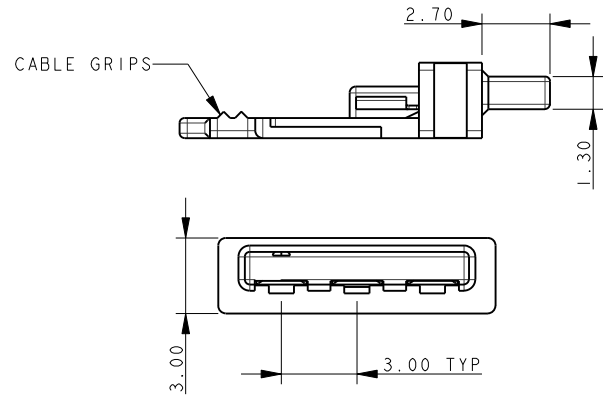
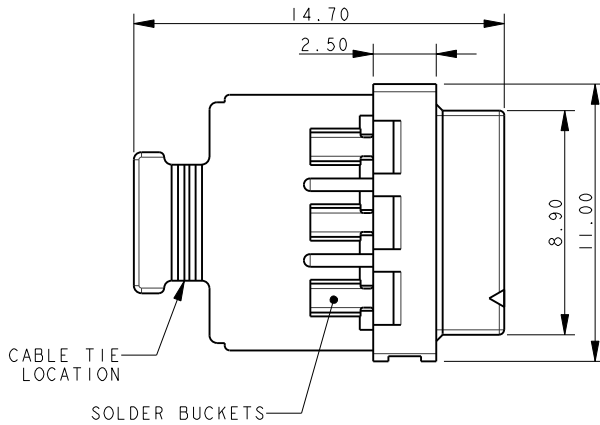


SSL - Cable Plug

Series 9159

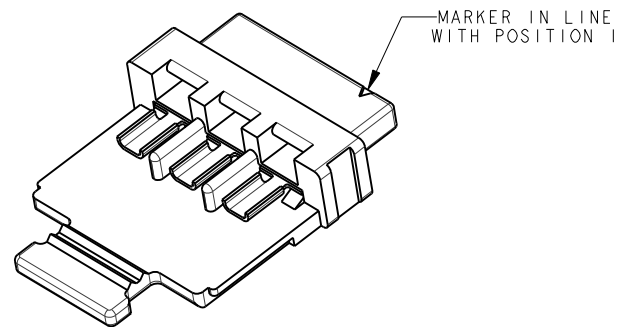
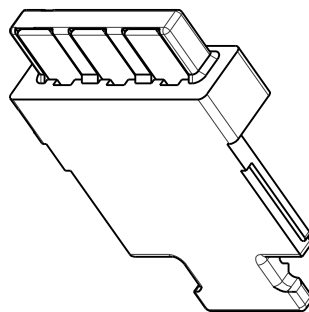


PLUG WIRED 3 WAY 2 PART 9159 LIGHTING CONNECTOR

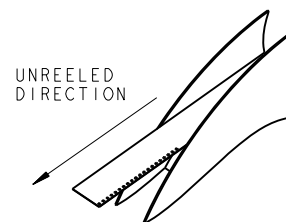
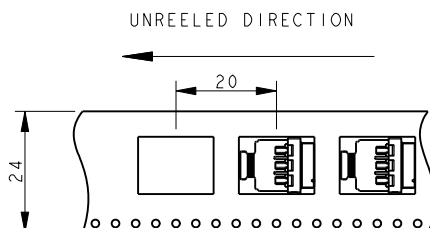


NOTES:

1. FOR MORE INFORMATION REFER TO PRODUCT SPEC 201-01-119.
2. CABLE TIE SUPPLIED FOR WIRE RETENTION, ATTACHED TO EACH REEL. SPARES CAN BE ORDERED, REFER TO PAGE 17.
3. DIMENSIONS ARE REFERENCE DIMENSIONS UNLESS TOLERANCED.
4. INSULATOR MATERIAL: NYLON 46. COLOR REFER TO PAGE 9.
5. CONTACT MATERIAL: COPPER ALLOY, SELECTIVE GOLD OVER NICKEL TIN PLATED ON TAILS.
6. PACKING IN TAPE AND REEL, QUANTITY PER REEL 700.
7. FOR ACCESSORY COVERS AND LATCHES REFER TO PAGES 15 AND 16.



PACKING DETAILS CABLE TIES SUPPLIED WITH EACH REEL

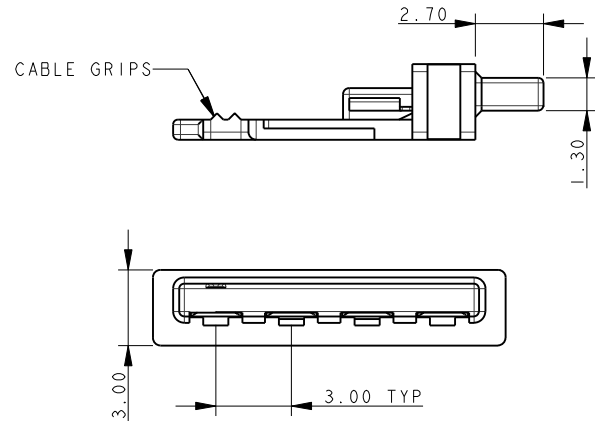
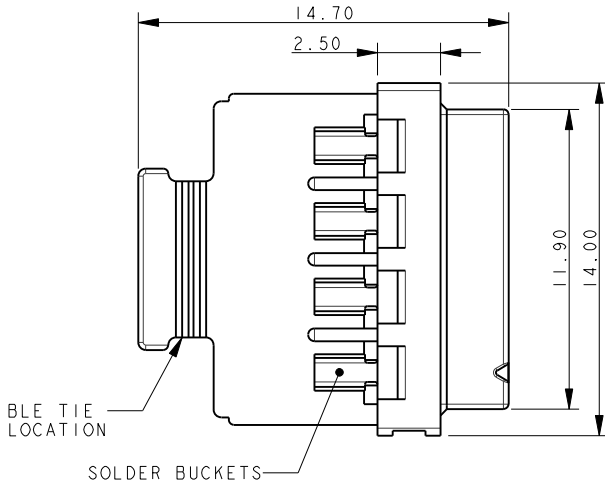


SSL - Cable Plug



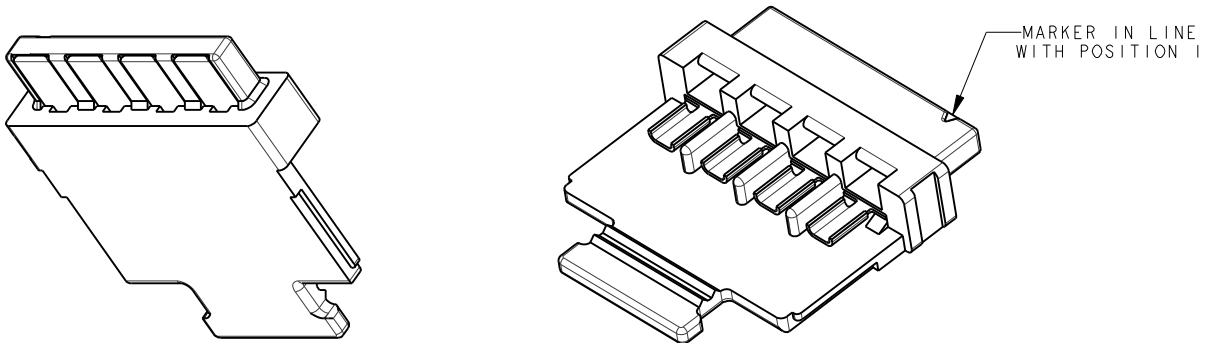
Series 9159

PLUG WIRED 4 WAY 2 PART 9159 LIGHTING CONNECTOR

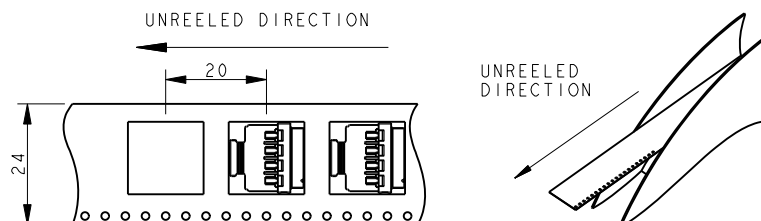


NOTES:

1. FOR MORE INFORMATION REFER TO PRODUCT SPEC 201-01-119.
2. CABLE TIE SUPPLIED FOR WIRE RETENTION, ATTACHED TO EACH REEL. SPARES CAN BE ORDERED, REFER TO PAGE 17.
3. DIMENSIONS ARE REFERENCE DIMENSIONS UNLESS TOLERANCED.
4. INSULATOR MATERIAL: NYLON 46. COLOR REFER TO PAGE 9.
5. CONTACT MATERIAL: COPPER ALLOY, SELECTIVE GOLD OVER NICKEL TIN PLATED ON TAILS.
6. PACKING IN TAPE AND REEL, QUANTITY PER REEL 700.
7. FOR ACCESSORY COVERS AND LATCHES REFER TO PAGES 15 AND 16.



PACKING DETAILS CABLE TIES SUPPLIED WITH EACH REEL

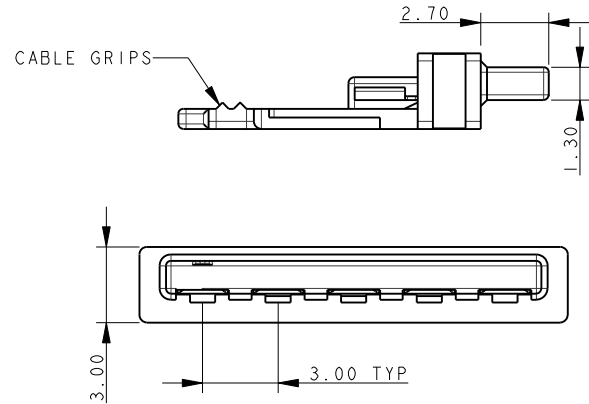
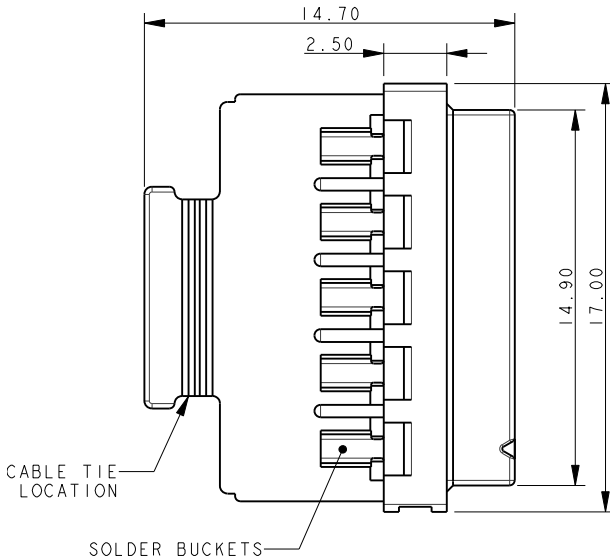


SSL - Cable Plug

Series 9159

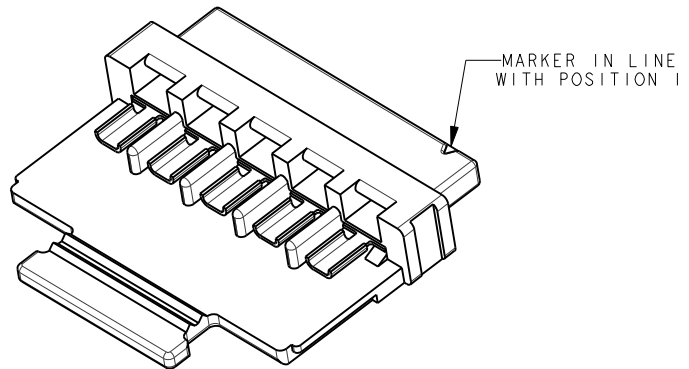
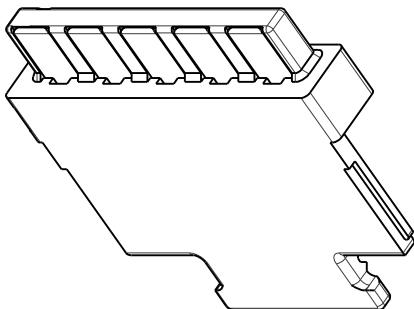


PLUG WIRED 5 WAY 2 PART 9159 LIGHTING CONNECTOR

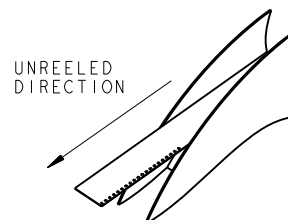
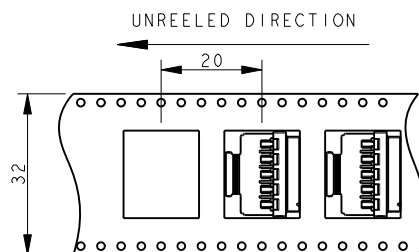


NOTES:

1. FOR MORE INFORMATION REFER TO PRODUCT SPEC 201-01-119.
2. CABLE TIE SUPPLIED FOR WIRE RETENTION, ATTACHED TO EACH REEL. SPARES CAN BE ORDERED, REFER TO PAGE 17.
3. DIMENSIONS ARE REFERENCE DIMENSIONS UNLESS TOLERANCED.
4. INSULATOR MATERIAL: NYLON 46. COLOR REFER TO PAGE 9.
5. CONTACT MATERIAL: COPPER ALLOY, SELECTIVE GOLD OVER NICKEL TIN PLATED ON TAILS.
6. PACKING IN TAPE AND REEL, QUANTITY PER REEL 700.
7. FOR ACCESSORY COVERS AND LATCHES REFER TO PAGES 15 AND 16.



PACKING DETAILS CABLE TIES SUPPLIED WITH EACH REEL

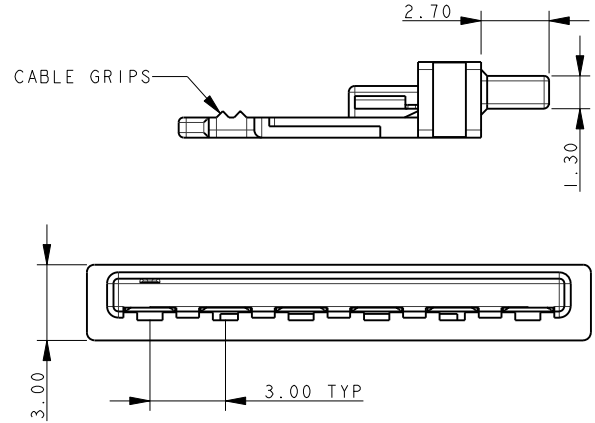
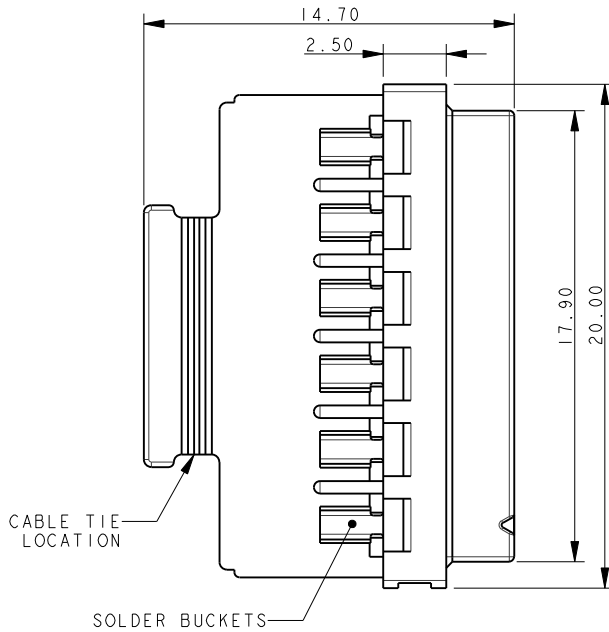


SSL - Cable Plug



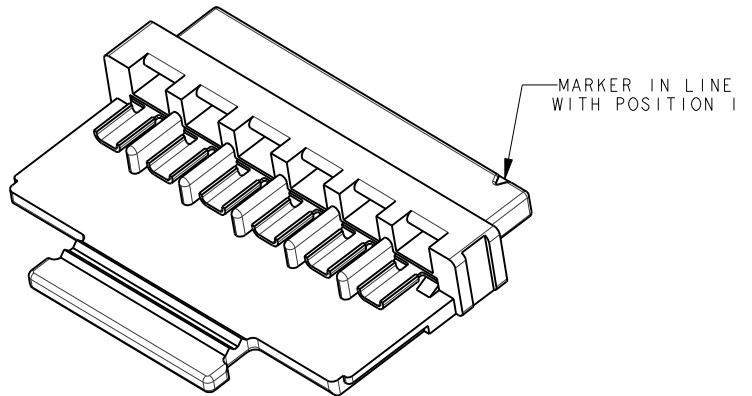
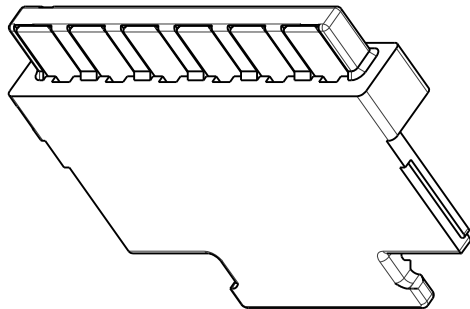
Series 9159

PLUG WIRED 6 WAY 2 PART 9159 LIGHTING CONNECTOR

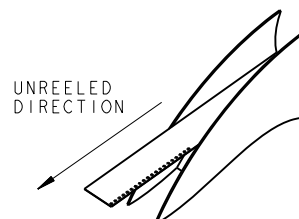
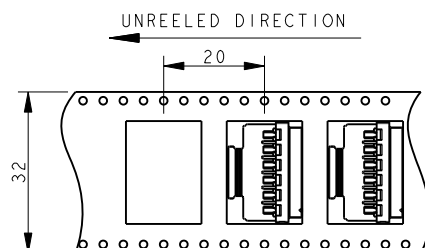


NOTES:

1. FOR MORE INFORMATION REFER TO PRODUCT SPEC 201-01-119.
2. CABLE TIE SUPPLIED FOR WIRE RETENTION, ATTACHED TO EACH REEL. SPARES CAN BE ORDERED, REFER TO PAGE 17.
3. DIMENSIONS ARE REFERENCE DIMENSIONS UNLESS TOLERANCED.
4. INSULATOR MATERIAL: NYLON 46. COLOR REFER TO PAGE 9.
5. CONTACT MATERIAL: COPPER ALLOY, SELECTIVE GOLD OVER NICKEL TIN PLATED ON TAILS.
6. PACKING IN TAPE AND REEL, QUANTITY PER REEL 700.
7. FOR ACCESSORY COVERS AND LATCHES REFER TO PAGES 15 AND 16.

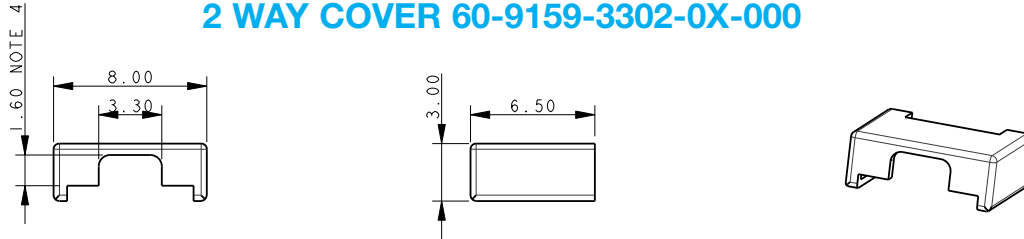


PACKING DETAILS CABLE TIES SUPPLIED WITH EACH REEL

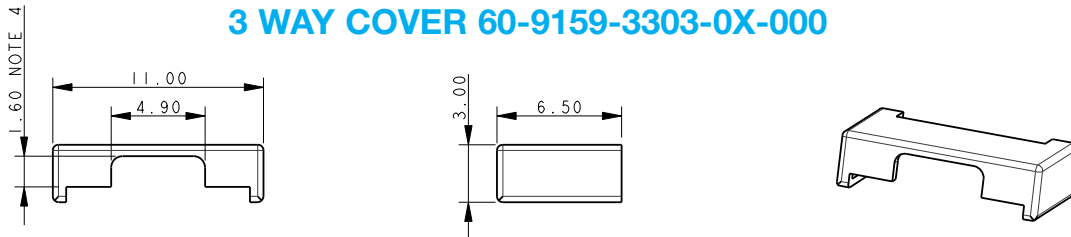


PLUG WIRED COVERS ACCESSORY NOT SUPPLIED WITH CONNECTOR ASSEMBLY

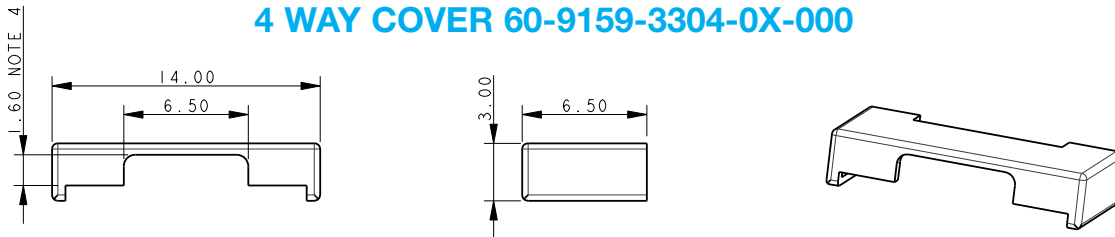
2 WAY COVER 60-9159-3302-0X-000



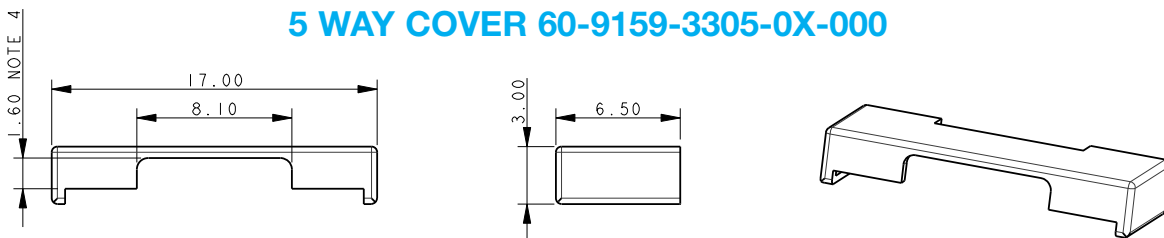
3 WAY COVER 60-9159-3303-0X-000



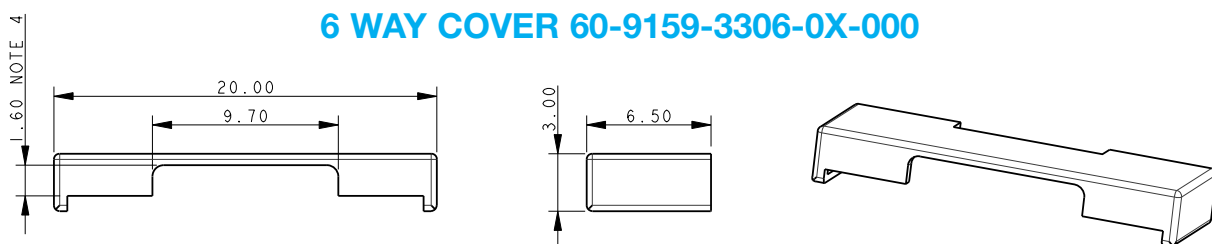
4 WAY COVER 60-9159-3304-0X-000



5 WAY COVER 60-9159-3305-0X-000



6 WAY COVER 60-9159-3306-0X-000



NOTES:

1. COVER (SLIDE ON) AVAILABLE TO PROTECT CABLE ENTRY.
2. OPTION COMPONENT. ORDER SEPARATELY.
3. PACKED IN BAGS, 1400 PIECES PER BAG.
4. MAXIMUM OUTER WIRE SIZE, 1.6MM DIAMETER INSULATION.
5. MATERIAL: GLASS FILLED NYLON 46. COLOR REFER TO PAGE 9.
6. COLOR OPTIONS SEE PAGE 9.
7. ALL DIMENSIONS ARE REFERENCED DIMENSIONS.
8. TO BE ASSEMBLED BEFORE CABLE TIE.

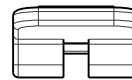
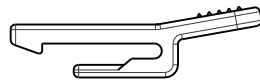
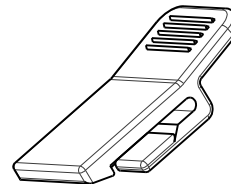
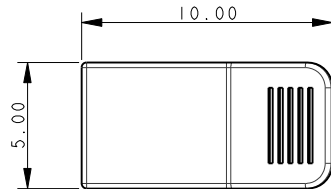
SSL - Cable Plug



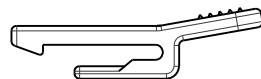
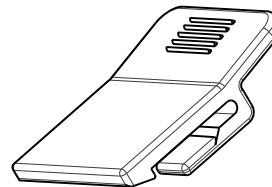
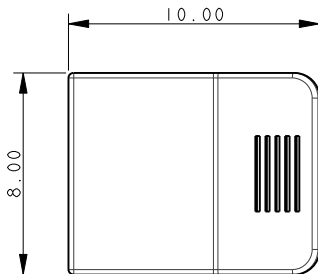
Series 9159

PLUG WIRED LATCHES ACCESSORY NOT SUPPLIED WITH CONNECTOR ASSEMBLY

LATCH 60-9159-3402-0X-000 USED ON 2, 4 AND 6 WAY ASSEMBLIES



LATCH 60-9159-3403-0X-000 USED ON 3 AND 5 WAY ASSEMBLIES



NOTES:

1. LATCH AVAILABLE TO RETAIN MATED PLUG.
2. OPTIONAL COMPONENT, ORDER SEPARATELY. SEE PAGE 17.
3. PACKAGED IN BAGS, 1400 PIECES PER BAG.
4. MATERIAL: GLASS FILLED NYLON 46. COLOR REFER TO PAGE 9.
5. ALL DIMENSIONS ARE REFERENCED DIMENSIONS.
6. TO BE ASSEMBLED BEFORE COVER.

SSL - Cable Plug



Series 9159

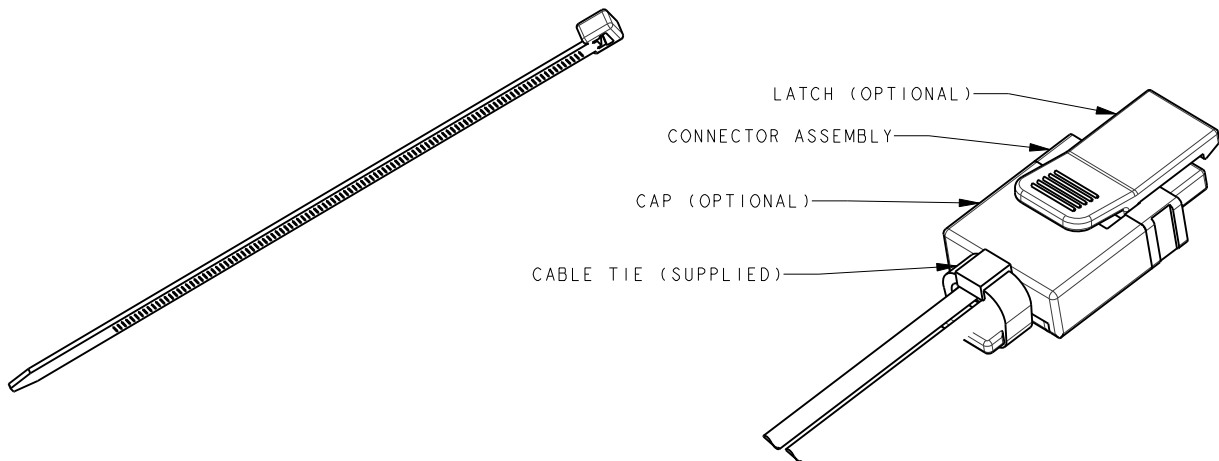
PLUG WIRED ACCESSORY ORDERING CODES

Connector Assembly Part Number	Optional Components Cover (see page 7)	Latch (see page 8)
11-9159-002-101-X16	60-9159-3302-0X-000	60-9159-3402-0X-000
11-9159-003-101-X16	60-9159-3303-0X-000	60-9159-3403-0X-000
11-9159-004-101-X16	60-9159-3304-0X-000	60-9159-3402-0X-000
11-9159-005-101-X16	60-9159-3305-0X-000	60-9159-3403-0X-000
11-9159-006-101-X16	60-9159-3306-0X-000	60-9159-3402-0X-000

"X" For color option refer to table on page 1.

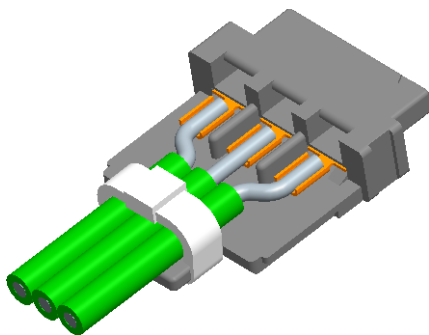
CABLE TIE

Supplied in bags with each reel of connector assemblies. Color White.
For additional ties order code 90-2211-7092-00-000. Packed in bags, 700 pieces per bag.

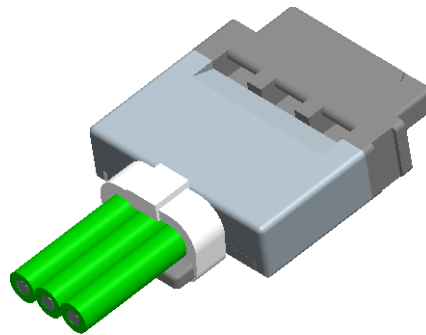


PLUG WIRED 3 ASSEMBLED OPTIONS

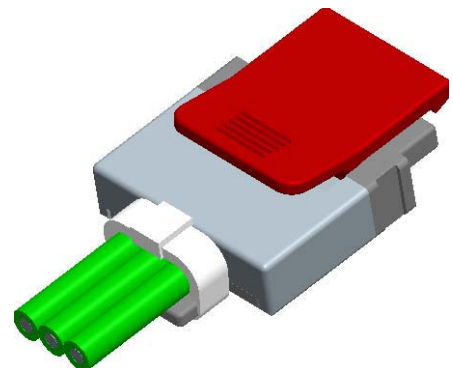
PLUG ASSEMBLY



PLUG ASSEMBLY WITH COVER



PLUG ASSEMBLY WITH COVER AND LATCH



SSL - Horizontal Socket



Series 9159



The 9159 series of Board-to-Board interconnect system allows two PCB's to be mated end-to-end creating strips of LED lighting. Designed specifically for the unique Solid State Lighting (SSL) market requiring coplanar (horizontal-to-horizontal) PCB mating with a 5 Amp current rating in the smallest package available. These single sided SMT connectors are perfect for both FR4 and metal boards where you need to butt the boards up together to minimize separation. Availability of both white and black insulation colors make them perfect for lighting as well as industrial applications. With sizes from 2p-6p, these high reliability connectors boast gold plated beryllium copper receptacle contacts for harsh environments.

Additional components in the 9159 product family include:

- SSL - Horizontal Plug; Standard 2-Piece solution (10-9159)
- SSL - Cabled Plug; Supports wire-to-board applications (11-9159)
- SSL - Top Load Socket; ZIF style for field reparability (22-9159)
- SSL - Shorting Socket; Two position (58-9159)
- SSL - Retaining Clip; Latches BTB connectors together (80-9159)

APPLICATIONS

- Coplanar PCB mating in SSL products
- LED linear lighting strips
- Application Notes; refer to 201-01-123

FEATURES AND BENEFITS

- Single sided SMT; supports FR4 and metal PCB's
- 5 Amp current rating; exceeds general market needs
- 5.5mm mated width; minimizes PCB space to decrease LED pitch
- Gold plated BeCu spring contacts; reliability for harsh environments
- Optional retaining clip; provides positive connector mating during vibration
- Available in white; supports SSL market preferences

ELECTRICAL

- Current Rating: 5 Amps / Contact
- Voltage Rating: 125 VAC

ENVIRONMENTAL

- Operating Temperature: -40°C to +125°C

MECHANICAL

- Insulator Material: Nylon: VL94VO
- Contact Material: BeCu / Phos Bronze
- Plating: Gold / Tin over Nickel
- Durability: 10 Cycles

HOW TO ORDER

20
Prefix
Socket

9159
Series

XXX
Number of Ways

Code	No of Ways	Details
002	2	Page 19
003	3	Page 20
004	4	Page 21
005	5	Page 22
006	6	Page 23

1
2 Part
PCB Strip
Connector

01
Connector
Pitch
01 = 3mm

X
Color Options

Code	Color	Application
0	Black	Industrial
1	White	Lighting

16
Plating Option

Code	Contact	Bracket
16	Gold in Contact Area Gold on Solder Tail	Tin all over

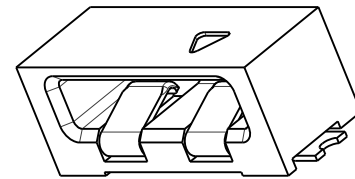
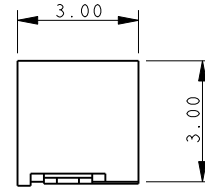
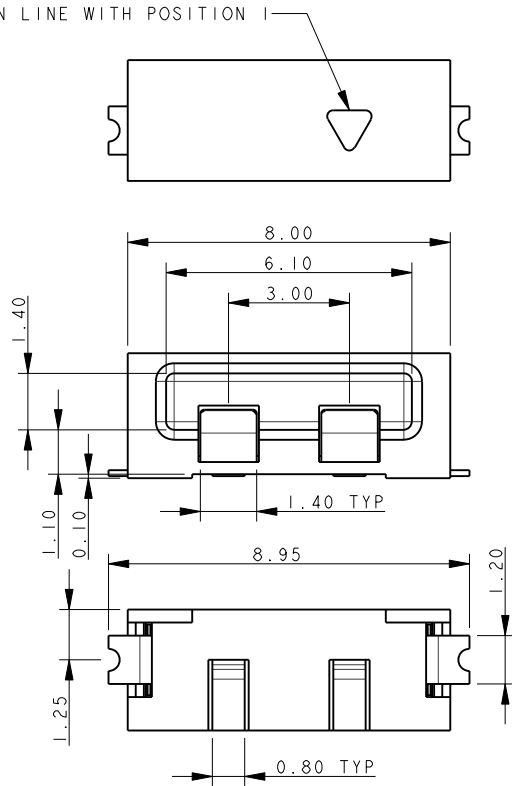
SSL - Horizontal Socket



Series 9159

SOCKET 2 WAY 2 PART PCB STRIP CONNECTOR

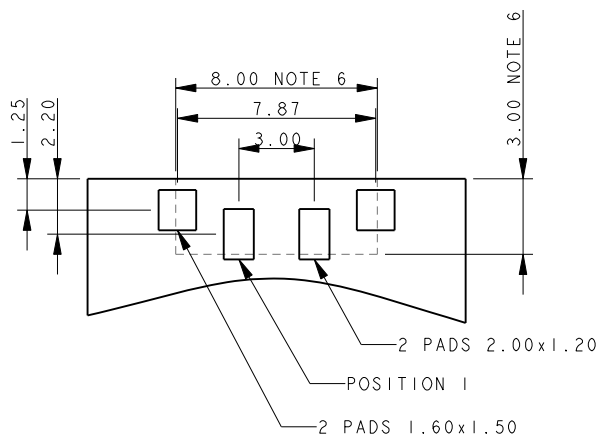
MARKER IN LINE WITH POSITION I



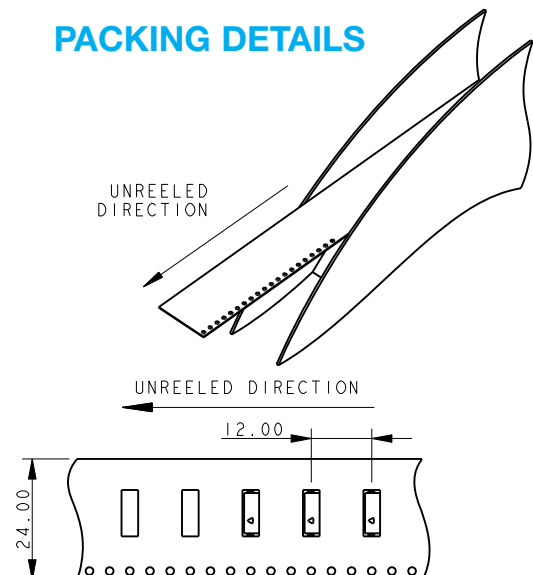
NOTES:

1. FOR MORE INFORMATION REFER TO PRODUCT SPEC 201-01-119.
2. DIMENSIONS ARE REFERENCE DIMENSIONS UNLESS TOLERANCES.
3. INSULATOR MATERIAL: NYLON 46. COLOR REFER TO PAGE 18.
4. CONTACT MATERIAL: COPPER ALLOY, GOLD OVER NICKEL.
5. BRACKETS: COPPER ALLOY, TIN PLATED.
6. OUTLINE OF CONNECTOR.
7. PACKING TAPE AND REEL, QUANTITY 1400 PER REEL.

2 WAY PCB BOARD LAYOUT



PACKING DETAILS

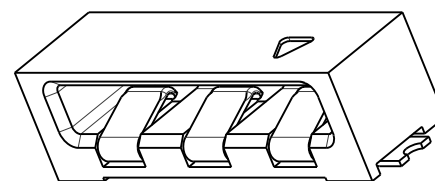
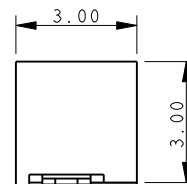
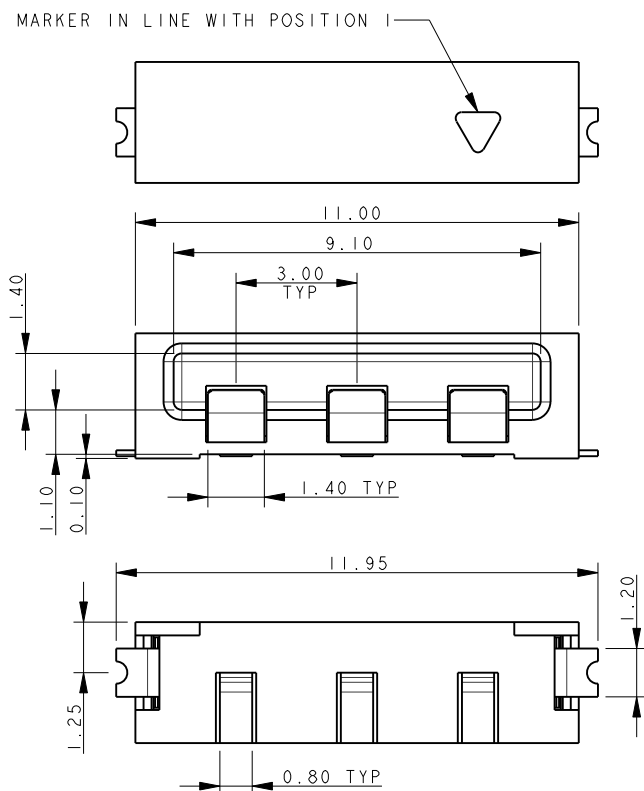


SSL - Horizontal Socket



Series 9159

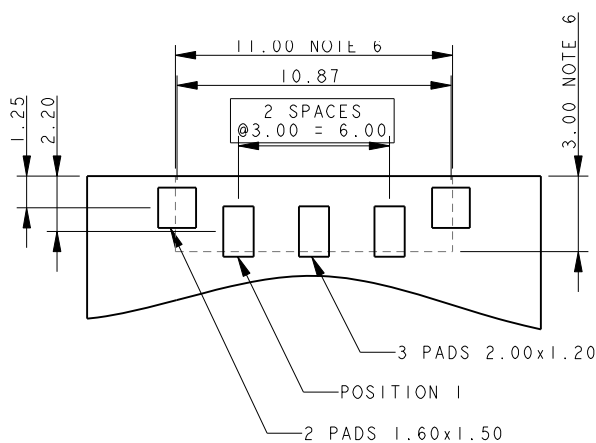
SOCKET 3 WAY 2 PART PCB STRIP CONNECTOR



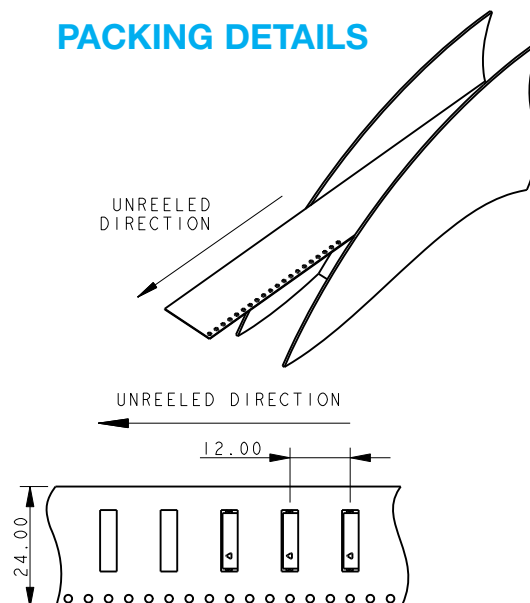
NOTES:

1. FOR MORE INFORMATION REFER TO PRODUCT SPEC 201-01-119.
2. DIMENSIONS ARE REFERENCE DIMENSIONS UNLESS TOLERANCES.
3. INSULATOR MATERIAL: NYLON 46. COLOR REFER TO PAGE 18.
4. CONTACT MATERIAL: COPPER ALLOY, GOLD OVER NICKEL.
5. BRACKETS: COPPER ALLOY, TIN PLATED.
6. OUTLINE OF CONNECTOR.
7. PACKING TAPE AND REEL, QUANTITY 1400 PER REEL.

3 WAY PCB BOARD LAYOUT



PACKING DETAILS

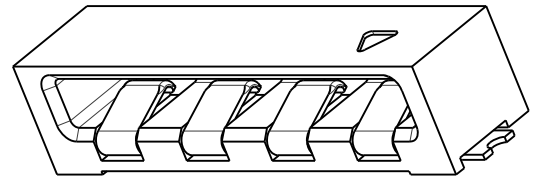
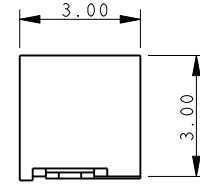
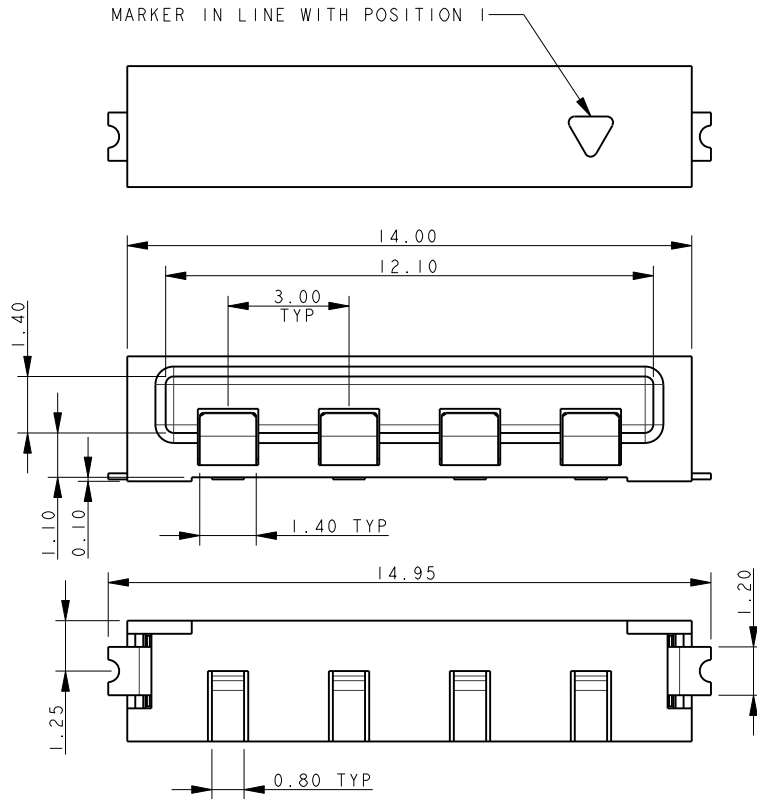


SSL - Horizontal Socket



Series 9159

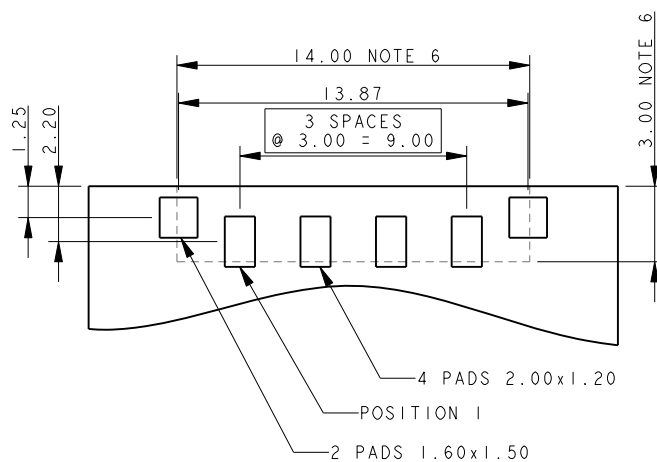
SOCKET 4 WAY 2 PART PCB STRIP CONNECTOR



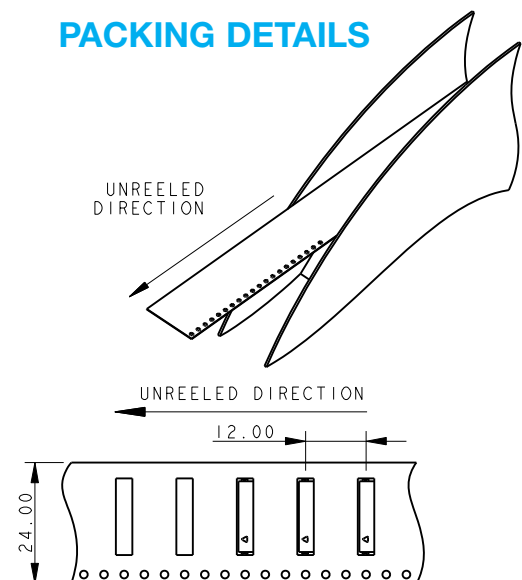
NOTES:

1. FOR MORE INFORMATION REFER TO PRODUCT SPEC 201-01-119.
2. DIMENSIONS ARE REFERENCE DIMENSIONS UNLESS TOLERANCES.
3. INSULATOR MATERIAL: NYLON 46. COLOR REFER TO PAGE 18.
4. CONTACT MATERIAL: COPPER ALLOY, GOLD OVER NICKEL.
5. BRACKETS: COPPER ALLOY, TIN PLATED.
6. OUTLINE OF CONNECTOR.
7. PACKING TAPE AND REEL, QUANTITY 1400 PER REEL.

4 WAY PCB BOARD LAYOUT



PACKING DETAILS

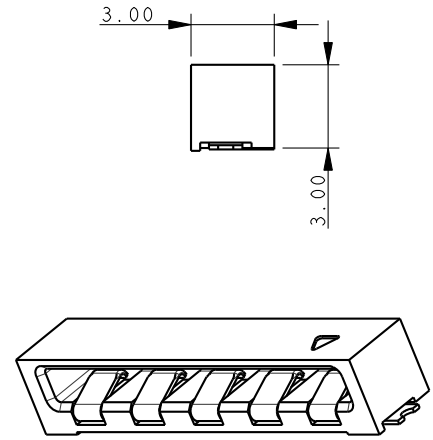
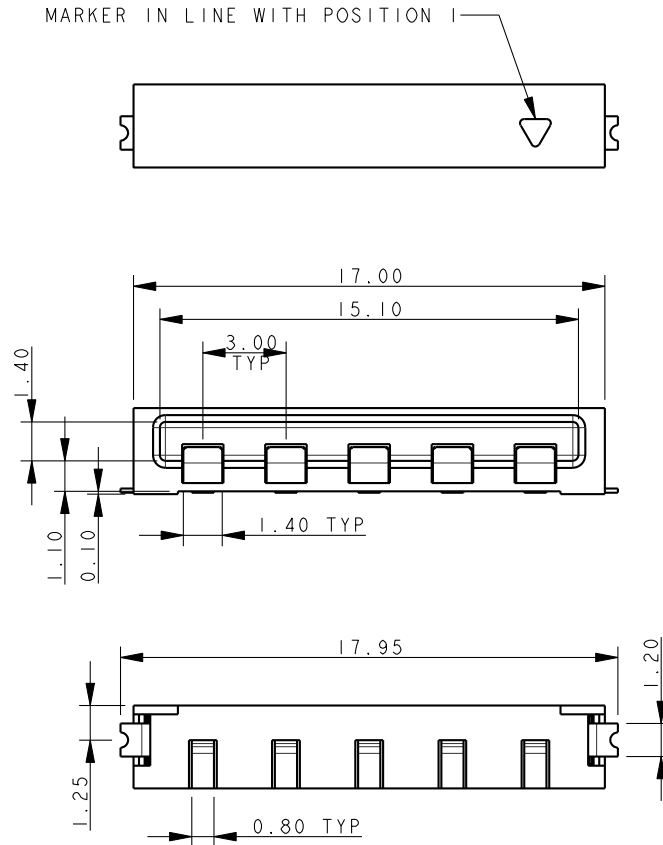


SSL - Horizontal Socket

Series 9159



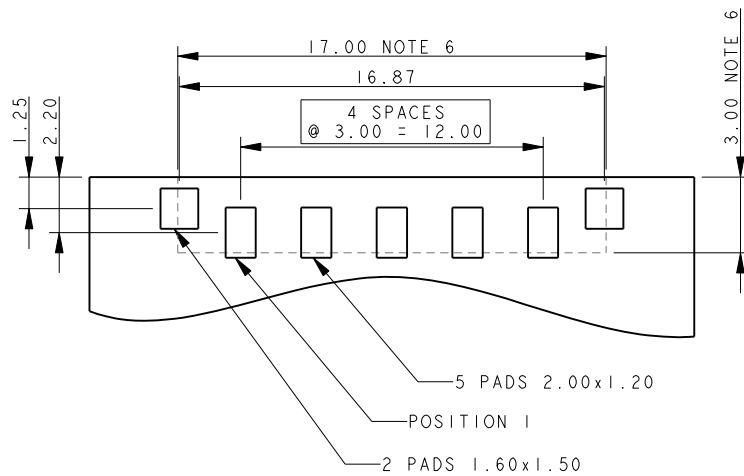
SOCKET 5 WAY 2 PART PCB STRIP CONNECTOR



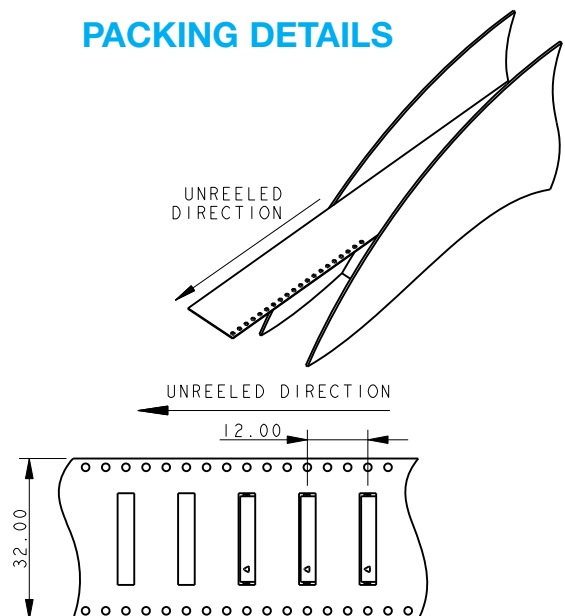
NOTES:

1. FOR MORE INFORMATION REFER TO PRODUCT SPEC 201-01-119.
2. DIMENSIONS ARE REFERENCE DIMENSIONS UNLESS TOLERANCES.
3. INSULATOR MATERIAL: NYLON 46. COLOR REFER TO PAGE 18.
4. CONTACT MATERIAL: COPPER ALLOY, GOLD OVER NICKEL.
5. BRACKETS: COPPER ALLOY, TIN PLATED.
6. OUTLINE OF CONNECTOR.
7. PACKING TAPE AND REEL, QUANTITY 1400 PER REEL.

5 WAY PCB BOARD LAYOUT



PACKING DETAILS

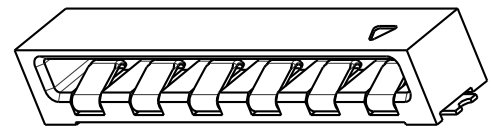
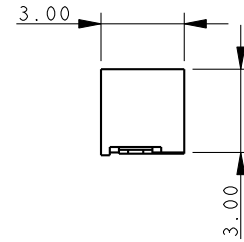
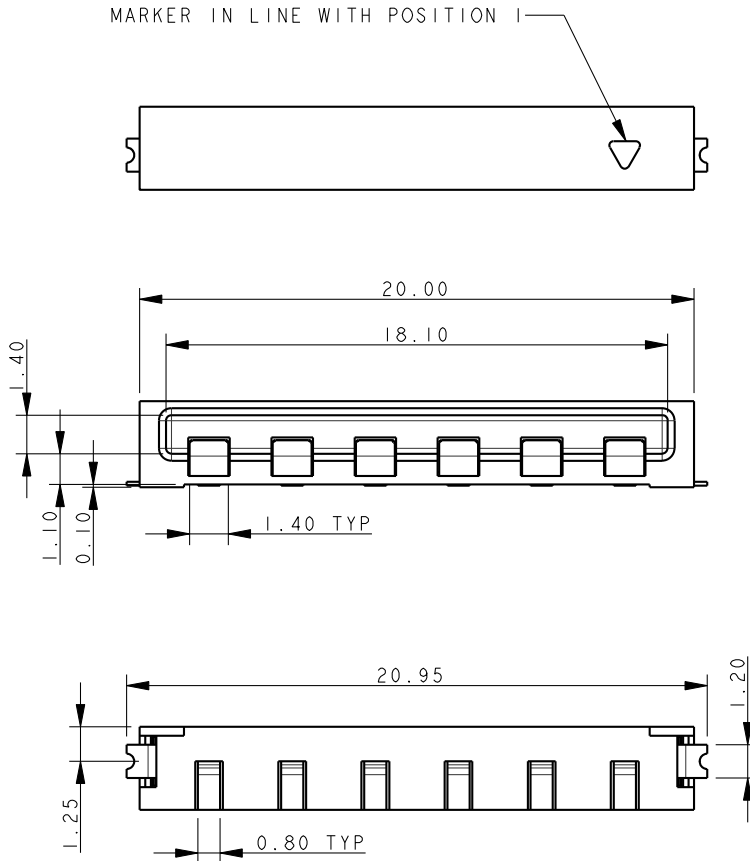


SSL - Horizontal Socket



Series 9159

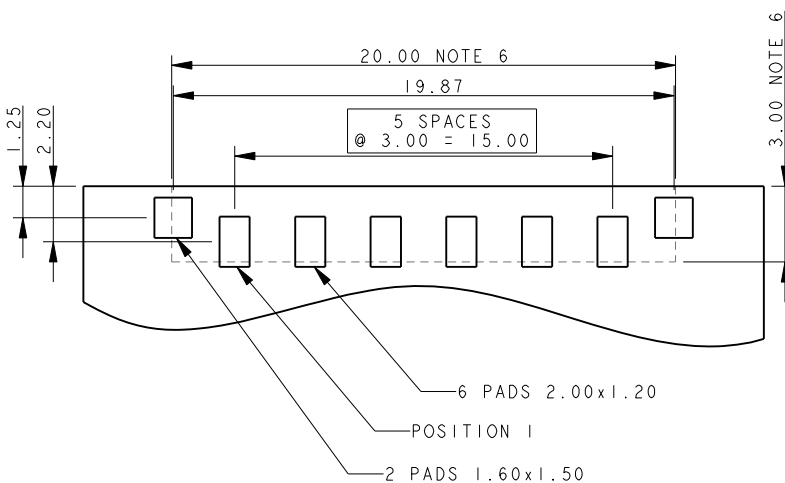
SOCKET 6 WAY 2 PART PCB STRIP CONNECTOR



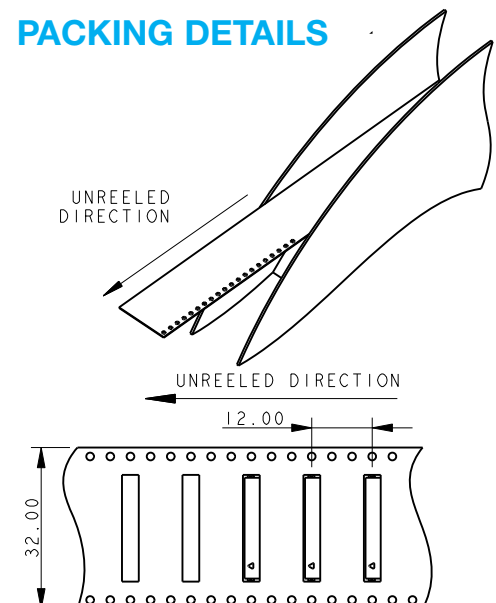
NOTES:

1. FOR MORE INFORMATION REFER TO PRODUCT SPEC 201-01-119.
2. DIMENSIONS ARE REFERENCE DIMENSIONS UNLESS TOLERANCES.
3. INSULATOR MATERIAL: NYLON 46. COLOR REFER TO PAGE 18.
4. CONTACT MATERIAL: COPPER ALLOY, GOLD OVER NICKEL.
5. BRACKETS: COPPER ALLOY, TIN PLATED.
6. OUTLINE OF CONNECTOR.
7. PACKING TAPE AND REEL, QUANTITY 1400 PER REEL.

6 WAY PCB BOARD LAYOUT



PACKING DETAILS



SSL - Top Load Socket



Series 9159



The 9159 series of Board-to-Board interconnect system allows two PCB's to be mated end-to-end creating strips of LED lighting. Designed specifically for the unique Solid State Lighting (SSL) market requiring coplanar (horizontal-to-horizontal) PCB mating with a 5 Amp current rating in the smallest package available. The top loading socket allows complete PCB's to be replaced in the field without having to disassemble the entire strip of boards. The connector has a two part insulator whereby the top of the connector will slide open allowing the plug connector to be pulled out either vertically or at a slight angle. Once the PCB is replaced, the cover is slid back like a Zero Insertion Force (ZIF) connector to the closed position. The PCB layout is identical to the standard horizontal socket to maintain family commonality at the PCB level.

Additional components in the 9159 product family include:

- SSL - Horizontal Plug; Standard 2-Piece solution (10-9159)
- SSL - Cabled Plug; Supports wire-to-board applications (11-9159)
- SSL - Horizontal Socket; Standard 2-Piece solution (20-9159)
- SSL - Shorting Socket; Two position (58-9159)
- SSL - Retaining Clip; Latches BTB connectors together (80-9159)

APPLICATIONS

- Coplanar PCB mating in SSL products
- LED linear lighting strips
- Application Notes; refer to 201-01-123

FEATURES AND BENEFITS

- Slide open top; allows field reparability at the light fixture level
- Mates with standard horizontal or cabled plug; no need to change any connectors
- 5 Amp current rating; exceeds general market needs
- Gold plated BeCu spring contacts; reliability for harsh environments
- Available in white; supports SSL market preferences

ELECTRICAL

- Current Rating: 5 Amps / Contact
- Voltage Rating: 125 VAC

ENVIRONMENTAL

- Operating Temperature: -40°C to +125°C

MECHANICAL

- Insulator Material: Nylon: VL94VO
- Contact Material: BeCu / Phos Bronze
- Plating: Gold / Tin over Nickel
- Durability: 10 Cycles

HOW TO ORDER

22	9159	XXX	1	01	X	16																																
Prefix	Series	Number of Ways	2 Part PCB Strip Connector	Connector Pitch	Color Options	Plating Option																																
Socket Top Loading		<table border="1"> <thead> <tr> <th>Code</th> <th>No of Ways</th> <th>Details</th> </tr> </thead> <tbody> <tr> <td>002</td> <td>2</td> <td>Page 25</td> </tr> <tr> <td>003</td> <td>3</td> <td>Page 26</td> </tr> <tr> <td>004</td> <td>4</td> <td>Page 27</td> </tr> <tr> <td>005</td> <td>5</td> <td>Page 28</td> </tr> <tr> <td>006</td> <td>6</td> <td>Page 29</td> </tr> </tbody> </table>	Code	No of Ways	Details	002	2	Page 25	003	3	Page 26	004	4	Page 27	005	5	Page 28	006	6	Page 29	01 = 3mm	<table border="1"> <thead> <tr> <th>Code</th> <th>Color</th> <th>Application</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>Black</td> <td>Industrial</td> </tr> <tr> <td>1</td> <td>White</td> <td>Lighting</td> </tr> </tbody> </table>	Code	Color	Application	0	Black	Industrial	1	White	Lighting	<table border="1"> <thead> <tr> <th>Code</th> <th>Contact</th> <th>Bracket</th> </tr> </thead> <tbody> <tr> <td>16</td> <td>Gold in Contact Area Tin on Solder Tail</td> <td>Tin all over</td> </tr> </tbody> </table>	Code	Contact	Bracket	16	Gold in Contact Area Tin on Solder Tail	Tin all over
Code	No of Ways	Details																																				
002	2	Page 25																																				
003	3	Page 26																																				
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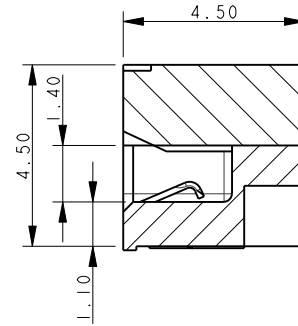
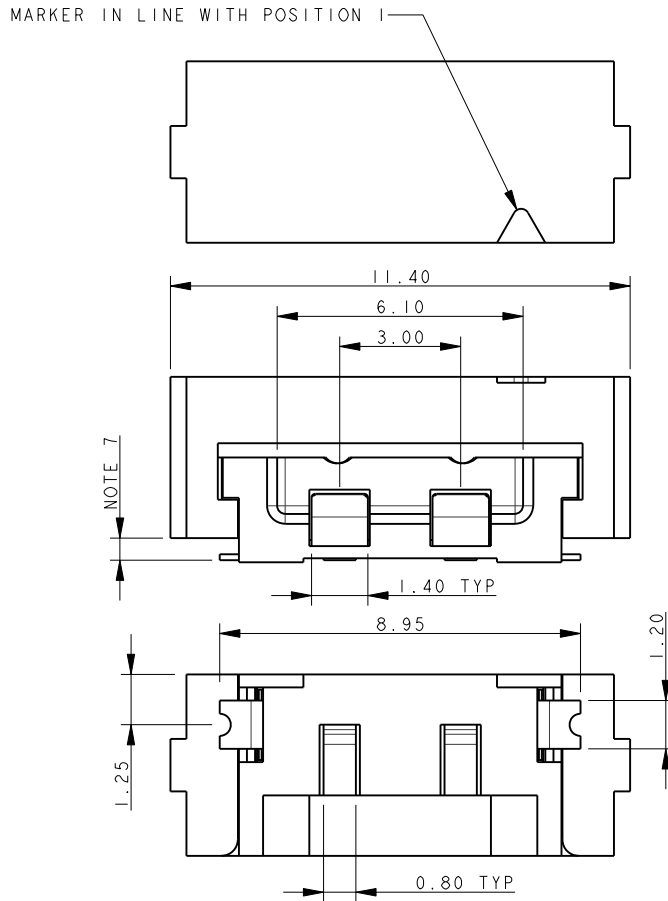


SSL - Top Load Socket



Series 9159

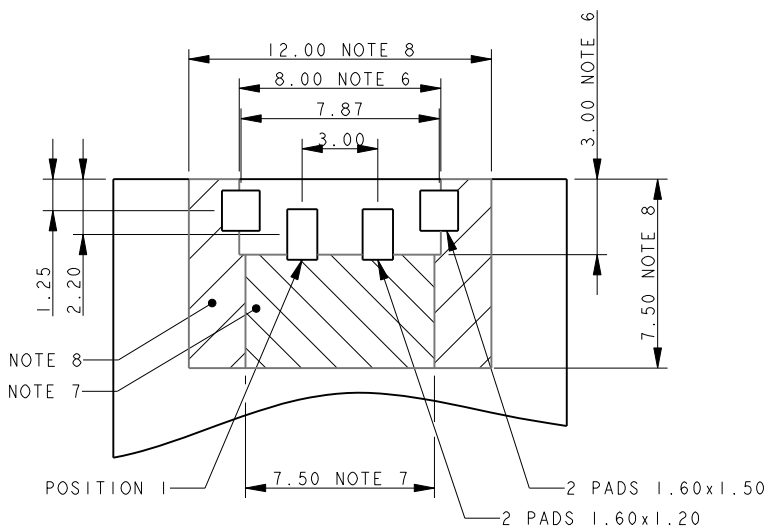
SOCKET TOP LOADING 2 WAY 2 PART PCB STRIP CONNECTOR



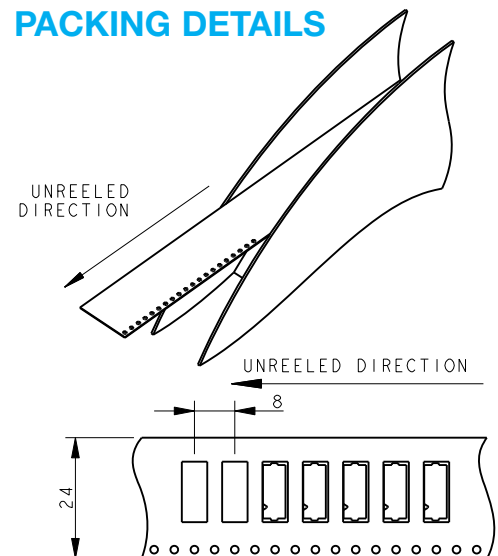
NOTES:

1. FOR MORE INFORMATION REFER TO PRODUCT SPEC 201-01-119.
2. DIMENSIONS ARE REFERENCE DIMENSIONS UNLESS TOLERANCES.
3. INSULATOR MATERIAL: NYLON 46. COLOR REFER TO PAGE 24.
4. CONTACT MATERIAL: COPPER ALLOY, GOLD OVER NICKEL.
5. BRACKETS: COPPER ALLOY, TIN PLATED.
6. OUTLINE OF CONNECTOR.
7. RESTRICTED COMPONENT HEIGHT UNDER CATCH, 2.20MM MAXIMUM.
8. RESTRICTED COMPONENT HEIGHT UNDER CATCH, 0.40MM MAXIMUM.
9. PACKING TAPE AND REEL, QUANTITY 1400 PER REEL.

2 WAY PCB BOARD LAYOUT



PACKING DETAILS

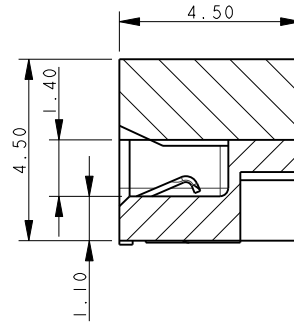
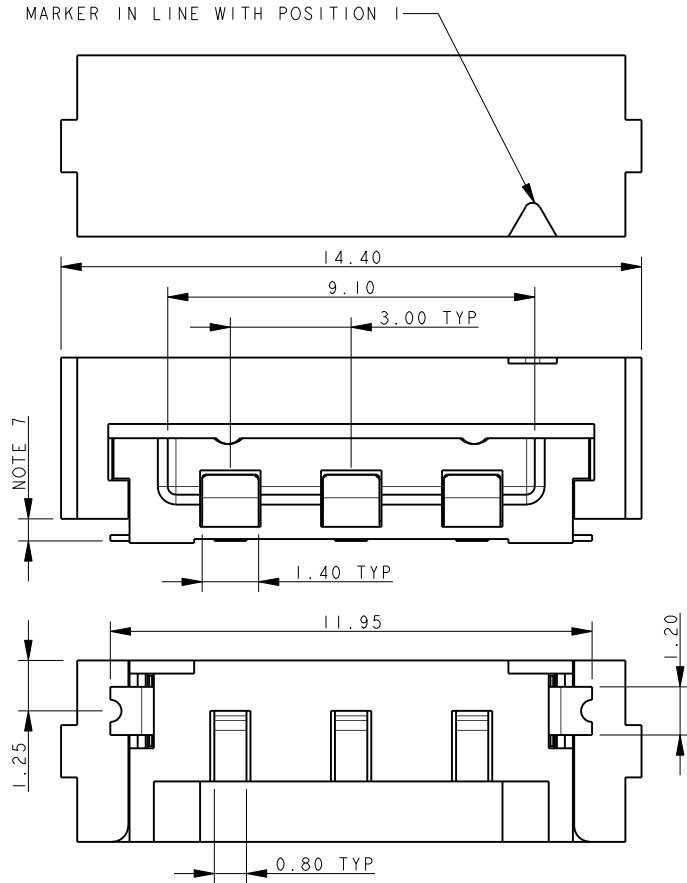


SSL - Top Load Socket



Series 9159

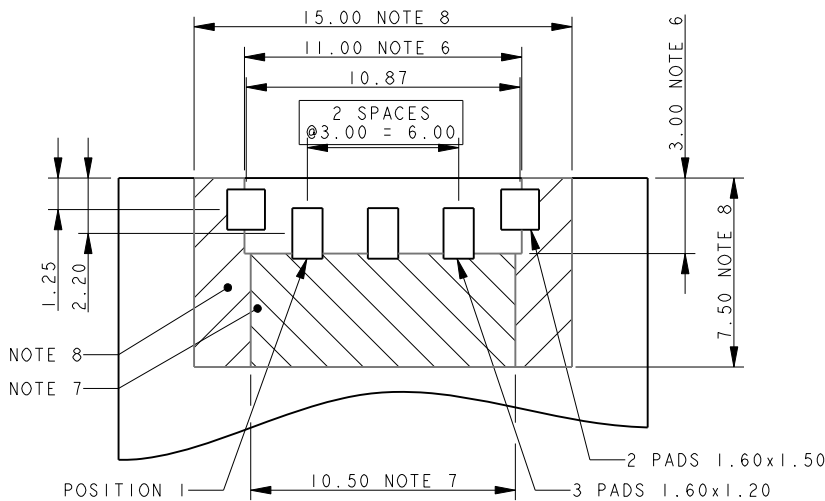
SOCKET TOP LOADING 3 WAY 2 PART PCB STRIP CONNECTOR



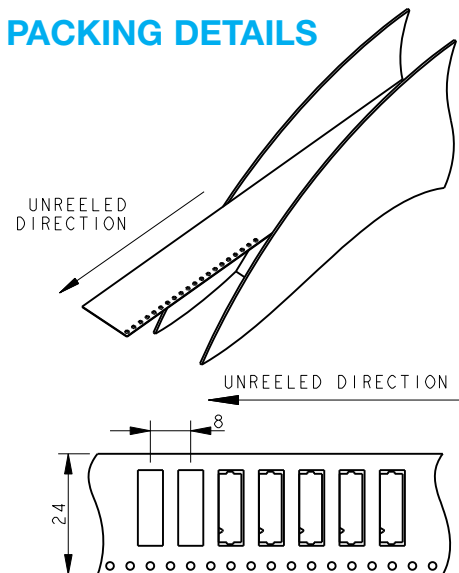
NOTES:

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2. DIMENSIONS ARE REFERENCE DIMENSIONS UNLESS TOLERANCES.
3. INSULATOR MATERIAL: NYLON 46. COLOR REFER TO PAGE 24.
4. CONTACT MATERIAL: COPPER ALLOY, GOLD OVER NICKEL.
5. BRACKETS: COPPER ALLOY, TIN PLATED.
6. OUTLINE OF CONNECTOR.
7. RESTRICTED COMPONENT HEIGHT UNDER CATCH, 2.20MM MAXIMUM.
8. RESTRICTED COMPONENT HEIGHT UNDER CATCH, 0.40MM MAXIMUM.
9. PACKING TAPE AND REEL, QUANTITY 1400 PER REEL.

3 WAY PCB BOARD LAYOUT



PACKING DETAILS

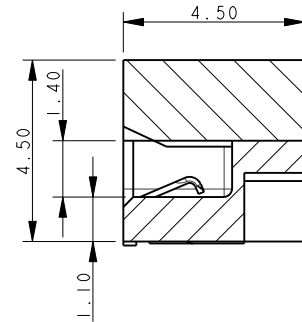
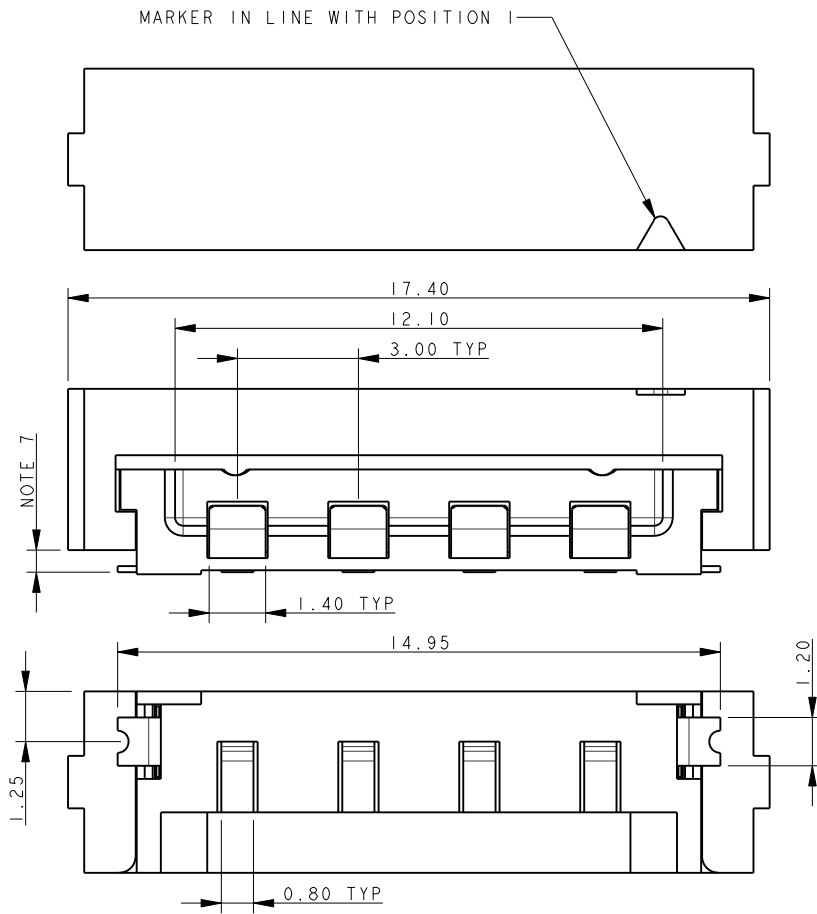


SSL - Top Load Socket



Series 9159

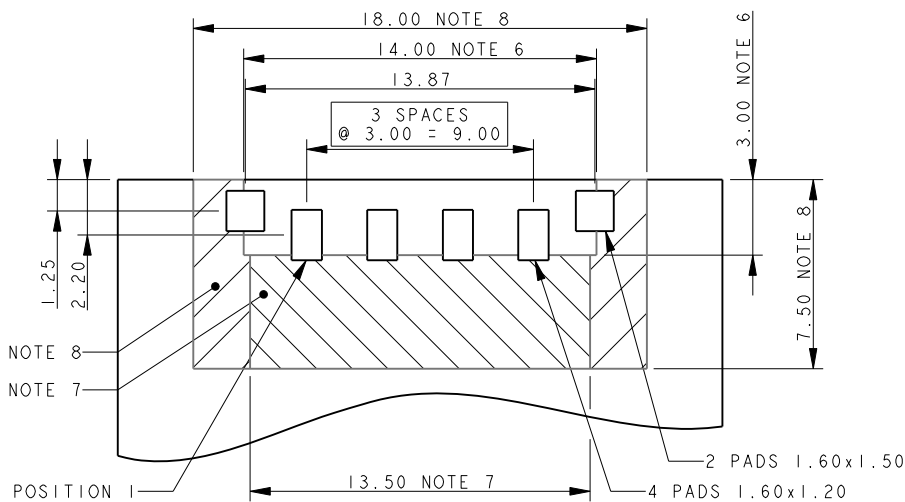
SOCKET TOP LOADING 4 WAY 2 PART PCB STRIP CONNECTOR



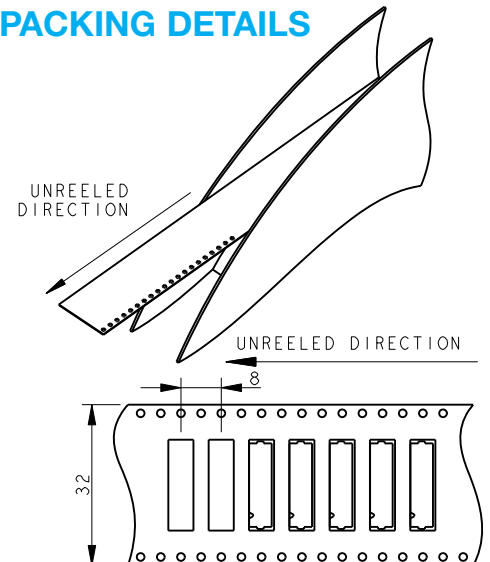
NOTES:

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2. DIMENSIONS ARE REFERENCE DIMENSIONS UNLESS TOLERANCES.
3. INSULATOR MATERIAL: NYLON 46. COLOR REFER TO PAGE 24.
4. CONTACT MATERIAL: COPPER ALLOY, GOLD OVER NICKEL.
5. BRACKETS: COPPER ALLOY, TIN PLATED.
6. OUTLINE OF CONNECTOR.
7. RESTRICTED COMPONENT HEIGHT UNDER CATCH, 2.20MM MAXIMUM.
8. RESTRICTED COMPONENT HEIGHT UNDER CATCH, 0.40MM MAXIMUM.
9. PACKING TAPE AND REEL, QUANTITY 1400 PER REEL.

4 WAY PCB BOARD LAYOUT



PACKING DETAILS

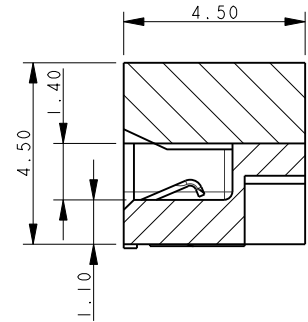
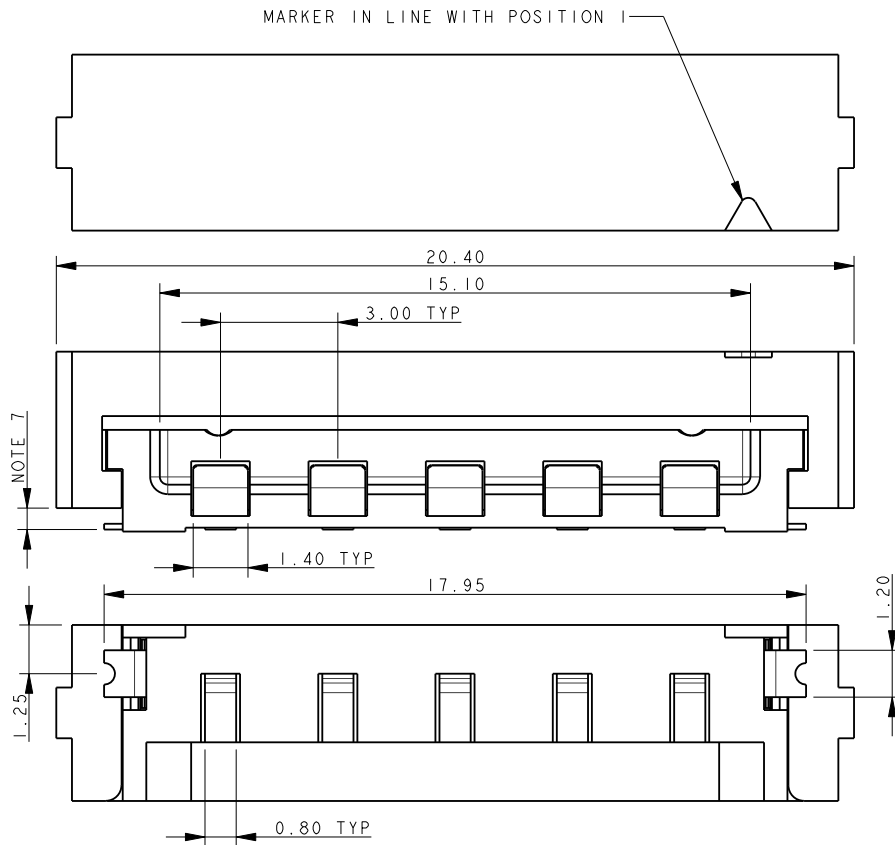


SSL - Top Load Socket

Series 9159



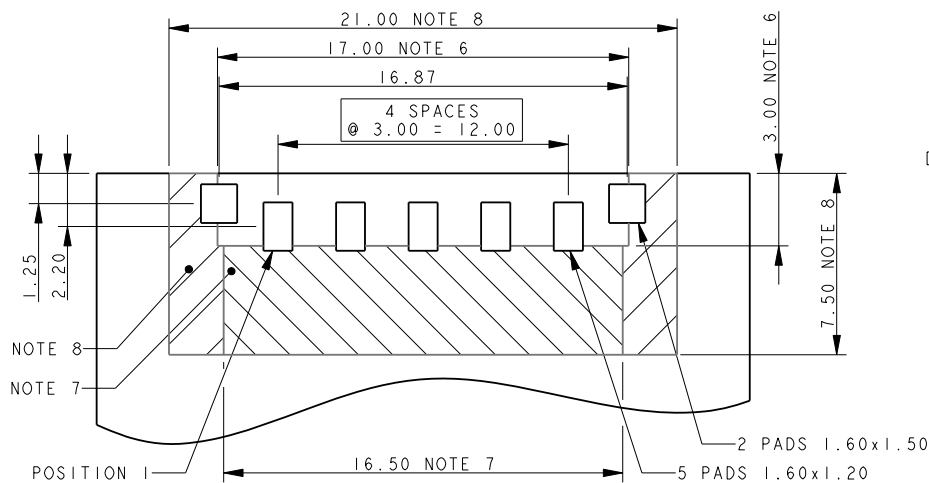
SOCKET TOP LOADING 5 WAY 2 PART PCB STRIP CONNECTOR



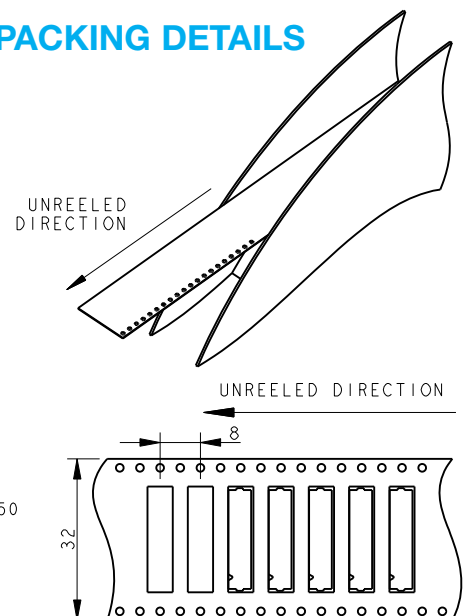
NOTES:

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2. DIMENSIONS ARE REFERENCE DIMENSIONS UNLESS TOLERANCES.
3. INSULATOR MATERIAL: NYLON 46. COLOR REFER TO PAGE 24.
4. CONTACT MATERIAL: COPPER ALLOY, GOLD OVER NICKEL.
5. BRACKETS: COPPER ALLOY, TIN PLATED.
6. OUTLINE OF CONNECTOR.
7. RESTRICTED COMPONENT HEIGHT UNDER CATCH, 2.20MM MAXIMUM.
8. RESTRICTED COMPONENT HEIGHT UNDER CATCH, 0.40MM MAXIMUM.
9. PACKING TAPE AND REEL, QUANTITY 1400 PER REEL.

5 WAY PCB BOARD LAYOUT



PACKING DETAILS

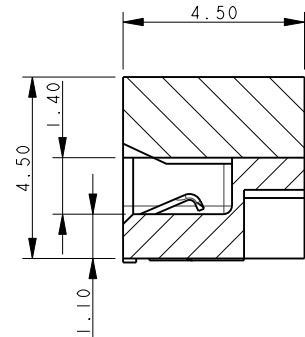
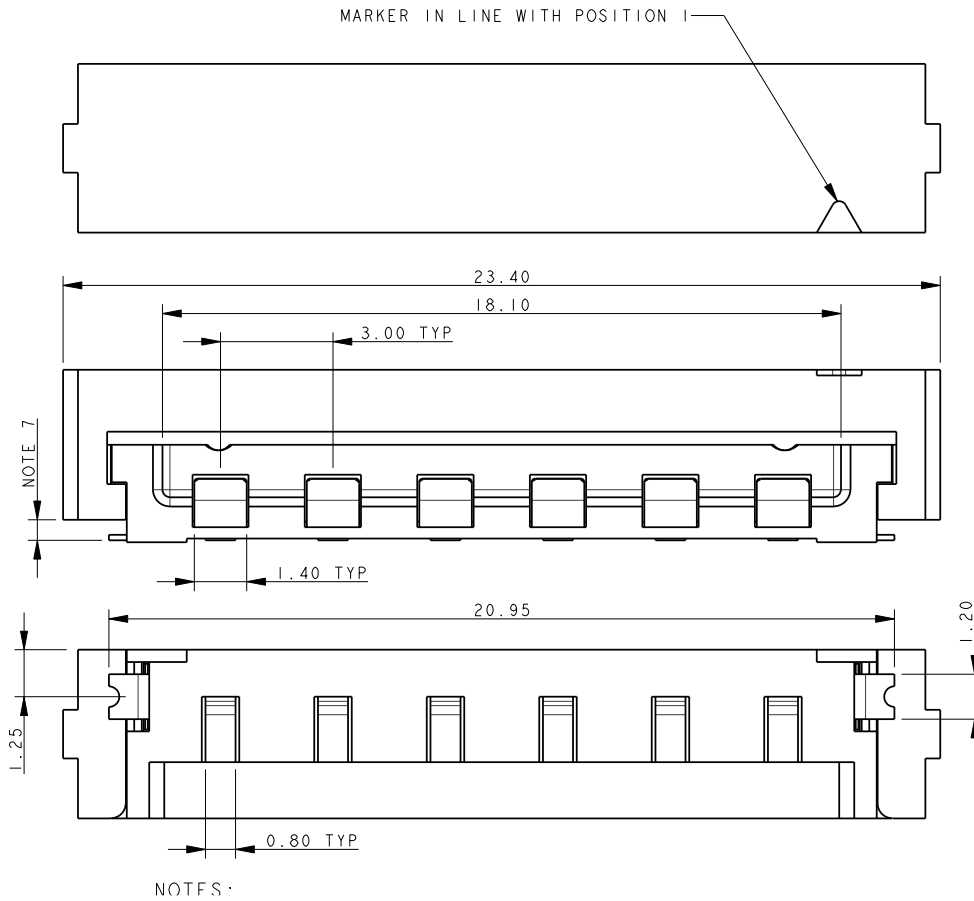


SSL - Top Load Socket



Series 9159

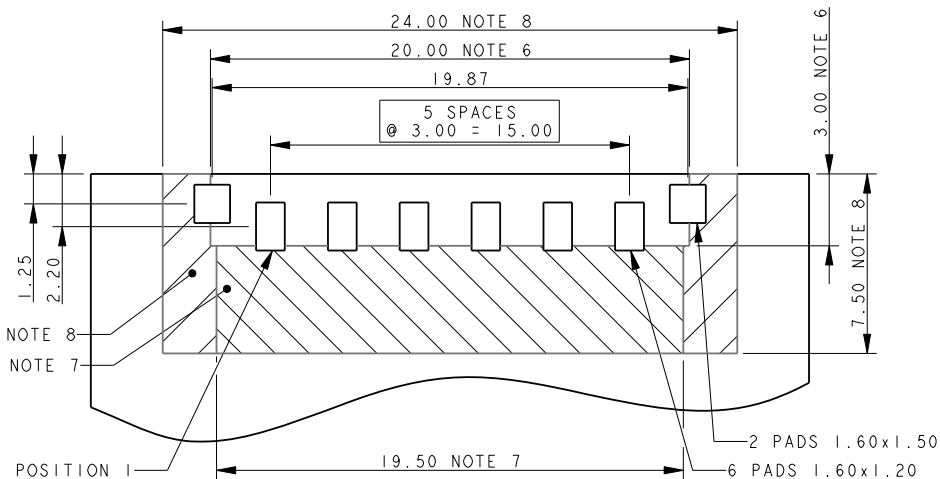
SOCKET TOP LOADING 6 WAY 2 PART PCB STRIP CONNECTOR



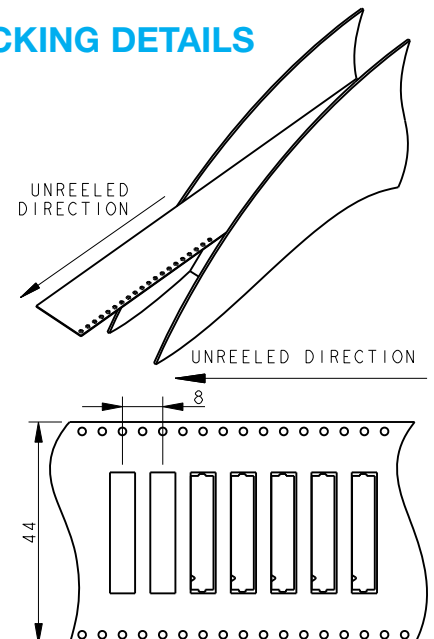
NOTES:

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2. DIMENSIONS ARE REFERENCE DIMENSIONS UNLESS TOLERANCES.
3. INSULATOR MATERIAL: NYLON 46. COLOR REFER TO PAGE 24.
4. CONTACT MATERIAL: COPPER ALLOY, GOLD OVER NICKEL.
5. BRACKETS: COPPER ALLOY, TIN PLATED.
6. OUTLINE OF CONNECTOR.
7. RESTRICTED COMPONENT HEIGHT UNDER CATCH, 2.20MM MAXIMUM.
8. RESTRICTED COMPONENT HEIGHT UNDER CATCH, 0.40MM MAXIMUM.
9. PACKING TAPE AND REEL, QUANTITY 1400 PER REEL.

6 WAY PCB BOARD LAYOUT



PACKING DETAILS



SSL - Top Load Socket

Series 9159



CONNECTOR ASSEMBLY



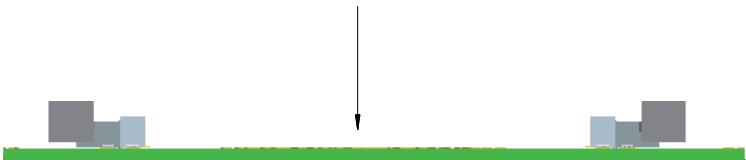
COVER FORWARD (LOCKED)



COVER SLID BACK



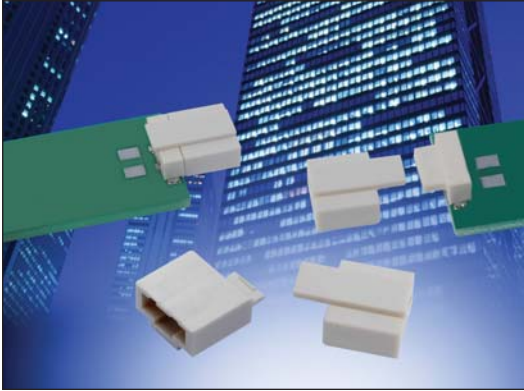
DROP PCB ASSEMBLY ONTO MATING CONNECTORS



SSL – Shorting Socket



Series 9159



The 9159 series of Board-to-Board interconnect system allows two PCB's to be mated end-to-end creating strips of LED lighting. Designed specifically for the unique Solid State Lighting (SSL) market requiring coplanar (horizontal-to-horizontal) PCB mating with a 5 Amp current rating in the smallest package available. The 2 position shorting socket was designed to plug onto the last PCB in the lighting strip to short the two contacts together, closing the electrical loop. Just as the cabled plug brings power and signals onto the light strip, the shorting socket completes the circuit while maintaining a single board design.

Additional components in the 9159 product family include:

- SSL - Horizontal Plug; Standard 2-Piece solution (10-9159)
- SSL - Cabled Plug; Supports wire-to-board applications (11-9159)
- SSL - Horizontal Socket; Standard 2-Piece solution (20-9159)
- SSL - Top Load Socket; ZIF style for field reparability (22-9159)
- SSL - Retaining Clip; Latches BTB connectors together (80-9159)

APPLICATIONS

- Coplanar PCB mating in SSL products
- LED linear lighting strips
- Application Notes; refer to 201-01-123

FEATURES AND BENEFITS

- Mates to the standard plug connector; does not require a new connector
- Integral latching mechanism; Provides positive attachment to the plug
- Gold plated BeCu spring contacts; reliability for harsh environments
- Available in white; supports SSL market preferences

ELECTRICAL

- Current Rating: 5 Amps / Contact
- Voltage Rating: 125 VAC

ENVIRONMENTAL

- Operating Temperature:
-40°C to +125°C

MECHANICAL

- Insulator Material: Nylon: VL94VO
- Contact Material: BeCu / Phos Bronze
- Plating: Gold / Tin over Nickel
- Durability: 10 Cycles

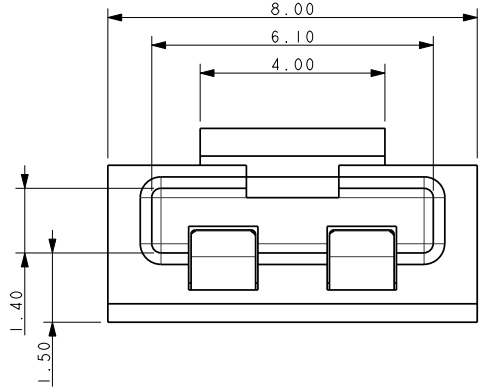
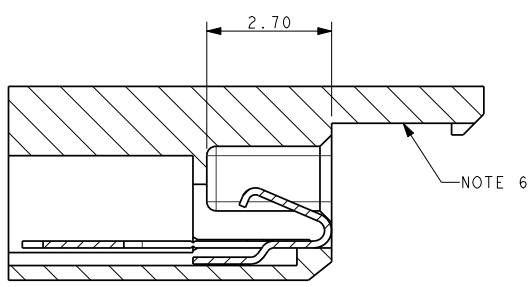
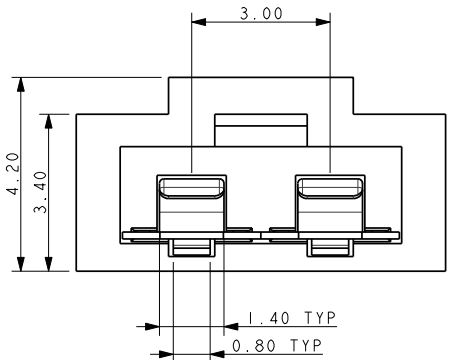
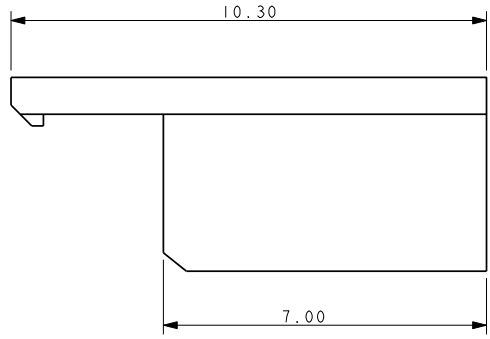
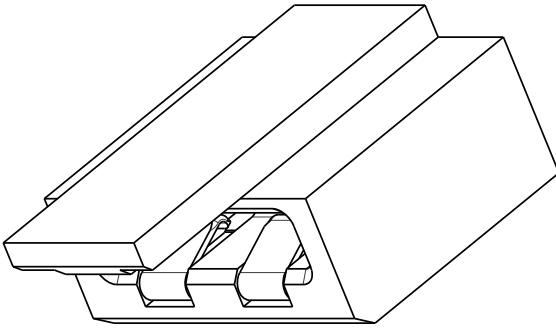
HOW TO ORDER

58 9159 002 000 006

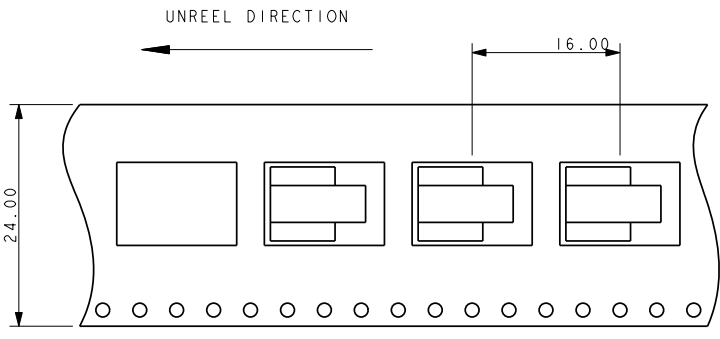
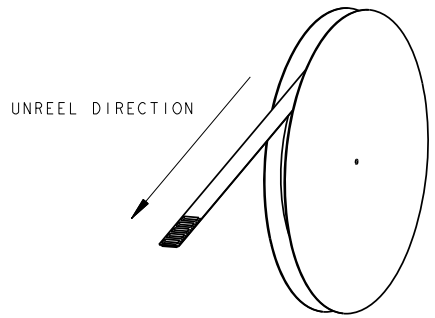


SSL – Shorting Socket

Series 9159



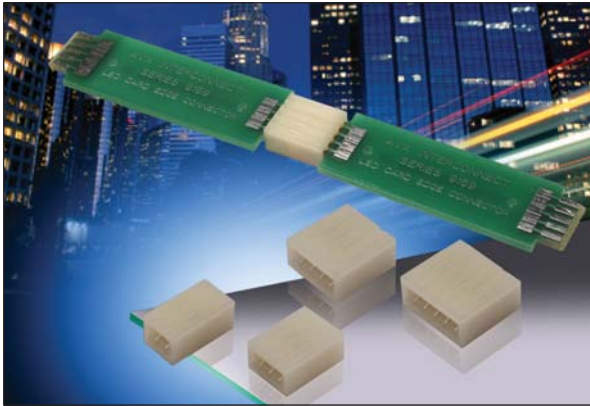
PACKING DETAILS



SSL - One Piece Card Edge



Series 9159



The 9159 series of Board-to-Board interconnect system allows two PCB's to be mated end-to-end creating strips of LED lighting. Designed specifically for the unique Solid State Lighting (SSL) market requiring coplanar (horizontal-to-horizontal) PCB mating. The 1-Piece Card Edge connector was developed to provide a reliable, low cost and simple means of connecting multiple PCB's together. The single stamped contact has dual contact beams to guarantee a high contact force on standard 1.6mm PCB's. These connectors are available in 2 through 5 positions and are on 2.0mm pitch centers to provide a 3 amp continuous rating. Available in both black and white to meet the application requirements.

APPLICATIONS

- Coplanar PCB mating in SSL products
- LED linear lighting strips

FEATURES AND BENEFITS

- Dual contacts provide positive contact force for enhanced reliability
- Mates with standard $1.6 \pm 0.15\text{mm}$ PCB on 2.0mm pad pitch
- 3 amp current rating for high current applications
- Available in white; supports SSL market preferences

ELECTRICAL

- Current Rating; 3 Amps / Contact
- Voltage Rating; 250 VAC

ENVIRONMENTAL

- Operating Temperature: -55°C to $+125^{\circ}\text{C}$

MECHANICAL

- Insulator Material: Nylon 46: UL94HB
- Contact Material: Phosphor Bronze
- Plating: Tin over Nickel
- Durability: 5 Cycles

HOW TO ORDER

00
Prefix

9159
Series

XXX
Number of Ways

Code	No of Ways	Details
002	2	Page 34
003	3	Page 35
004	4	Page 36
005	5	Page 37

0
Single Part PCB Strip Connector

01
PCB Thickness
01 = 1.60 ± 0.15

0
Insulator Color

Code	Color	Application
0	Black	Industrial
1	White	Lighting

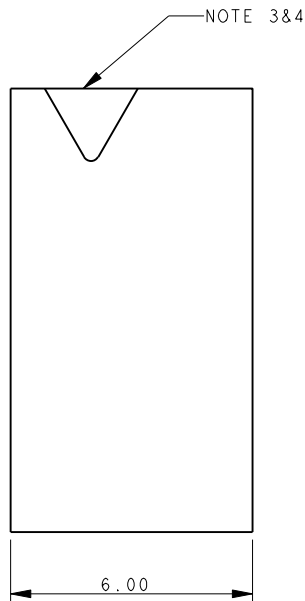
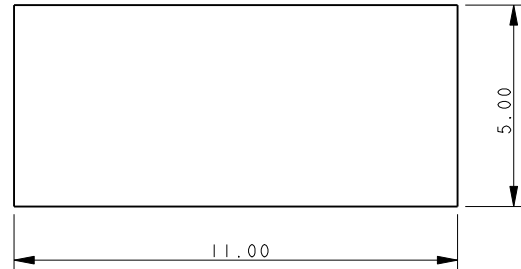
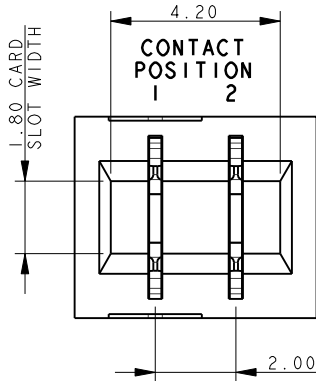
06
Plating Option
06 = Pure Tin all over

SSL - One Piece Card Edge



Series 9159

2 WAY SINGLE PART PCB STRIP CONNECTOR

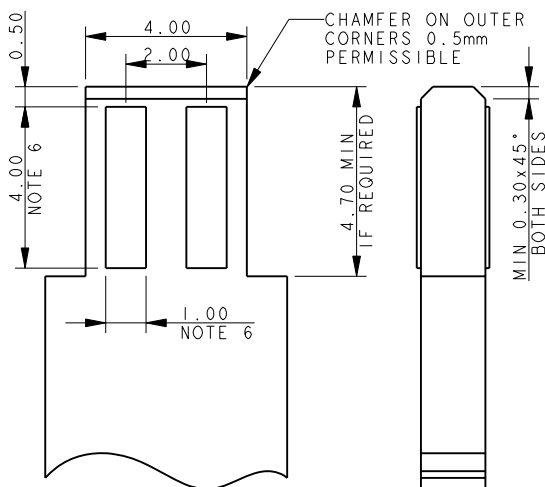


NOTES:

1. FOR MORE INFORMATION REFER TO PRODUCT SPEC 201-01-118.
2. DIMENSIONS ARE REFERENCE DIMENSIONS UNLESS TOLERANCED.
3. ARROW TO INDICATE CONTACT POSITION 1.
4. INSULATOR MATERIAL: NYLON 46, UL94 HB, COLOR SEE PAGE 33.
5. CONTACT MATERIAL: COPPER ALLOY, TIN PLATED ALL OVER.
6. PCB PAD, TIN PLATED.

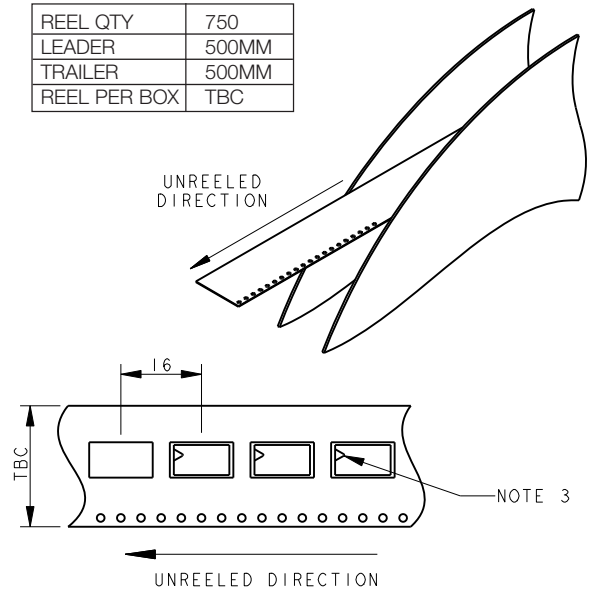
2 WAY PCB BOARD LAYOUT

THICKNESS 1.60 ± 0.15



PACKING DETAILS

REEL QTY	750
LEADER	500MM
TRAILER	500MM
REEL PER BOX	TBC

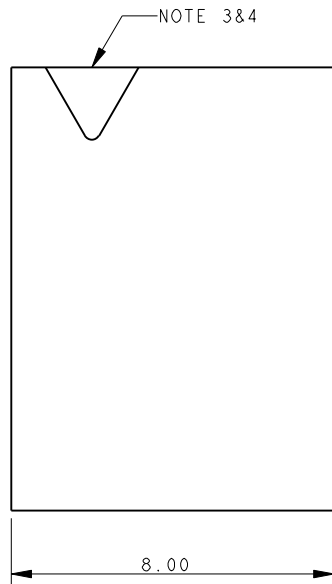
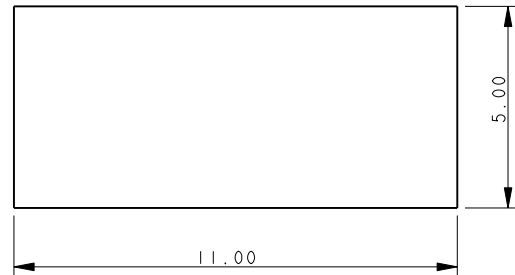
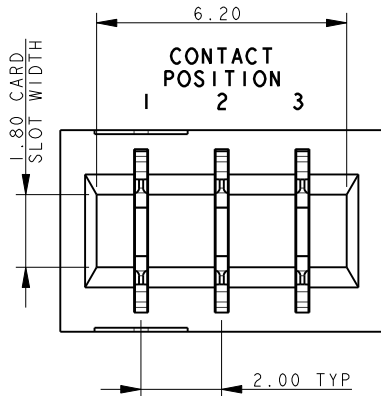


SSL - One Piece Card Edge



Series 9159

3 WAY SINGLE PART PCB STRIP CONNECTOR

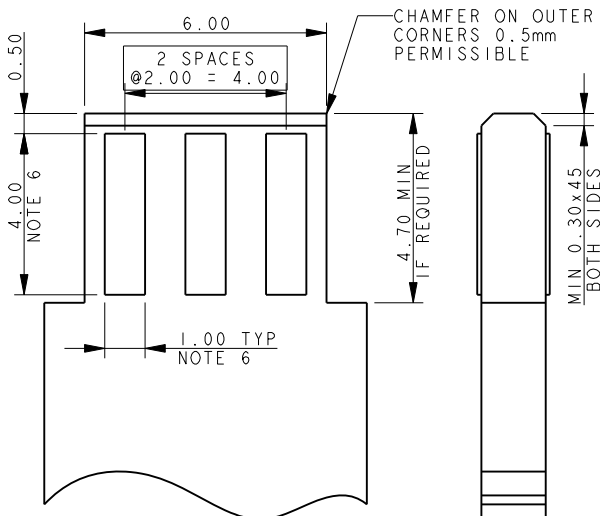


NOTES:

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3. ARROW TO INDICATE CONTACT POSITION 1.
4. INSULATOR MATERIAL: NYLON 46, UL94 HB, COLOR SEE PAGE 33.
5. CONTACT MATERIAL: COPPER ALLOY, TIN PLATED ALL OVER.
6. PCB PAD, TIN PLATED.

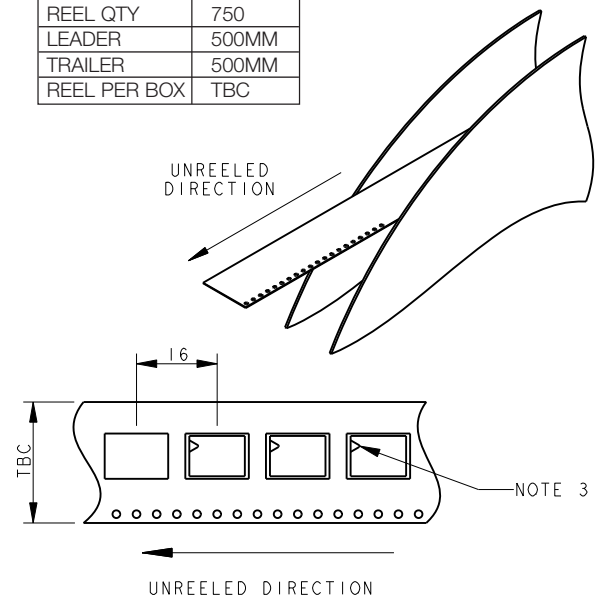
3 WAY PCB BOARD LAYOUT

THICKNESS 1.60 ± 0.15



PACKING DETAILS

REEL QTY	750
LEADER	500MM
TRAILER	500MM
REEL PER BOX	TBC

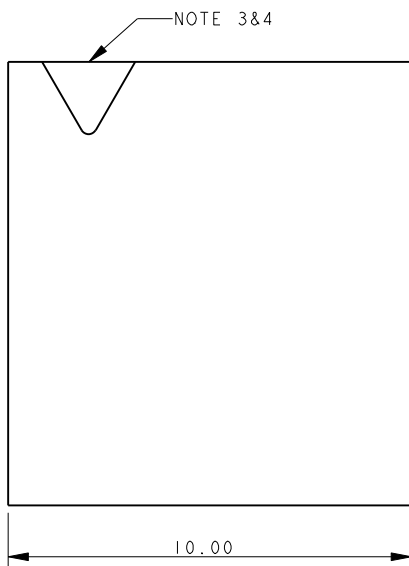
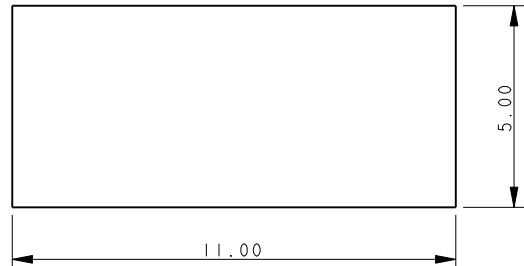
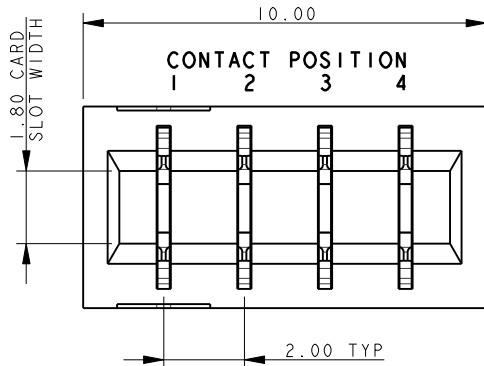


SSL - One Piece Card Edge



Series 9159

4 WAY SINGLE PART PCB STRIP CONNECTOR

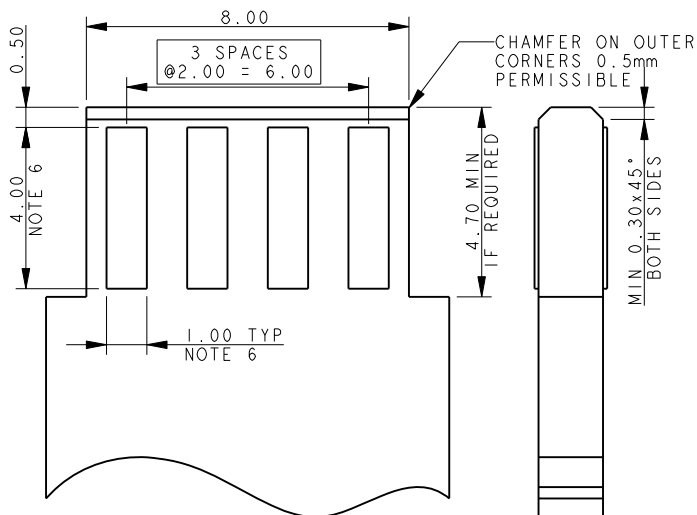


NOTES:

1. FOR MORE INFORMATION REFER TO PRODUCT SPEC 201-01-118.
2. DIMENSIONS ARE REFERENCE DIMENSIONS UNLESS TOLERANCED.
3. ARROW TO INDICATE CONTACT POSITION 1.
4. INSULATOR MATERIAL: NYLON 46, UL94 HB, COLOR SEE PAGE 33.
5. CONTACT MATERIAL: COPPER ALLOY, TIN PLATED ALL OVER.
6. PCB PAD, TIN PLATED.

4 WAY PCB BOARD LAYOUT

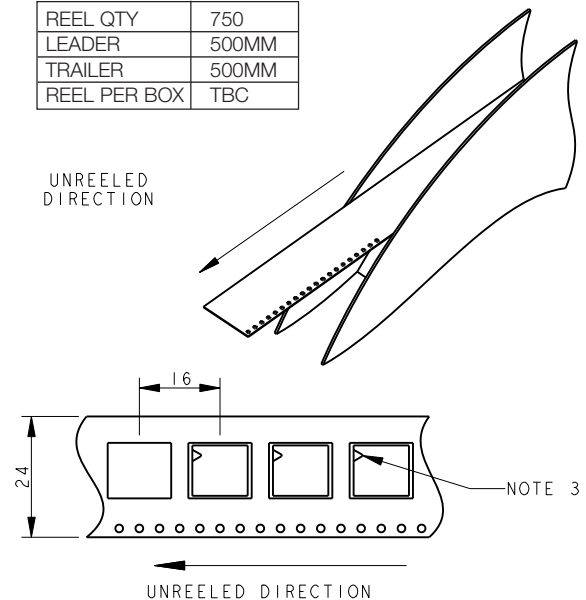
THICKNESS 1.60 ± 0.15



PACKING DETAILS

REEL QTY	750
LEADER	500MM
TRAILER	500MM
REEL PER BOX	TBC

UNREELED DIRECTION

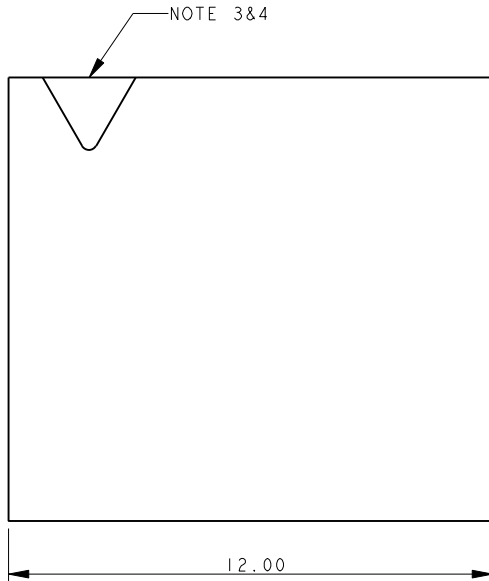
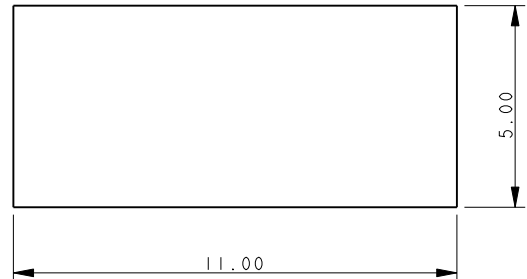
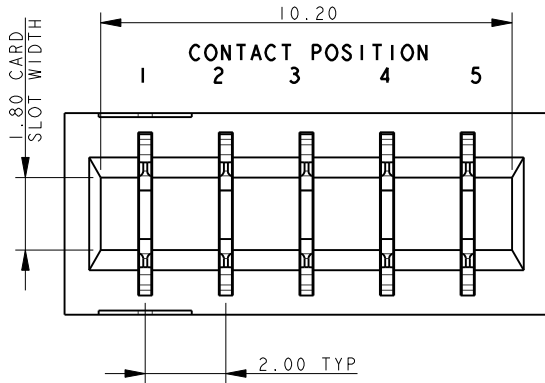


SSL - One Piece Card Edge



Series 9159

5 WAY SINGLE PART PCB STRIP CONNECTOR

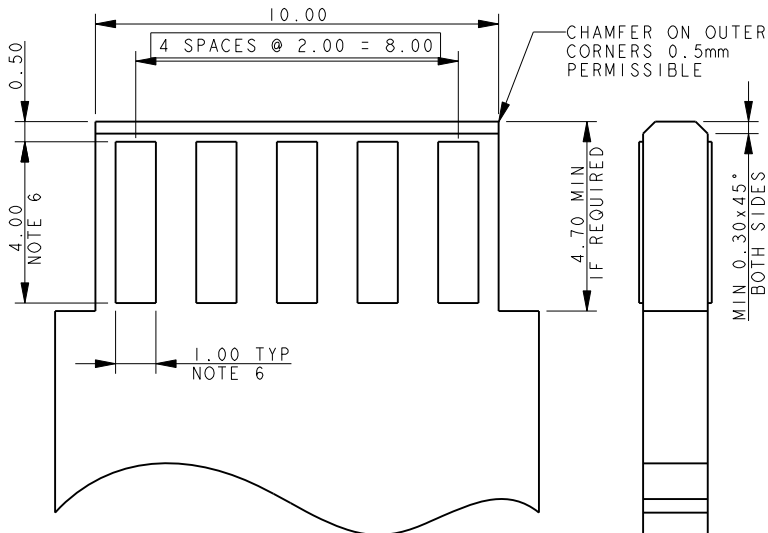


NOTES:

1. FOR MORE INFORMATION REFER TO PRODUCT SPEC 201-01-118.
2. DIMENSIONS ARE REFERENCE DIMENSIONS UNLESS TOLERANCED.
3. ARROW TO INDICATE CONTACT POSITION 1.
4. INSULATOR MATERIAL: NYLON 46, UL94 HB, COLOR SEE PAGE 33.
5. CONTACT MATERIAL: COPPER ALLOY, TIN PLATED ALL OVER.
6. PCB PAD, TIN PLATED.

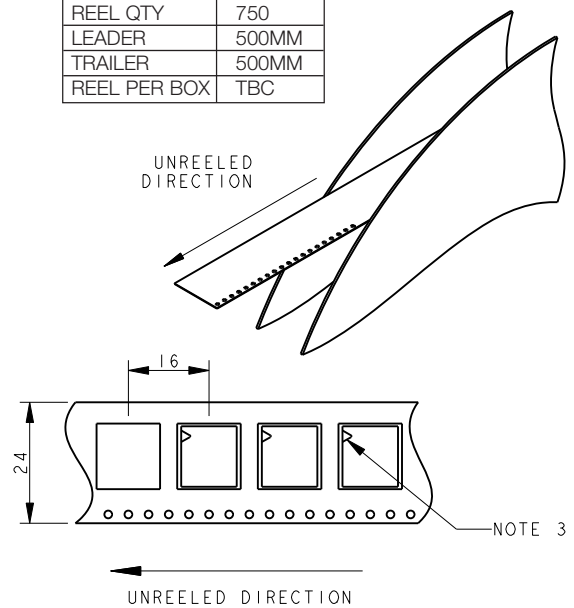
5 WAY PCB BOARD LAYOUT

THICKNESS 1.60 ± 0.15



PACKING DETAILS

REEL QTY	750
LEADER	500MM
TRAILER	500MM
REEL PER BOX	TBC



SSL - Discrete Wire IDC



Series 9175



The 917X series of surface mount Insulation Displacement Connectors (IDC) were developed to meet the harsh automotive and industrial market applications for connecting individual wires directly to a PCB ranging from 14 AWG to 28 AWG. This industry proven contact system has been tested to automotive levels of shock, vibration, and temperature cycling to prove their reliability and robustness. The simplicity of inserting a wire into the connector with a small tool allows a wide range of devices to be connected to the PCB without soldering. In SSL applications specifically, these connectors are used to bring power and signal onto the PCB or are used to daisy chain multiple boards together in a long string. While the IDC contact provides a gas-tight connection to conductor of the wire, the housing has been designed to grab the insulation of the wire to provide a positive strain relief even in the harshest conditions. In case of repair, the wires can be removed and replace up to three times.

The 9175 series accepts 26 AWG to 28 AWG wires with an insulation diameter ranging from 0.7mm to 1.0mm. These single contact connectors support a 1 amp current rating and have a split SMT tail design to provide maximum stability on the PCB. Available in a 2p and 3p configuration, these connectors can be end stackable for higher pin counts.

APPLICATIONS

- Connecting discrete wire components directly to the PCB
- Bringing power and signals onto a PCB
- Daisy chaining PCB's together to create a continuous string of boards
- Application Notes: refer to 201-01-124

FEATURES AND BENEFITS

- IDC contact provides a gas-tight connection to the PCB for long term reliability
- Connector housing captures the wire insulation for positive strain relief
- Tested to automotive levels on shock, vibration and temperature cycling for reliability
- Low and high volume assembly tools to match production volumes
- Reduced total applied cost versus solder or crimp processes
- High temperature insulator capable to 260 degrees C reflow soldering processes

ELECTRICAL

- Current Rating: 1 Amp / Contact
- Voltage Rating: 125 VAC

ENVIRONMENTAL

- Operating Temperature: -40°C to +125°C

MECHANICAL

- Insulator Material: Nylon 46: UL94V0
- Contact Material: Phosphor Bronze
- Plating: Tin over Nickel
- Durability: 3 Cycles

HOW TO ORDER

00	9175	00X									
Prefix	Series	Number of Ways									
		<table border="1"> <thead> <tr> <th>Code</th> <th>No of Ways</th> <th>Details</th> </tr> </thead> <tbody> <tr> <td>002</td> <td>2</td> <td>Page 39</td> </tr> <tr> <td>003</td> <td>3</td> <td>Page 40</td> </tr> </tbody> </table>	Code	No of Ways	Details	002	2	Page 39	003	3	Page 40
Code	No of Ways	Details									
002	2	Page 39									
003	3	Page 40									

001									
Wire Gauge Size									
<table border="1"> <thead> <tr> <th>Code</th> <th>Accepted Wire Gauge</th> <th>Wire Insulation</th> </tr> </thead> <tbody> <tr> <td>001</td> <td>28 Gauge Solid or Stranded</td> <td>Min Ø 0.70</td> </tr> <tr> <td></td> <td>26 Gauge Solid or Stranded</td> <td>Max Ø 1.00</td> </tr> </tbody> </table>	Code	Accepted Wire Gauge	Wire Insulation	001	28 Gauge Solid or Stranded	Min Ø 0.70		26 Gauge Solid or Stranded	Max Ø 1.00
Code	Accepted Wire Gauge	Wire Insulation							
001	28 Gauge Solid or Stranded	Min Ø 0.70							
	26 Gauge Solid or Stranded	Max Ø 1.00							

X									
Insulator Color									
<table border="1"> <thead> <tr> <th>Code</th> <th>Color</th> <th>Application</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>Black</td> <td>Industrial</td> </tr> <tr> <td>1</td> <td>White</td> <td>Lighting</td> </tr> </tbody> </table>	Code	Color	Application	0	Black	Industrial	1	White	Lighting
Code	Color	Application							
0	Black	Industrial							
1	White	Lighting							

06
Plating Option
06 = Pure Tin all over

Certification: UL File #E320991

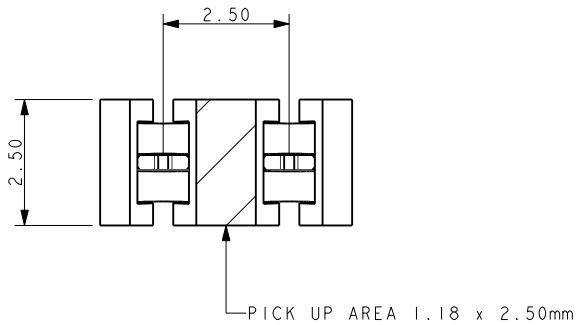


SSL - Discrete Wire IDC



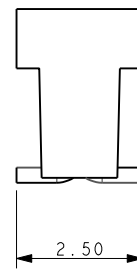
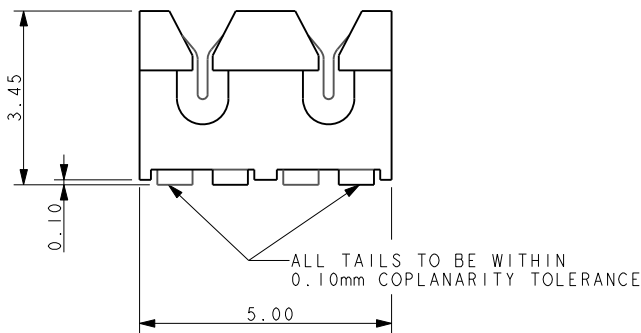
Series 9175

26-28 AWG 2 WAY IDC CONNECTOR



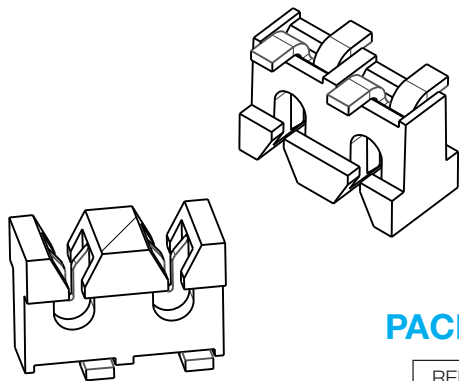
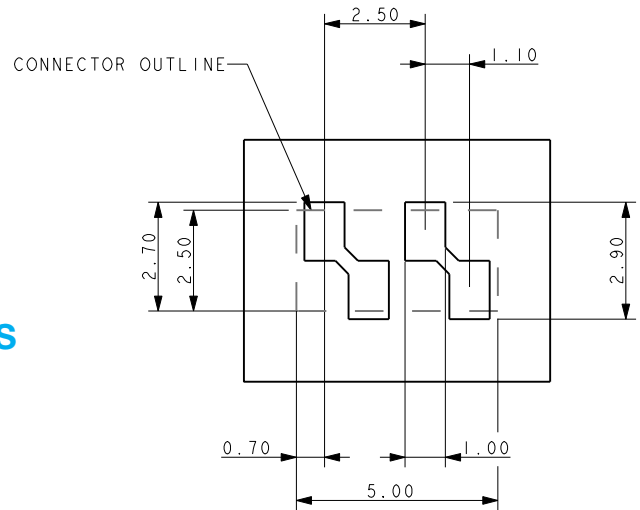
NOTES:

1. CONNECTOR FOR IDC WIRE TO BOARD CONNECTION.
2. CONTACT MATERIAL: PHOSPHORE BRONZE.
INSULATION MATERIAL: HIGH TEMPERATURE NYLON 46.
COLOR REFER TO PAGE 38.
3. CONNECTOR DESIGNED TO ACCEPT 26 AND 28 GAUGE SOLID OR STRANDED WIRE.
4. ALL DIMENSIONS FOR REFERENCE UNLESS OTHERWISE STATED.
5. FOR FULL PRODUCT SPECIFICATION REFER TO ELCO SPEC 201-01-100.



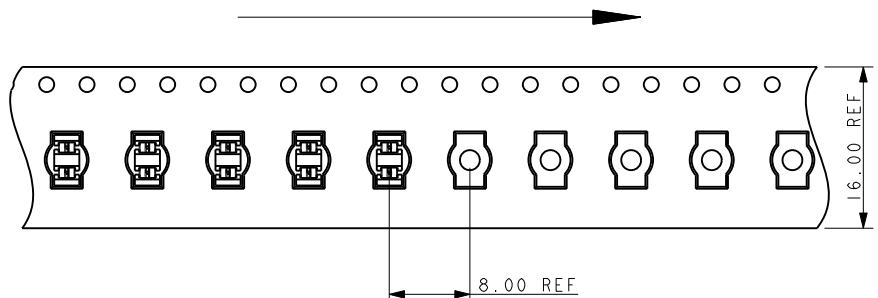
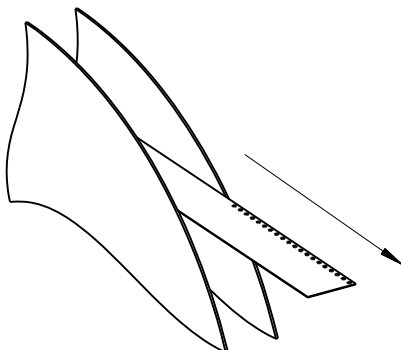
SMT PCB LAYOUT

PURE TIN PADS



PACKING DETAILS

REEL QTY	2000
LEADER	500MM
TRAILER	500MM
REEL / BOX	7
PACK QTY	14000

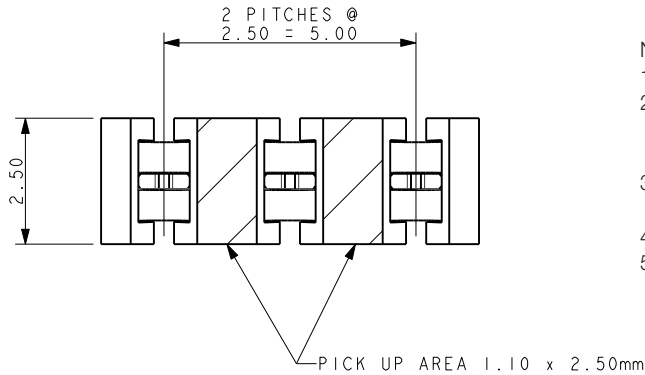


SSL - Discrete Wire IDC



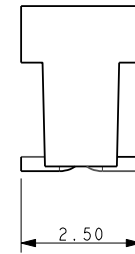
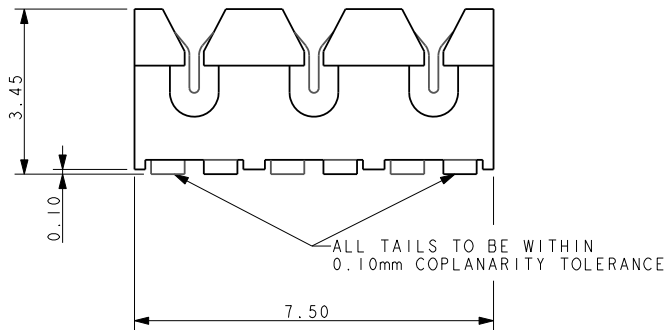
Series 9175

26-28 AWG 3 WAY IDC CONNECTOR



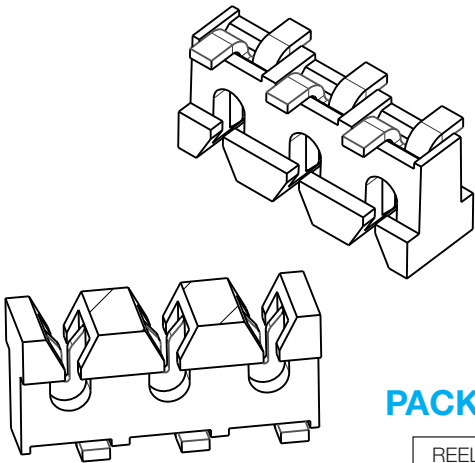
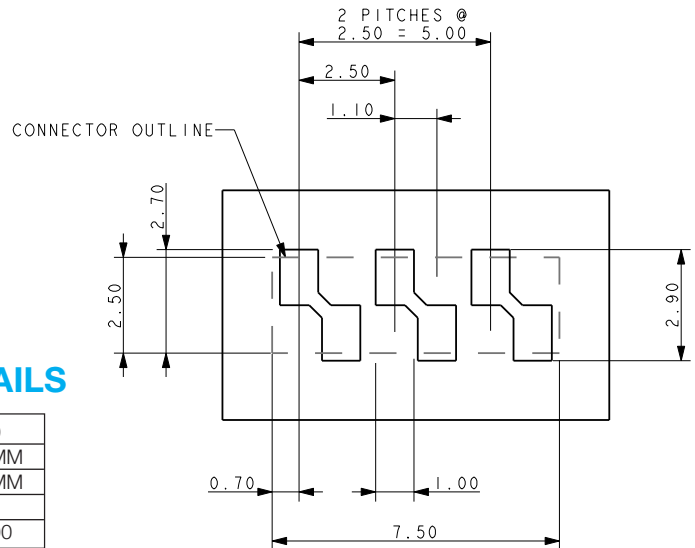
NOTES:

1. CONNECTOR FOR IDC WIRE TO BOARD CONNECTION.
2. CONTACT MATERIAL: PHOSPHORE BRONZE.
INSULATION MATERIAL: HIGH TEMPERATURE NYLON 46.
COLOR REFER TO PAGE 38.
3. CONNECTOR DESIGNED TO ACCEPT 26 AND 28 GAUGE SOLID OR STRANDED WIRE.
4. ALL DIMENSIONS FOR REFERENCE UNLESS OTHERWISE STATED.
5. FOR FULL PRODUCT SPECIFICATION REFER TO ELCO SPEC 201-01-100.



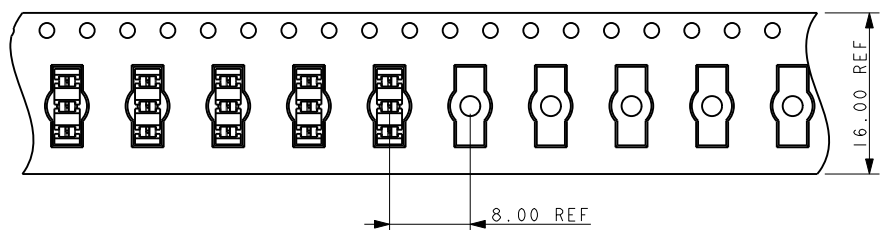
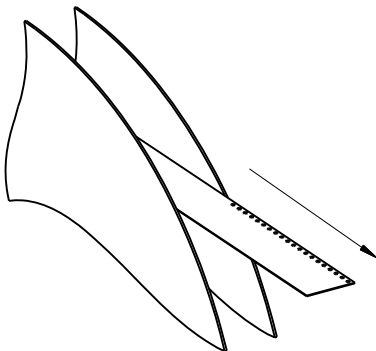
SMT PCB LAYOUT

PURE TIN PADS



PACKING DETAILS

REEL QTY	2000
LEADER	500MM
TRAILER	500MM
REEL / BOX	7
PACK QTY	14000

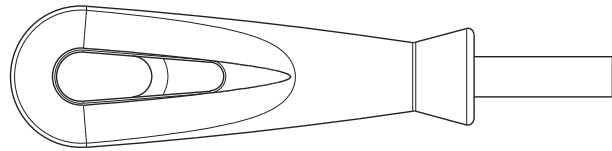


SSL - Discrete Wire IDC



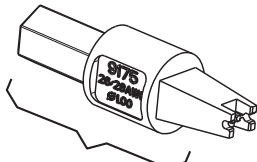
Series 9175

HAND INSERTION TOOLING SINGLE WIRE INSERTION TOOL FOR 26/28 GAUGE WIRE



UNIVERSAL HANDLE

Details	Tool Part Number
6.35 A/F HEX BIT HOLDER	06 7000 7730 01 000



ALL METAL

HIGH PRODUCTION Metal

Max Insulation Dia	Tool Part Number
∅ 1.00	06 9175 7017 01 000

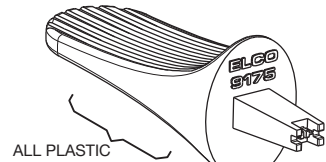


METAL SHANK

PLASTIC

MED PRODUCTION Metal/Plastic

Max Insulation Dia	Tool Part Number
∅ 1.00	06 9175 7016 01 000



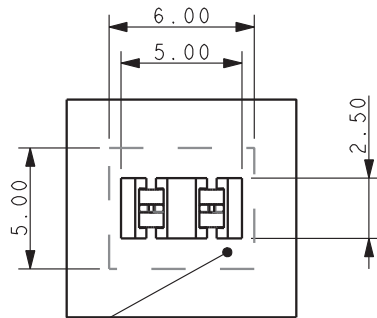
ALL PLASTIC

LOW PRODUCTION Plastic

Max Insulation Dia	Tool Part Number
∅ 1.00	06 9175 7004 01 000

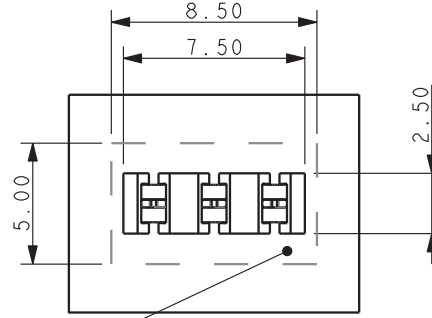
CLEARANCE AREA ON PCB FOR HAND TOOLING

2 WAY



AREA TO BE KEPT CLEAR FOR TOOLING

3 WAY



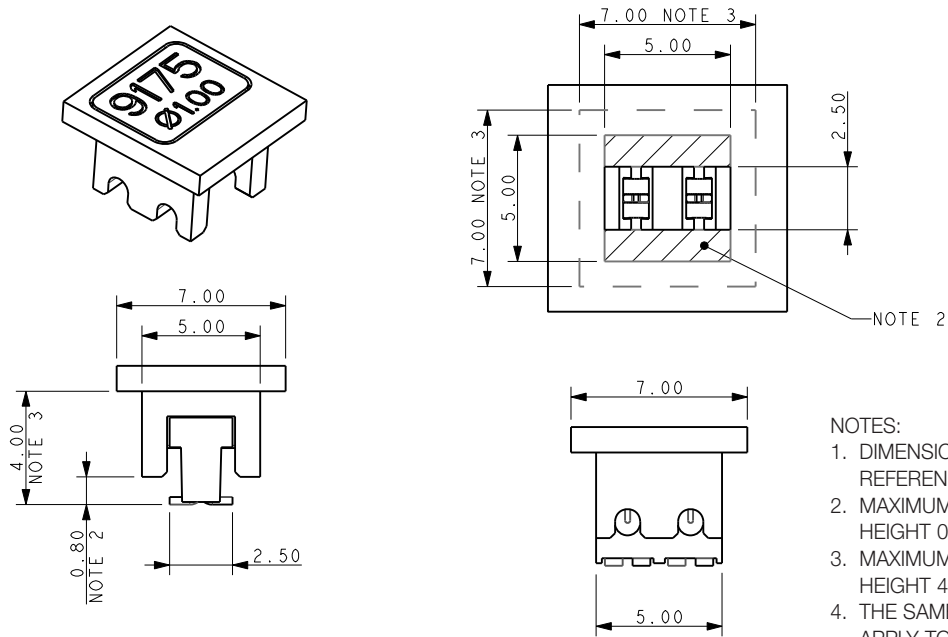
AREA TO BE KEPT CLEAR FOR TOOLING

INSERTION TOOLING REQUIRES HAND PRESS WITH FLAT ROCK PLATES

2 WAY TOOL

TOOL NUMBER 06-9175-7017-01-002

SKETCH SHOWS PCB RESTRICTED AREAS FOR ASSEMBLY TOOLING



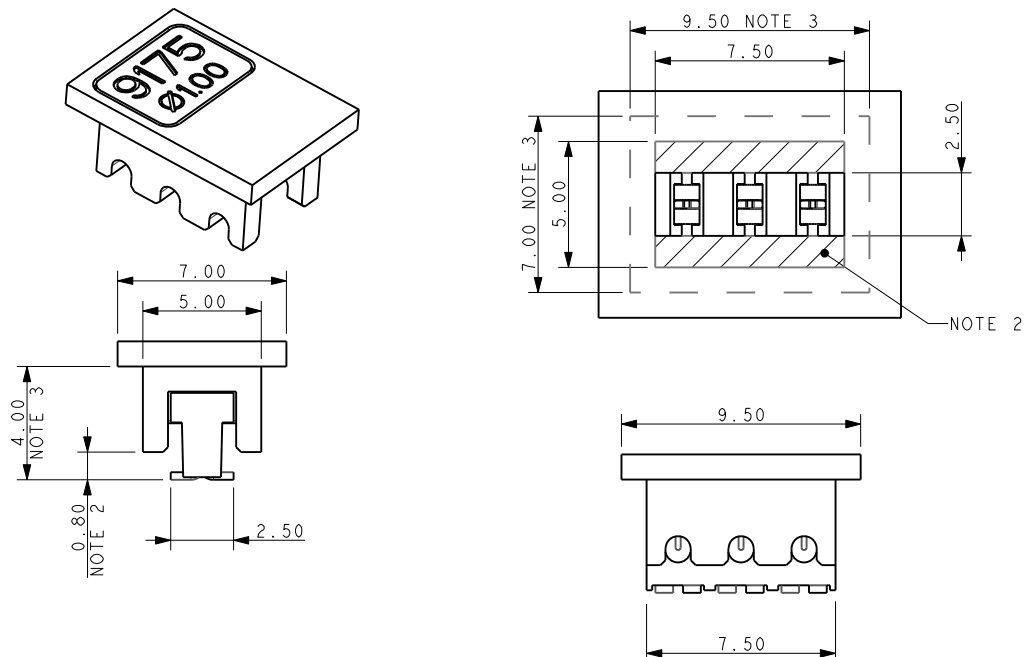
NOTES:

1. DIMENSIONS SHOWN ARE REFERENCE DIMENSIONS.
2. MAXIMUM COMPONENT HEIGHT 0.80MM IN THIS AREA.
3. MAXIMUM COMPONENT HEIGHT 4.00MM IN THIS AREA.
4. THE SAME RESTRICTIONS APPLY TO ALL WIRE INSULATION DIAMETERS.

3 WAY TOOL

TOOL NUMBER 06-9175-7017-01-003

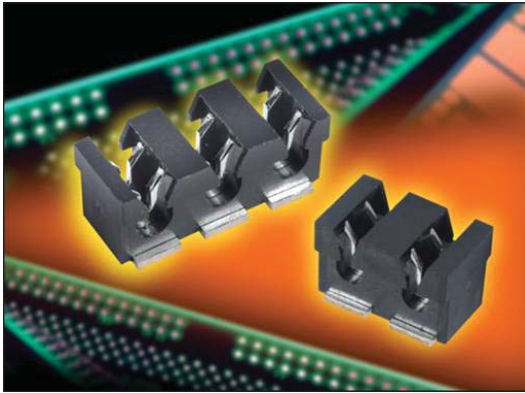
SKETCH SHOWS PCB RESTRICTED AREAS FOR ASSEMBLY TOOLING



SSL - Discrete Wire IDC



Series 9176



The 917X series of surface mount Insulation Displacement Connectors (IDC) were developed to meet the harsh automotive and industrial market applications for connecting individual wires directly to a PCB ranging from 14 AWG to 28 AWG. This industry proven contact system has been tested to automotive levels of shock, vibration, and temperature cycling to prove their reliability and robustness. The simplicity of inserting a wire into the connector with a small tool allows a wide range of devices to be connected to the PCB without soldering. In SSL applications specifically, these connectors are used to bring power and signal onto the PCB or are used to daisy chain multiple boards together in a long string. While the IDC contact provides a gas-tight connection to conductor of the wire, the housing has been designed to grab the insulation of the wire to provide a positive strain relief even in the harshest conditions. In case of repair, the wires can be removed and replace up to three times.

The 9176 series accepts 18 AWG to 24 AWG wires with an insulation diameter ranging from 1.1mm to 2.1mm. These dual contact connectors support a 10 amp current rating with two large SMT solder tails per wire to provide maximum stability on the PCB. Available in 1p-3p configuration, these connectors can be end stackable for higher pin counts. The 9176 series also comes with optional locking strain relief caps that act as the termination tool for severe vibration applications.

APPLICATIONS

- Connecting discrete wire components directly to the PCB
- Bringing power and signals onto a PCB
- Daisy chaining PCB's together to create a continuous string of boards
- Application Notes: refer to 201-01-124

FEATURES AND BENEFITS

- IDC contact provides a gas-tight connection to the PCB for long term reliability
- Connector housing captures the wire insulation for positive strain relief
- Tested to automotive levels on shock, vibration and temperature cycling for reliability
- Low and high volume assembly tools to match production volumes
- Reduced total applied cost versus solder or crimp processes
- Optional thru and end caps lock in place to provide maximum strain relief
- High temperature insulator capable to 260°C reflow soldering processes

ELECTRICAL

- Current Rating: 10 Amp / Contact
- Voltage Rating: 250 VAC

ENVIRONMENTAL

- Operating Temperature: -40°C to +125°C

MECHANICAL

- Insulator Material: Nylon 46: UL94V0
- Contact Material: Phosphor Bronze
- Plating: Tin over Nickel
- Durability: 3 Cycles

HOW TO ORDER

00
Prefix

9176
Series

00X
Number of Ways

Code	No of Ways	Details
001	1	Page 44
002	2	Page 45
003	3	Page 46

00X
Wire Gauge Size

Code	Accepted Wire Gauge	Wire Insulation	Cap Code Pages 47-48
001	18 Gauge Stranded	Ø 1.6-2.1	021
011	20 Gauge Stranded	Ø 1.6-2.1	021
022	22 Gauge Stranded	Ø 1.1-1.6	016
032	24 Gauge Stranded	Ø 1.1-1.6	016

X
Insulator Color

Code	Color	Application
0	Black	Industrial
1	White	Lighting

06
Plating Option
06 = Pure Tin all over

Certification: UL File #E320991

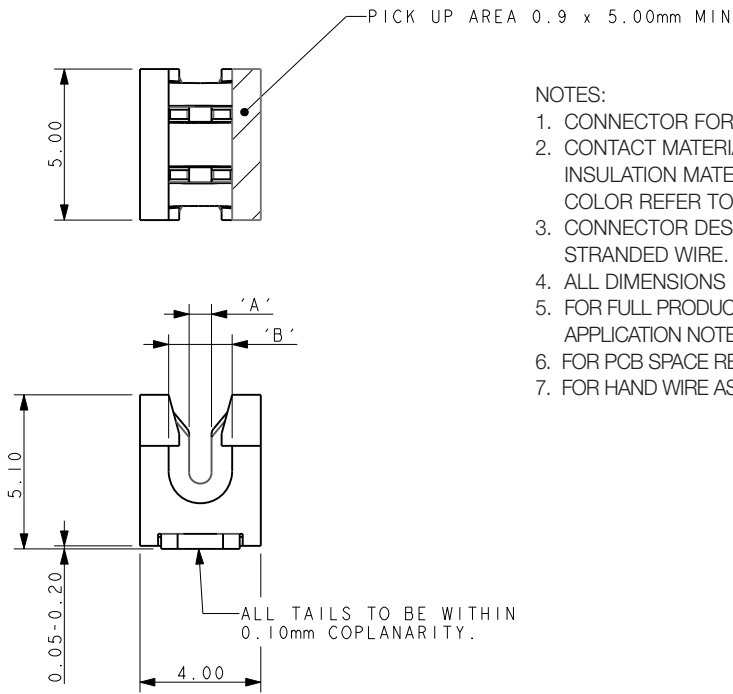


SSL - Discrete Wire IDC



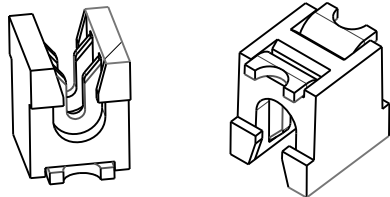
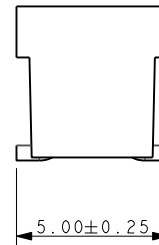
Series 9176

18-24 AWG 1 WAY IDC CONNECTOR



NOTES:

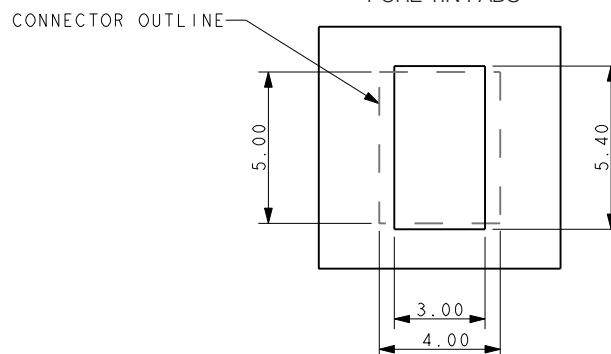
1. CONNECTOR FOR IDC WIRE TO BOARD CONNECTION.
2. CONTACT MATERIAL: PHOSPHORE BRONZE.
INSULATION MATERIAL: HIGH TEMPERATURE NYLON 46.
COLOR REFER TO PAGE 43.
3. CONNECTOR DESIGNED TO ACCEPT BETWEEN 24 AND 18 GAUGE STRANDED WIRE.
4. ALL DIMENSIONS FOR REFERENCE UNLESS OTHERWISE STATED.
5. FOR FULL PRODUCT SPECIFICATION REFER TO ELCO SPEC 201-01-106 AND APPLICATION NOTES 201-01-124.
6. FOR PCB SPACE RESTRICTED BY WIRE ASSEMBLY TOOLING REFER TO PAGE 47.
7. FOR HAND WIRE ASSEMBLY TOOLING REFER TO PAGE 49.



Code	Accepted Wire Gauge	A	Wire Insulation	B
001	18 Gauge Stranded	0.72	Ø 1.6-2.1	2.1
011	20 Gauge Stranded	0.60	Ø 1.6-2.1	2.1
022	22 Gauge Stranded	0.47	Ø 1.1-1.6	1.6
032	24 Gauge Stranded	0.37	Ø 1.1-1.6	1.6

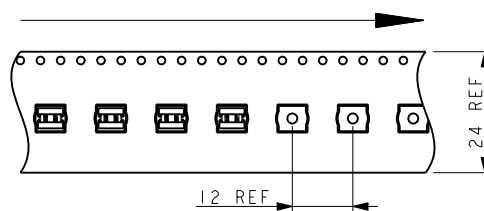
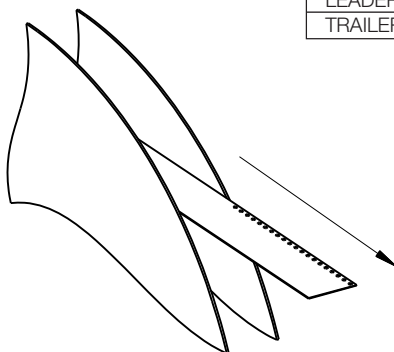
SMT PCB LAYOUT

PURE TIN PADS



PACKING DETAILS

REEL QTY	1000
LEADER	480MM
TRAILER	120MM

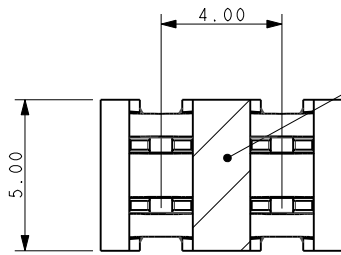


SSL - Discrete Wire IDC



Series 9176

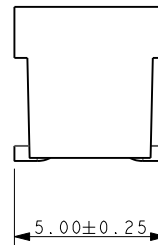
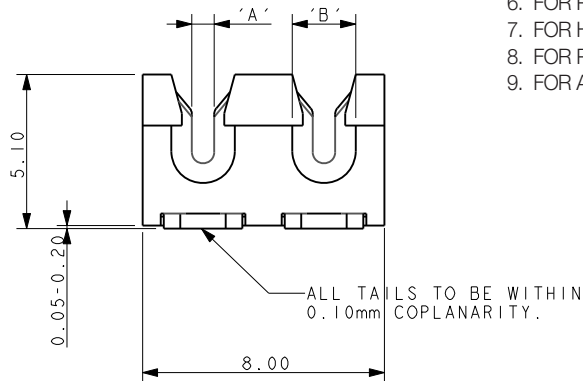
18-24 AWG 2 WAY IDC CONNECTOR



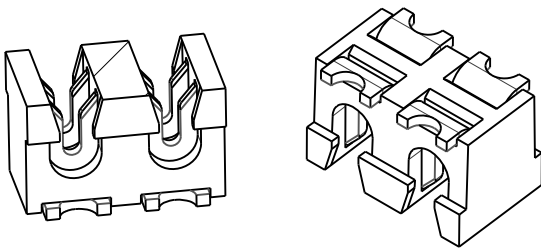
PICK UP AREA 1.9 x 5.00mm MIN

NOTES:

1. CONNECTOR FOR IDC WIRE TO BOARD CONNECTION.
2. CONTACT MATERIAL: PHOSPHORE BRONZE.
INSULATION MATERIAL: HIGH TEMPERATURE NYLON 46.
COLOR REFER TO PAGE 43.
3. CONNECTOR DESIGNED TO ACCEPT BETWEEN 24 AND 18 GAUGE STRANDED WIRE.
4. ALL DIMENSIONS FOR REFERENCE UNLESS OTHERWISE STATED.
5. FOR FULL PRODUCT SPECIFICATION REFER TO ELCO SPEC 201-01-106 AND APPLICATION NOTES 201-01-124.
6. FOR PCB SPACE RESTRICTED BY WIRE ASSEMBLY TOOLING REFER TO PAGE 47.
7. FOR HAND WIRE ASSEMBLY TOOLING REFER TO PAGE 49
8. FOR PRESS WIRE ASSEMBLY TOOLING REFER TO PAGE 50.
9. FOR ACCESSORY CAPS REFER TO PAGES 47 AND 48.

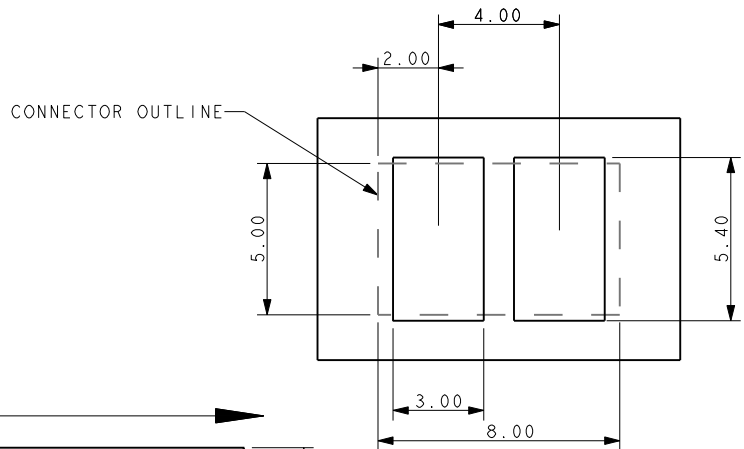


Code	Accepted Wire Gauge	A	Wire Insulation	B
001	18 Gauge Stranded	0.72	Ø 1.6-2.1	2.1
011	20 Gauge Stranded	0.60	Ø 1.6-2.1	2.1
022	22 Gauge Stranded	0.47	Ø 1.1-1.6	1.6
032	24 Gauge Stranded	0.37	Ø 1.1-1.6	1.6



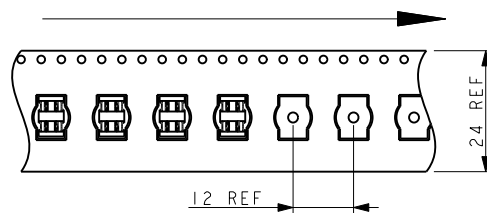
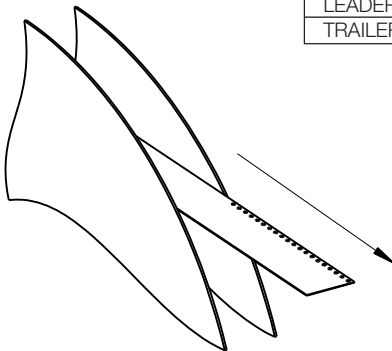
SMT PCB LAYOUT

PURE TIN PADS



PACKING DETAILS

REEL QTY	1000
LEADER	480MM
TRAILER	120MM

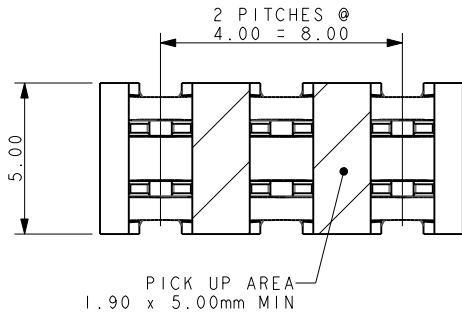


SSL - Discrete Wire IDC



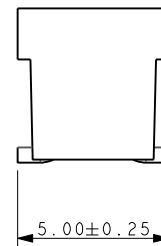
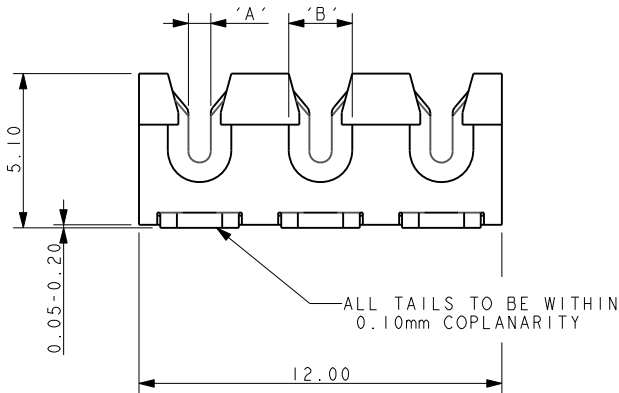
Series 9176

18-24 AWG 3 WAY IDC CONNECTOR

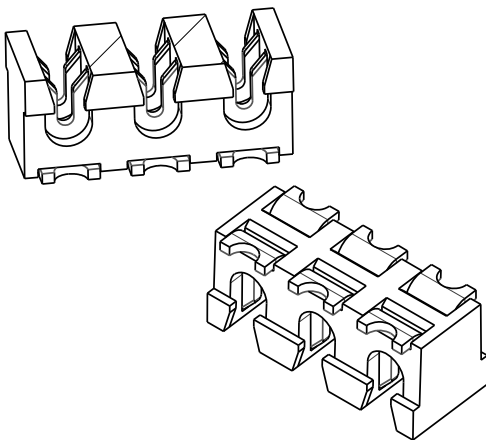


NOTES:

1. CONNECTOR FOR IDC WIRE TO BOARD CONNECTION.
2. CONTACT MATERIAL: PHOSPHORE BRONZE.
INSULATION MATERIAL: HIGH TEMPERATURE NYLON 46.
COLOR REFER TO PAGE 43.
3. CONNECTOR DESIGNED TO ACCEPT BETWEEN 24 AND 18 GAUGE STRANDED WIRE.
4. ALL DIMENSIONS FOR REFERENCE UNLESS OTHERWISE STATED.
5. FOR FULL PRODUCT SPECIFICATION REFER TO ELCO SPEC 201-01-106 AND APPLICATION NOTES 201-01-124.
6. FOR PCB SPACE RESTRICTED BY WIRE ASSEMBLY TOOLING REFER TO PAGE 47.
7. FOR HAND WIRE ASSEMBLY TOOLING REFER TO PAGE 49
8. FOR PRESS WIRE ASSEMBLY TOOLING REFER TO PAGE 50.
9. FOR ACCESSORY CAPS REFER TO PAGES 47 AND 48.

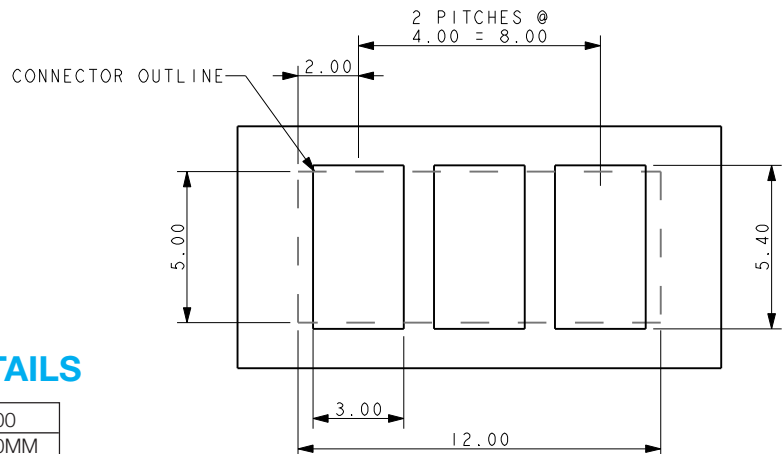


Code	Accepted Wire Gauge	A	Wire Insulation	B
001	18 Gauge Stranded	0.72	Ø 1.6-2.1	2.1
011	20 Gauge Stranded	0.60	Ø 1.6-2.1	2.1
022	22 Gauge Stranded	0.47	Ø 1.1-1.6	1.6
032	24 Gauge Stranded	0.37	Ø 1.1-1.6	1.6



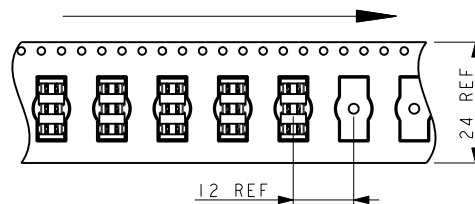
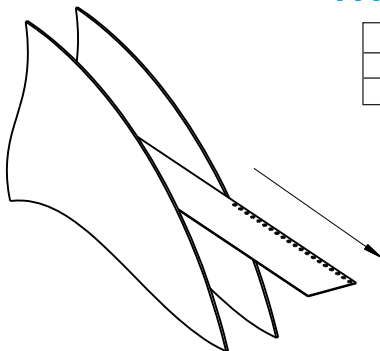
SMT PCB LAYOUT

PURE TIN PADS



PACKING DETAILS

REEL QTY	1000
LEADER	480MM
TRAILER	120MM



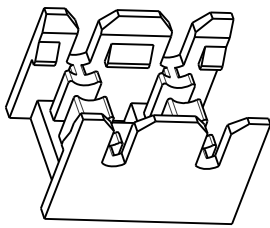
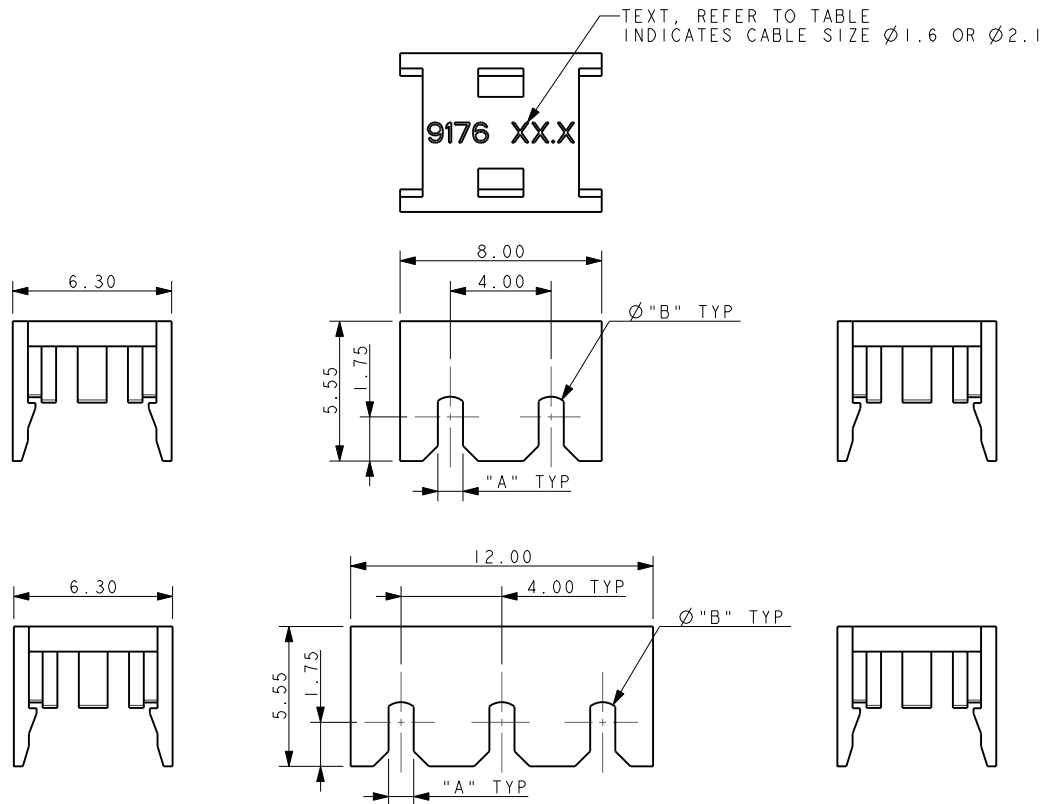
SSL - Discrete Wire IDC



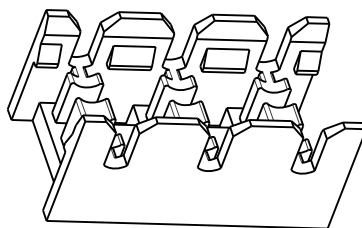
Series 9176

60-9176-00X-0XX-X00

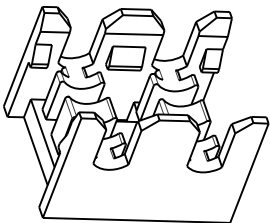
ACCESSORY CAP – THROUGH WIRE



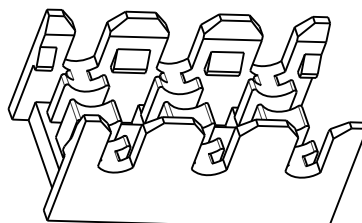
60-9176-002-016-X00



60-9176-003-016-X00



60-9176-002-021-X00



60-9176-003-021-X00

NOTES:

1. CAP FOR IDC WIRE TO BOARD CONNECTION, 2 AND 3 WAY, THROUGH WIRE.
2. FOR USE WITH STANDARD 9176 IDC CONNECTORS, SEE PAGE 43 FOR THE CORRECT PART CODE TO MATCH WIRE.
3. CAP MATERIAL: GLASS FILLED NYLON 46, FOR COLORS SEE TABLE BELOW.
4. DIMENSIONS A, B AND TEXT, SEE TABLE BELOW.
5. CAPS DESIGNED TO ACCOMMODATE WIRE INSULATION DIAMETERS 1.1MM TO 1.6MM AND 1.6MM TO 2.1MM.
6. ALL DIMENSIONS SHOWN ARE REFERENCE DIMENSIONS.
7. PACKED IN BAGS, 1000 PIECES PER BAG.

Code	Slot A	Diameter B	Text	Color	X00
016	1.60	1.00	9176 $\varnothing 1.6$	Black	000
021	2.10	1.50	9176 $\varnothing 2.1$	White	100

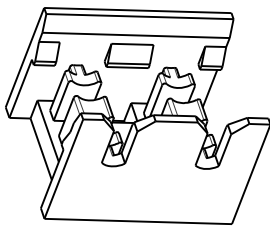
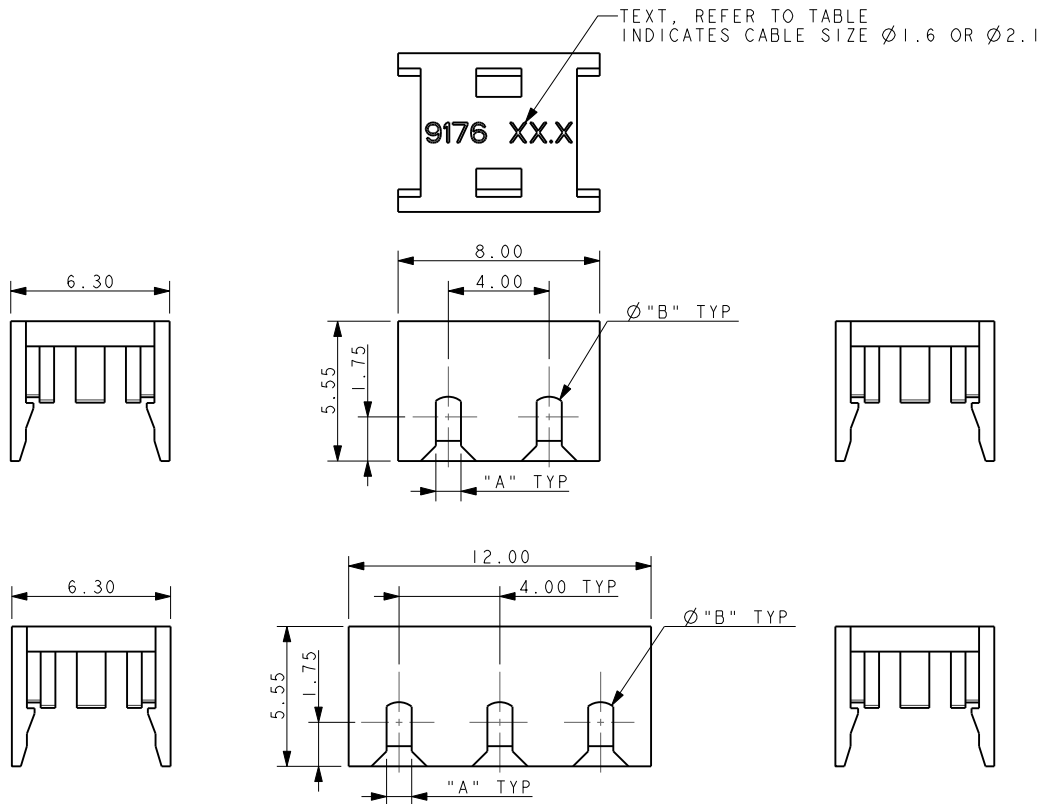


SSL - Discrete Wire IDC

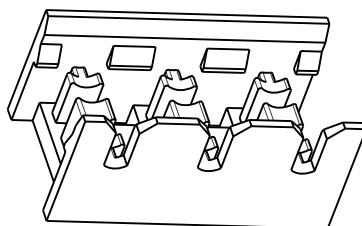


Series 9176

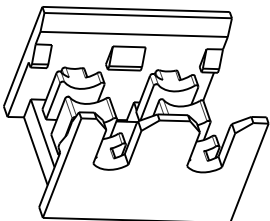
60-9176-00X-0XX-X99 ACCESSORY CAP - WIRE STOP



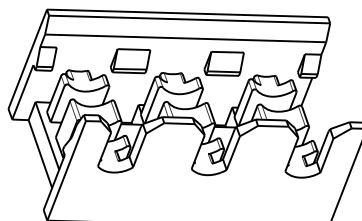
60-9176-002-016-X99



60-9176-003-016-X99



60-9176-002-021-X99



60-9176-003-021-X99

NOTES:

1. CAP FOR IDC WIRE TO BOARD CONNECTION, 2 AND 3 WAY, WITH WIRE STOP.
2. FOR USE WITH STANDARD 9176 IDC CONNECTORS, SEE PAGE 43 FOR THE CORRECT PART CODE TO MATCH WIRE.
3. CAP MATERIAL: GLASS FILLED NYLON 46, FOR COLORS SEE TABLE BELOW.
4. DIMENSIONS A, B AND TEXT, SEE TABLE BELOW.
5. CAPS DESIGNED TO ACCOMMODATE WIRE INSULATION DIAMETERS 1.1MM TO 1.6MM AND 1.6MM TO 2.1MM.
6. ALL DIMENSIONS SHOWN ARE REFERENCE DIMENSIONS.
7. PACKED IN BAGS, 1000 PIECES PER BAG.

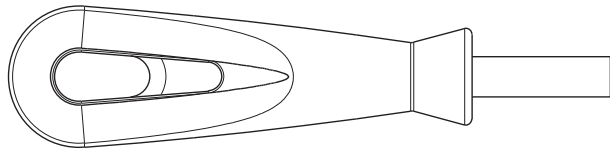
Code	Slot A	Diameter B	Text	Color	X99
016	1.60	1.00	9176 Ø1.6	Black	099
021	2.10	1.50	9176 Ø2.1	White	199

SSL - Discrete Wire IDC



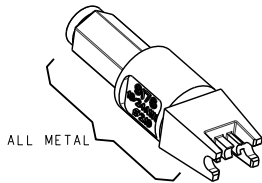
Series 9176

HAND INSERTION TOOLING FOR SINGLE 18/24 GAUGE WIRE



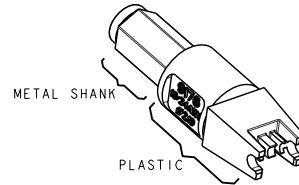
UNIVERSAL HANDLE

Details	Tool Part Number
6.35 A/F HEX BIT HOLDER	06 7000 7730 01 000



HIGH PRODUCTION Metal

Max Insulation Dia	Tool Part Number
∅ 2.10	06 9176 7017 01 000
∅ 1.60	06 9176 7017 02 000

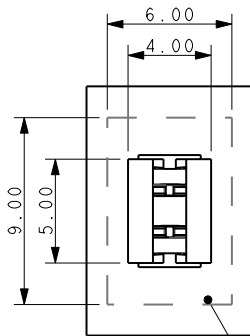


MED PRODUCTION Metal/Plastic

Max Insulation Dia	Tool Part Number
∅ 2.10	06 9176 7016 01 000
∅ 1.60	06 9176 7016 02 000

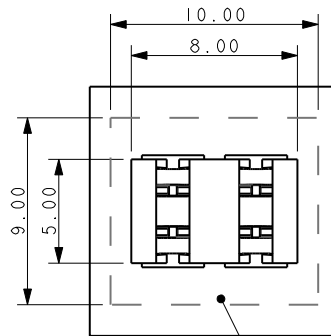
CLEARANCE AREA ON PCB FOR HAND TOOLING

1 WAY



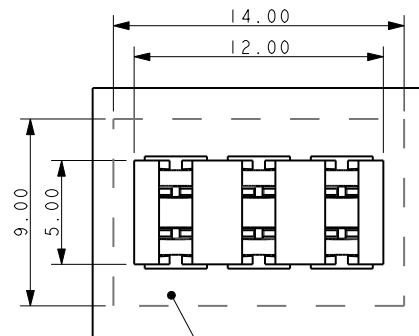
AREA TO BE KEPT CLEAR FOR TOOLING

2 WAY



AREA TO BE KEPT CLEAR FOR TOOLING

3 WAY



AREA TO BE KEPT CLEAR FOR TOOLING

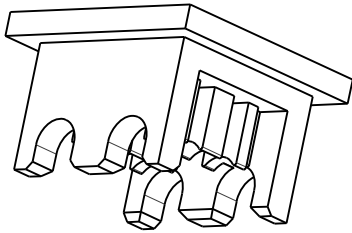
SSL - Discrete Wire IDC



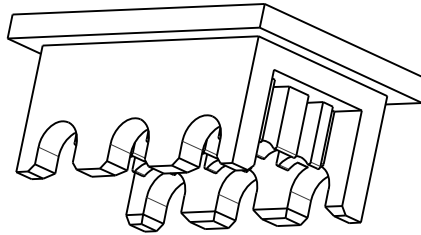
Series 9176

INSERTION TOOLING REQUIRES HAND PRESS WITH FLAT ROCK PLATES

2 WAY



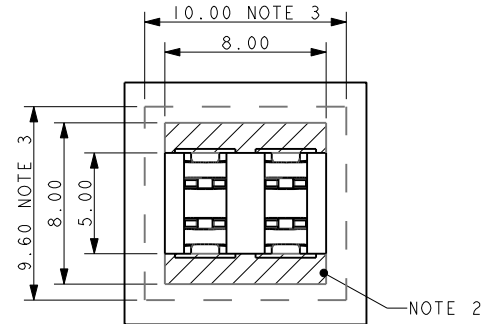
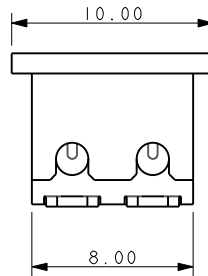
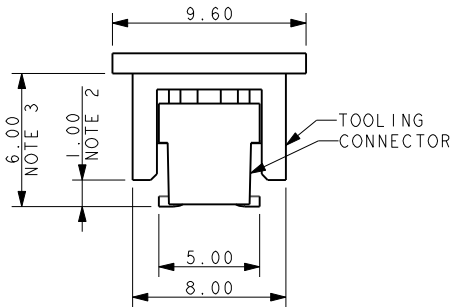
3 WAY



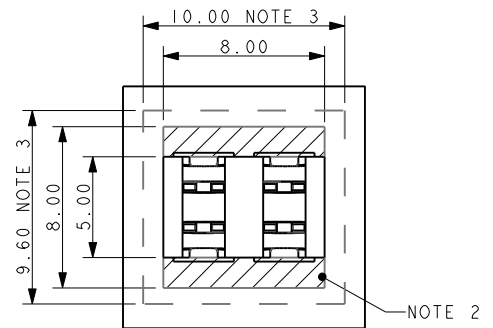
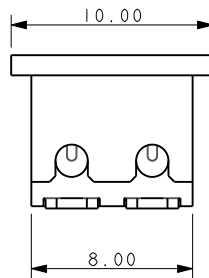
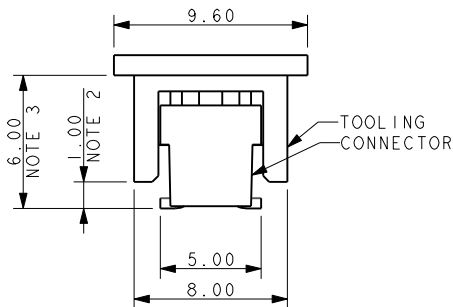
HIGH PRODUCTION Metal

No. of Ways	Max Insulation Dia	Tool Part Number
2	∅ 2.10	06 9176 7017 01 002
	∅ 1.60	06 9176 7017 02 002
3	∅ 2.10	06 9176 7017 01 003
	∅ 1.60	06 9176 7017 02 003

2 WAY



3 WAY



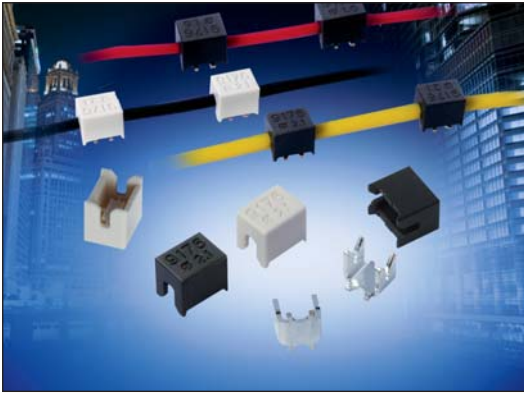
NOTES:

1. DIMENSIONS SHOWN ARE REFERENCE DIMENSIONS.
2. MAXIMUM COMPONENT HEIGHT 1.00MM IN THIS AREA.
3. MAXIMUM COMPONENT HEIGHT 6.00MM IN THIS AREA.
4. THE SAME RESTRICTIONS APPLY TO ALL WIRE INSULATION DIAMETERS
5. 2 AND 3 WAY TOOLS ONLY, FOR USE UNDER HAND PRESS WITH FLAT PLATES.
6. FOR HAND TOOLING REFER TO PAGE 47.



SSL - Discrete Wire IDC Contact & Cap

Series 9176



The 917X series of surface mount Insulation Displacement Connectors (IDC) were developed to meet the harsh automotive and industrial market applications for connecting individual wires directly to a PCB ranging from 14 AWG to 28 AWG. This industry proven contact system has been tested to automotive levels of shock, vibration, and temperature cycling to prove their reliability and robustness. This new single contact was developed as a standalone component to enhance the application uses with the IDC technology. The simplicity of inserting a wire into an SMT contact with a small tool or optional retention / termination cap allows a wide range of devices to be connected to the PCB without soldering. In SSL applications specifically, these contacts are used to bring power and signal onto the PCB or are used to daisy chain multiple boards together in a long string. While the IDC contact provides a gas-tight connection to conductor of the wire, the optional cap provides a positive strain relief even in the harshest conditions. In case of repair, the wires can be removed and replace up to three times.

The single 9176 series contact and cap accepts 18 AWG to 24 AWG wires with an insulation diameter ranging from 1.1mm to 2.1mm. These dual beam contacts support a 10 amp current rating with a large SMT solder base to provide maximum stability on the PCB. The optional locking strain relief cap acts as the termination tool for severe vibration applications.

APPLICATIONS

- Connecting discrete wire components directly to the PCB
- Bringing power and signals onto a PCB
- Daisy chaining PCB's together to create a continuous string of boards
- Application notes: refer to 201-01-124

FEATURES AND BENEFITS

- IDC contact is supplied in T&R pockets for standard SMT placement
- IDC contact provides a gas-tight connection to the PCB for long term reliability
- Optional termination cap provides additional strain relief for severe environments
- Tested to automotive levels on shock, vibration and temperature cycling for reliability
- Reduced total applied cost versus solder or crimp processes
- Individual contacts can be located anywhere on the PCB based on specific application

ELECTRICAL

- Current Rating: 10 Amps/Contact
- Voltage Rating: Dependant on component proximity

ENVIRONMENTAL

- Operating Temperature: -40°C to +125°C

MECHANICAL

- Insulator Material: Nylon 46: UL94V0
- Contact Material: Phosphor Bronze
- Plating: Tin over Nickel
- Durability: 3 Cycles

HOW TO ORDER – CONTACT OPTIONS

70	9176	001	5XX	006																
Prefix	Series	Number of Ways	Wire Gauge Size	Plating Option																
70 = Contact				06 = Pure Tin all over																
		<table border="1"> <thead> <tr> <th>Code</th> <th>No of Ways</th> <th>Details</th> </tr> </thead> <tbody> <tr> <td>001</td> <td>1</td> <td>Page 57</td> </tr> </tbody> </table>	Code	No of Ways	Details	001	1	Page 57	<table border="1"> <thead> <tr> <th>Code</th> <th>Accepted Wire Gauge</th> </tr> </thead> <tbody> <tr> <td>501</td> <td>18 Gauge Stranded</td> </tr> <tr> <td>511</td> <td>20 Gauge Stranded</td> </tr> <tr> <td>522</td> <td>22 Gauge Stranded</td> </tr> <tr> <td>532</td> <td>24 Gauge Stranded</td> </tr> </tbody> </table>	Code	Accepted Wire Gauge	501	18 Gauge Stranded	511	20 Gauge Stranded	522	22 Gauge Stranded	532	24 Gauge Stranded	
Code	No of Ways	Details																		
001	1	Page 57																		
Code	Accepted Wire Gauge																			
501	18 Gauge Stranded																			
511	20 Gauge Stranded																			
522	22 Gauge Stranded																			
532	24 Gauge Stranded																			

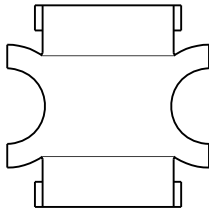
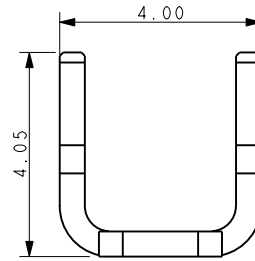
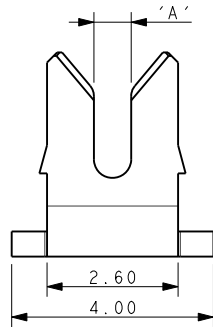
HOW TO ORDER – CAP OPTIONS

60	9176	001	5XX	X00																					
Prefix	Series	Number of Ways	Wire Gauge Size	Insulator Color																					
60 = Cap																									
		<table border="1"> <thead> <tr> <th>Code</th> <th>No of Ways</th> <th>Details</th> </tr> </thead> <tbody> <tr> <td>001</td> <td>1</td> <td>Page 60</td> </tr> </tbody> </table>	Code	No of Ways	Details	001	1	Page 60	<table border="1"> <thead> <tr> <th>Code</th> <th>Wire Insulation</th> </tr> </thead> <tbody> <tr> <td>516</td> <td>Ø 1.1-1.6</td> </tr> <tr> <td>521</td> <td>Ø 1.6-2.1</td> </tr> </tbody> </table>	Code	Wire Insulation	516	Ø 1.1-1.6	521	Ø 1.6-2.1	<table border="1"> <thead> <tr> <th>Code</th> <th>Color</th> <th>Application</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>Black</td> <td>Industrial</td> </tr> <tr> <td>1</td> <td>White</td> <td>Lighting</td> </tr> </tbody> </table>	Code	Color	Application	0	Black	Industrial	1	White	Lighting
Code	No of Ways	Details																							
001	1	Page 60																							
Code	Wire Insulation																								
516	Ø 1.1-1.6																								
521	Ø 1.6-2.1																								
Code	Color	Application																							
0	Black	Industrial																							
1	White	Lighting																							

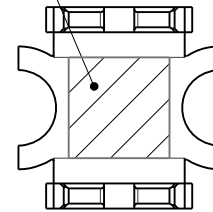
SSL - Discrete Wire IDC Contact & Cap

Series 9176

CONTACT DETAILS



AREA AVAILABLE FOR PICK & PLACE 2.00mm SQUARE

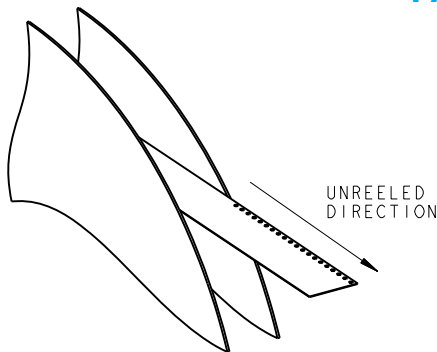


Code	Accepted Wire Gauge	A
501	18 Gauge Stranded	0.72
511	20 Gauge Stranded	0.60
522	22 Gauge Stranded	0.47
532	24 Gauge Stranded	0.37

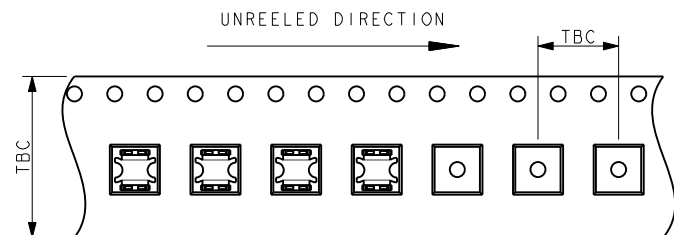
NOTES:

- CONNECTOR FOR IDC WIRE TO BOARD CONNECTION.
- CONTACT MATERIAL: PHOSPHORE BRONZE.
- CONTACT PLATING: PURE TIN.
- CONNECTOR DESIGNED TO ACCEPT BETWEEN 18 AND 24 GAUGE STRANDED WIRE. SEE TABLE.
- ALL DIMENSIONS FOR REFERENCE UNLESS OTHERWISE STATED.
- FOR FULL PRODUCT SPECIFICATION REFER TO ELCO SPEC 201-01-106 AND APPLICATION NOTES 201-01-124.
- SMT PCB LAYOUT, REFER TO PAGE 58
- PACKING IN TAPE AND REEL, QUANTITY 1000 PER REEL.
- WHEN REQUIRED, MATCHING CAP DETAILS ON DRAWING 60-9176-001-5XX-X00S.
- ASSEMBLY TOOLING ON PAGE 59 (WITH CAP AND WITHOUT CAP).

PACKING DETAILS



REEL QTY	1000
LEADER	480MM
TRAILER	120MM



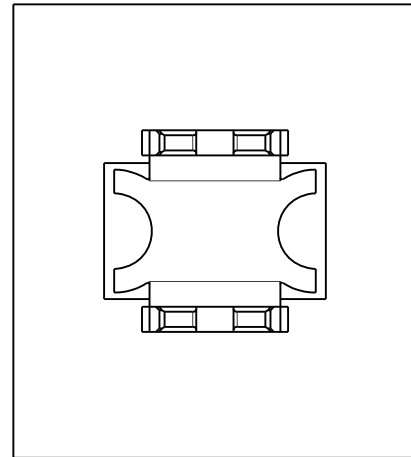
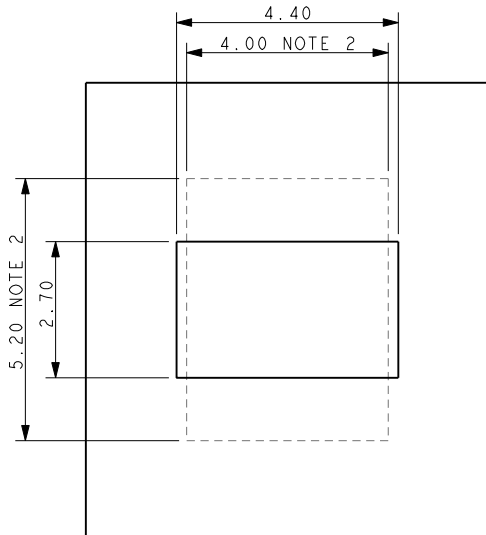
SSL - Discrete Wire IDC Contact & Cap **AVX**

Series 9176

18-24 AWG IDC WIRE TO BOARD CONNECTOR SINGLE CONTACT

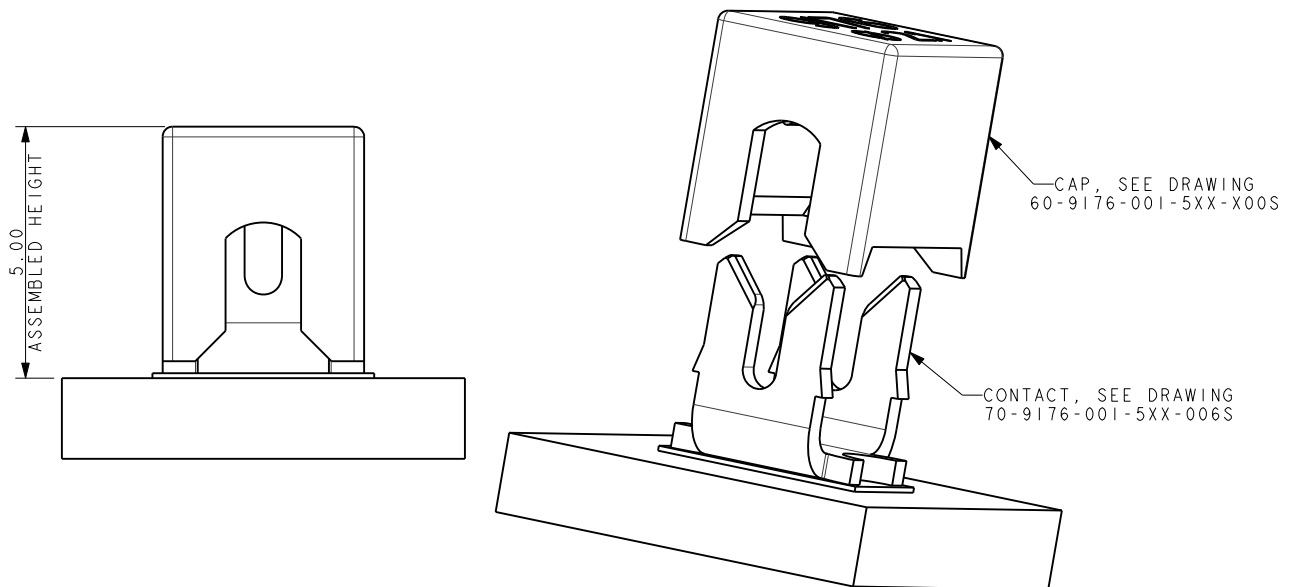
SMT PCB LAYOUT

PURE TIN PADS



ORIENTATION OF CONTACT ON PAD

ASSEMBLED/INSTALLED PRODUCTS



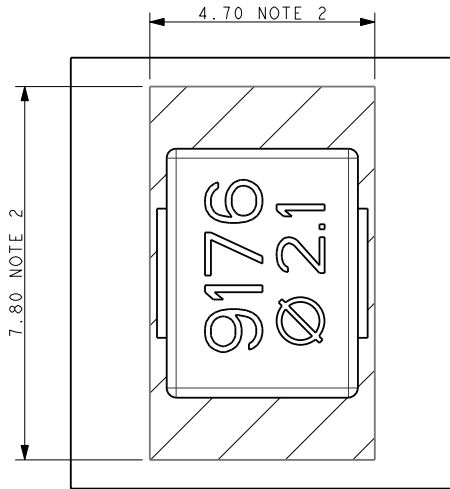
NOTES:

1. CONNECTOR CAN BE USED WITH CONTACT ONLY OR WITH OPTIONAL CAP.
2. OUTLINE OF CAP WHEN USED.
3. FOR FULL PRODUCT SPECIFICATION REFER TO ELCO SPEC 201-01-106 AND 201-01-124.
4. DIMENSIONS SHOWN ARE REFERENCED DIMENSIONS.
5. ASSEMBLY TOOLING ON PAGE 59 (WITH CAP AND WITHOUT CAP).

SSL - Discrete Wire IDC Contact & Cap

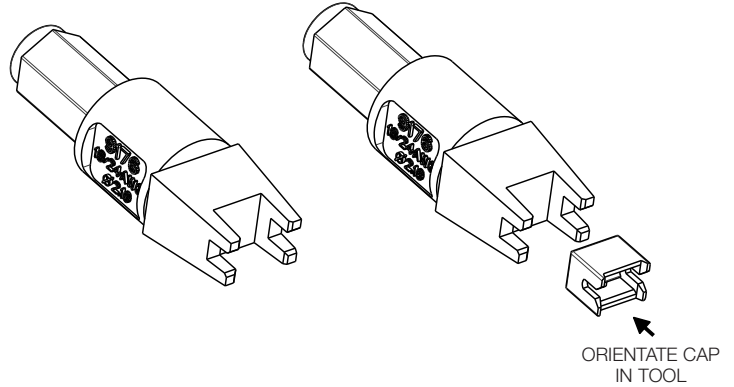
Series 9176

ASSEMBLY TOOLING – CAP USED



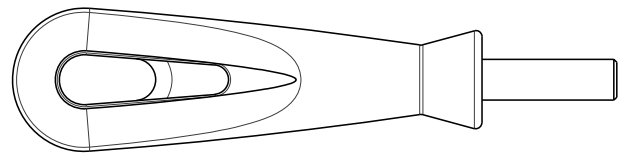
CAP APPLICATION TOOL

06-9176-7018-01-000



UNIVERSAL HANDLE

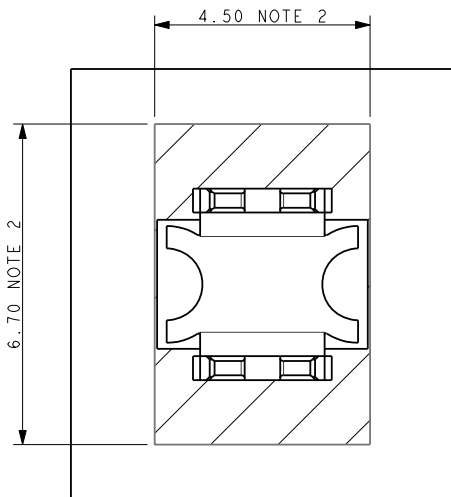
06 7000 7730 01 000



NOTES:

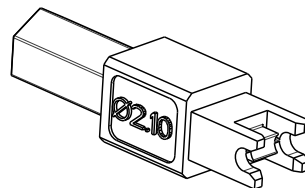
1. ASSEMBLY TOOLING FOR CAP.
2. AREA OF PCB TO BE KEPT CLEAR OF COMPONENTS, TACKS PERMISSIBLE.
3. WIRE AND CAP INSERTED IN ONE OPERATION.
4. REFER TO APPLICATION NOTE 201-01-124 FOR FURTHER INFORMATION.
5. REFER BELOW WHEN CONTACT USED WITHOUT CAP.

ASSEMBLY TOOLING – CAP NOT USED WIRE ONTO CONTACT



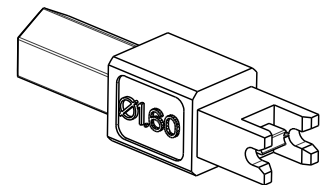
2.1 Ø WIRE

06-9176-7019-01-000
06-9176-7020-01-000



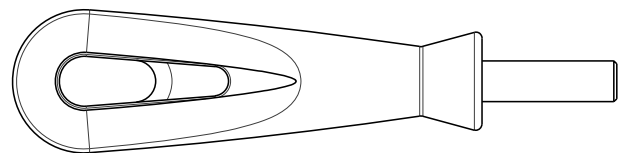
1.6 Ø WIRE

06-9176-7019-02-000
06-9176-7020-02-000



UNIVERSAL HANDLE

06 7000 7730 01 000



NOTES:

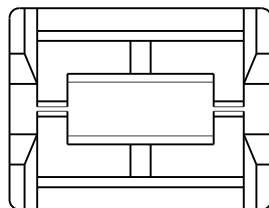
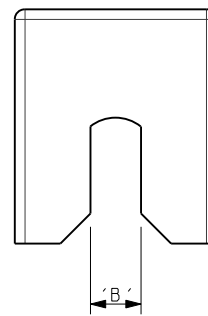
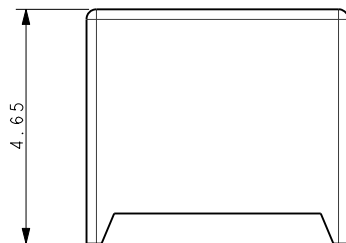
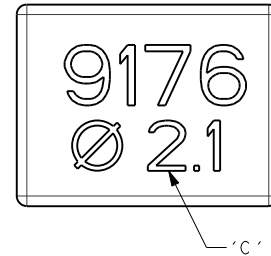
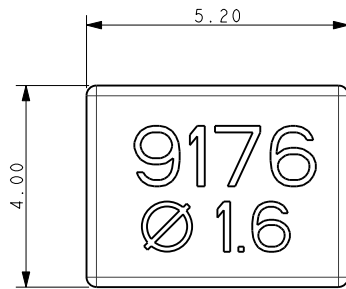
1. ASSEMBLY TOOLING FOR CONTACT ONLY, NO CAP USED.
2. MINIMUM AREA OF PCB TO BE KEPT CLEAR OF COMPONENTS, TRACK PERMISSIBLE.
3. REFER TO TABLE FOR CORRECT TOOL/WIRE COMBINATION.
4. REFER TO APPLICATION NOTE 201-01-124 FOR FURTHER INFORMATION.

Wire Gauge	Wire Insulation ϕ	Metal Tool High Volume	Plastic Tool Small to Medium Volume	Handle
18-24 AWG	1.10 to 1.60	06-9176-7019-02-000	06-9176-7020-02-000	06-7000-7730-01-000
18-24 AWG	1.60 to 2.10	06-9176-7019-01-000	06-9176-7020-01-000	06-9176-7730-01-000

SSL - Discrete Wire IDC Contact & Cap **AVX**

Series 9176

CAP DETAILS



Code	Insulator Diameter	B	Text C
516	Ø 1.1 to 1.6	1.00	Ø 1.6
521	Ø 1.6 to 2.1	1.50	Ø 2.1

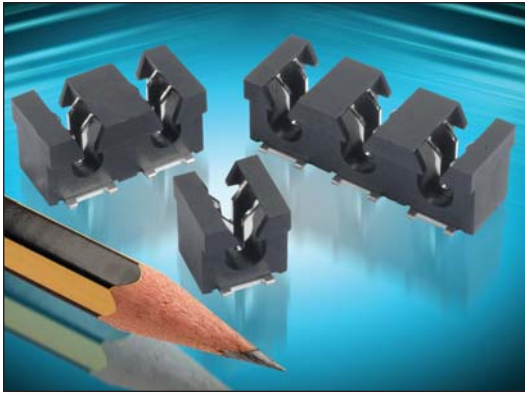
NOTES:

1. CAP FOR IDC WIRE TO BOARD CONNECTION.
2. CAP MATERIAL: GLASS FILLED NYLON 46, COLOR SEE PAGE 56.
3. CAPS DESIGNED TO ACCOMMODATE WIRE INSULATION DIAMETERS 1.1MM TO 2.1MM.
4. ALL DIMENSIONS FOR REFERENCE UNLESS OTHERWISE STATED.
5. FOR FULL PRODUCT SPECIFICATION REFER TO ELCO SPEC 201-01-106, APPLICATION NOTES 201-01-124.
6. PACKING IN BAGS, QUANTITY 1000 PER BAG.
7. FOR INSTALATION DETAILS REFER TO DRAWING 70-9176-001-XX-006S.

SSL - Discrete Wire IDC



Series 9177



The 917X series of surface mount Insulation Displacement Connectors (IDC) were developed to meet the harsh automotive and industrial market applications for connecting individual wires directly to a PCB ranging from 14 AWG to 28 AWG. This industry proven contact system has been tested to automotive levels of shock, vibration, and temperature cycling to prove their reliability and robustness. The simplicity of inserting a wire into the connector with a small tool allows a wide range of devices to be connected to the PCB without soldering. In SSL applications specifically, these connectors are used to bring power and signal onto the PCB or are used to daisy chain multiple boards together in a long string. While the IDC contact provides a gas-tight connection to conductor of the wire, the housing has been designed to grab the insulation of the wire to provide a positive strain relief even in the harshest conditions. In case of repair, the wires can be removed and replace up to three times.

The 9177 series accepts 14 AWG to 20 AWG wires with an insulation diameter ranging from 2.75mm to 4.25mm. These dual contact connectors support a 15 amp current rating with two large SMT solder tails per wire to provide maximum stability on the PCB. Available in 1p-3p configuration, these connectors can be end stackable for higher pin counts.

APPLICATIONS

- Connecting discrete wire components directly to the PCB
- Bringing power and signals onto a PCB
- Daisy chaining PCB's together to create a continuous string of boards
- Application Notes: refer to 201-01-124

FEATURES AND BENEFITS

- IDC contact provides a gas-tight connection to the PCB for long term reliability
- Connector housing captures the wire insulation for positive strain relief
- Tested to automotive levels on shock, vibration and temperature cycling for reliability
- Low and high volume assembly tools to match production volumes
- Reduced total applied cost versus solder or crimp processes
- High temperature insulator capable to 260°C reflow soldering processes

ELECTRICAL

- Current Rating: 15 Amp / Contact
- Voltage Rating: 600 VAC

ENVIRONMENTAL

- Operating Temperature: -40°C to +125°C

MECHANICAL

- Insulator Material: Nylon 46: UL94V0
- Contact Material: Phosphor Bronze
- Plating: Tin over Nickel
- Durability: 3 Cycles

HOW TO ORDER

00
Prefix

9177
Series

00X
Number of Ways

Code	No of Ways	Details
001	1	Page 52
002	2	Page 53
003	3	Page 54

00X
Wire Gauge Size

Code	Accepted Wire Gauge	Wire Insulation
001	14 AWG	Ø 4.25
012	16 AWG	Ø 3.50
022	18 AWG	Ø 3.50
033	20 AWG	Ø 2.75

X
Insulator Color

Code	Color	Application
0	Black	Industrial
1	White	Lighting

06
Plating Option
06 = Pure Tin all over

Certification: UL File #E320991

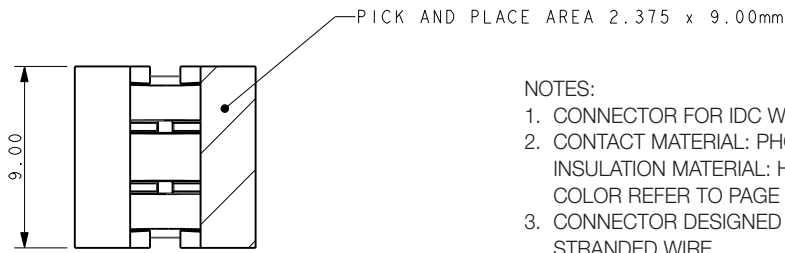


SSL - Discrete Wire IDC



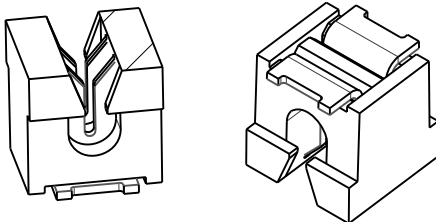
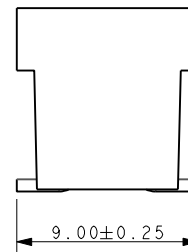
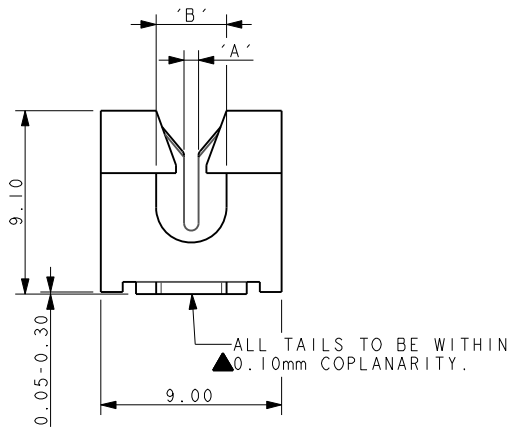
Series 9177

14-20 AWG 1 WAY IDC CONNECTOR



NOTES:

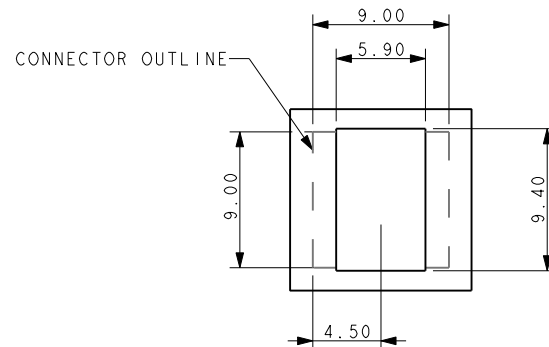
- CONNECTOR FOR IDC WIRE TO BOARD CONNECTION.
- CONTACT MATERIAL: PHOSPHORE BRONZE.
INSULATION MATERIAL: HIGH TEMPERATURE NYLON 46.
COLOR REFER TO PAGE 51.
- CONNECTOR DESIGNED TO ACCEPT BETWEEN 14 AND 20 GAUGE STRANDED WIRE.
- ALL DIMENSIONS FOR REFERENCE UNLESS OTHERWISE STATED.
- FOR FULL PRODUCT SPECIFICATION REFER TO ELCO SPEC 201-01-109.
- FOR PCB SPACE RESTRICTED BY ASSEMBLY TOOLING REFER TO PAGE 55.



Code	Accepted Wire Gauge	A	Wire Insulation	B
001	14 Gauge Stranded	1.10	Ø 4.25 max	4.25
012	16 Gauge Stranded	0.82	Ø 3.50 max	3.50
022	18 Gauge Stranded	0.72	Ø 3.50 max	3.50
033	20 Gauge Stranded	0.60	Ø 2.75 max	2.75

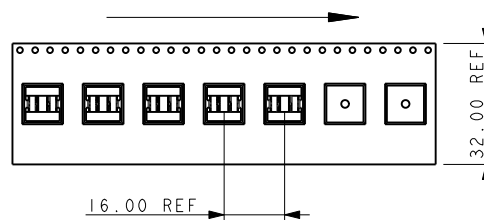
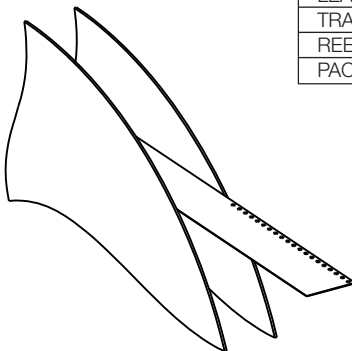
SMT PCB LAYOUT

PURE TIN PADS



PACKING DETAILS

REEL QTY	400
LEADER	500MM
TRAILER	400MM
REEL/BOX	4
PACK QTY	1600

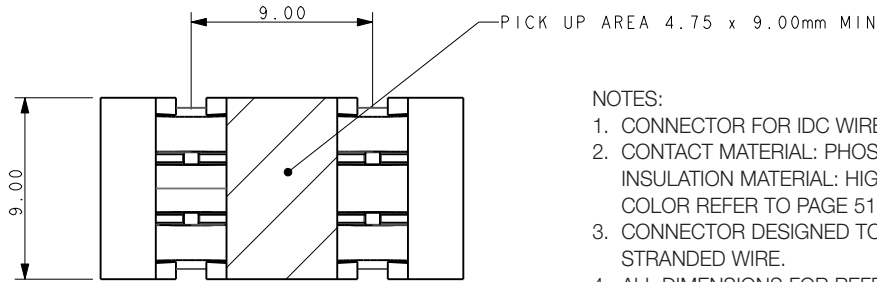


SSL - Discrete Wire IDC



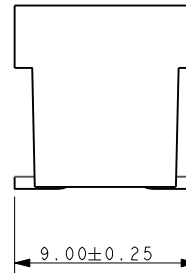
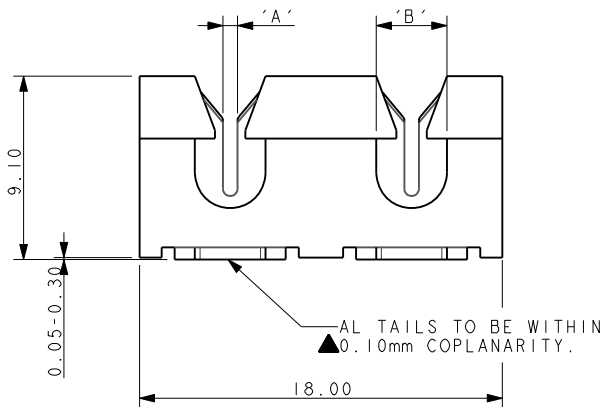
Series 9177

14-20 AWG 2 WAY IDC CONNECTOR

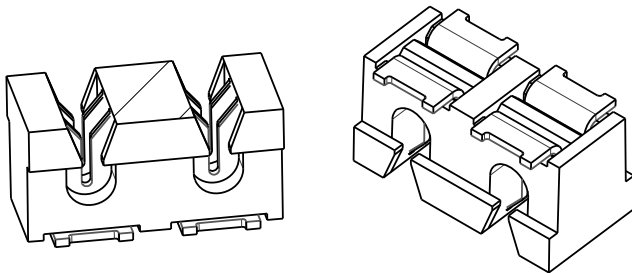


NOTES:

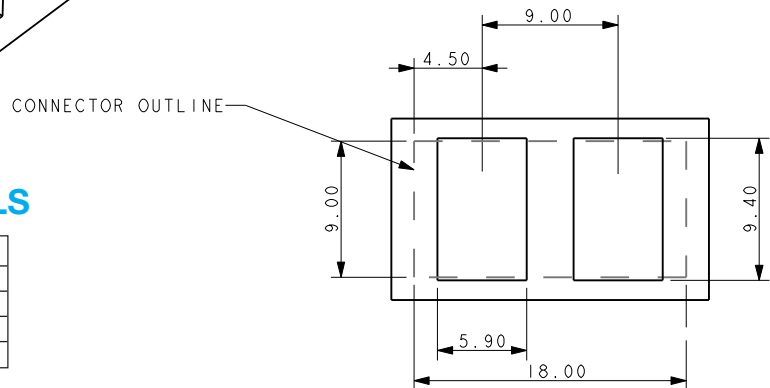
1. CONNECTOR FOR IDC WIRE TO BOARD CONNECTION.
2. CONTACT MATERIAL: PHOSPHORE BRONZE.
INSULATION MATERIAL: HIGH TEMPERATURE NYLON 46.
COLOR REFER TO PAGE 51.
3. CONNECTOR DESIGNED TO ACCEPT BETWEEN 14 AND 20 GAUGE STRANDED WIRE.
4. ALL DIMENSIONS FOR REFERENCE UNLESS OTHERWISE STATED.
5. FOR FULL PRODUCT SPECIFICATION REFER TO ELCO SPEC 201-01-109.
6. FOR PCB SPACE RESTRICTED BY ASSEMBLY TOOLING REFER TO PAGE 55.



Code	Accepted Wire Gauge	A	Wire Insulation	B
001	14 Gauge Stranded	1.10	Ø 4.25 max	4.25
012	16 Gauge Stranded	0.82	Ø 3.50 max	3.50
022	18 Gauge Stranded	0.72	Ø 3.50 max	3.50
033	20 Gauge Stranded	0.60	Ø 2.75 max	2.75

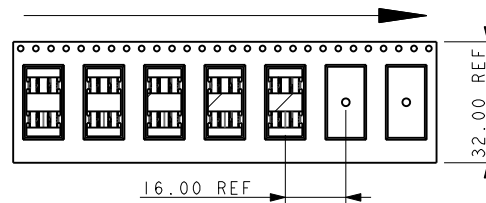
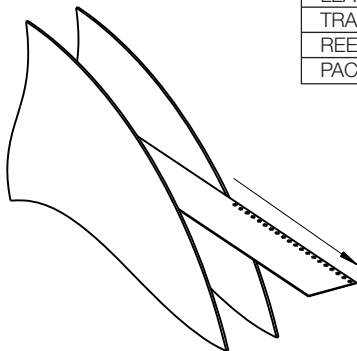


SMT PCB LAYOUT PURE TIN PADS



PACKING DETAILS

REEL QTY	400
LEADER	500MM
TRAILER	400MM
REEL/BOX	4
PACK QTY	1600

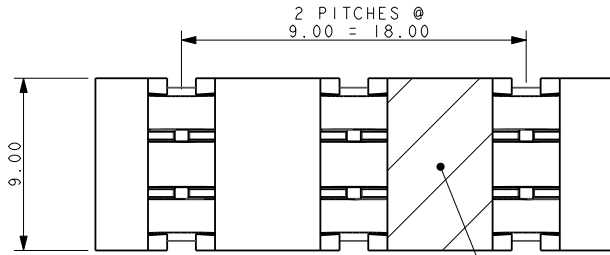


SSL - Discrete Wire IDC



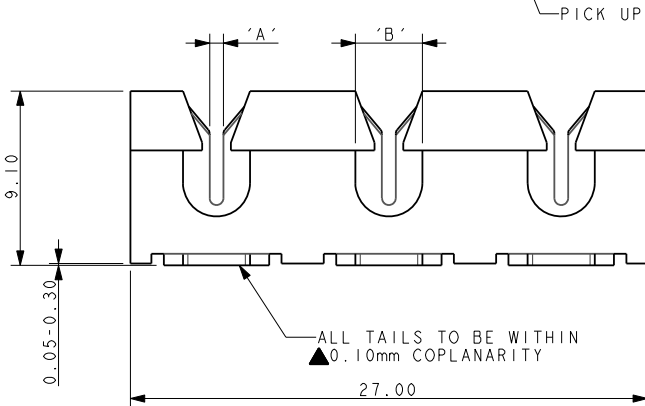
Series 9177

14-20 AWG 3 WAY IDC CONNECTOR

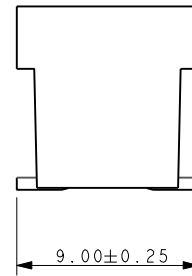


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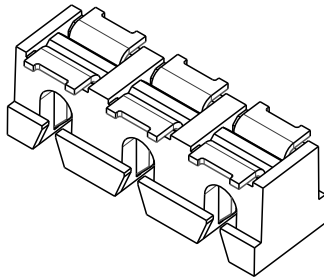
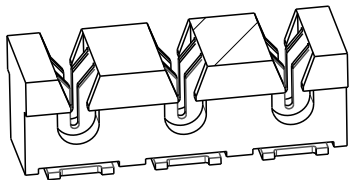
1. CONNECTOR FOR IDC WIRE TO BOARD CONNECTION.
2. CONTACT MATERIAL: PHOSPHORE BRONZE.
INSULATION MATERIAL: HIGH TEMPERATURE NYLON 46.
COLOR REFER TO PAGE 51.
3. CONNECTOR DESIGNED TO ACCEPT BETWEEN 14 AND 20 GAUGE STRANDED WIRE.
4. ALL DIMENSIONS FOR REFERENCE UNLESS OTHERWISE STATED.
5. FOR FULL PRODUCT SPECIFICATION REFER TO ELCO SPEC 201-01-109.
6. FOR PCB SPACE RESTRICTED BY ASSEMBLY TOOLING REFER TO PAGE 55.



PICK UP AREA 4.75 x 9.00mm MIN

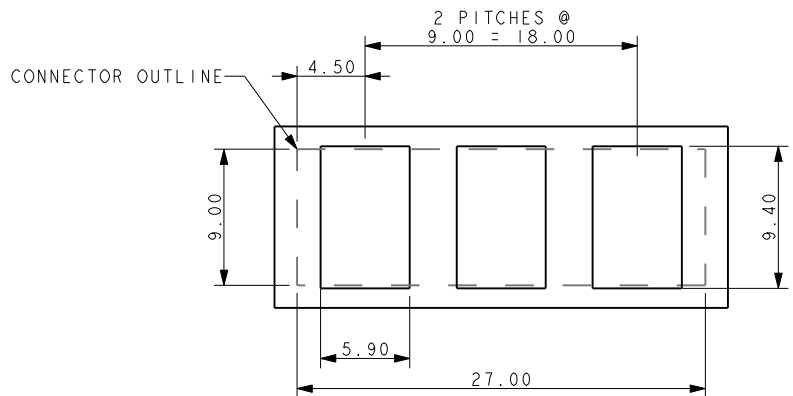


Code	Accepted Wire Gauge	A	Wire Insulation	B
001	14 Gauge Stranded	1.10	Ø 4.25 max	4.25
012	16 Gauge Stranded	0.82	Ø 3.50 max	3.50
022	18 Gauge Stranded	0.72	Ø 3.50 max	3.50
033	20 Gauge Stranded	0.60	Ø 2.75 max	2.75



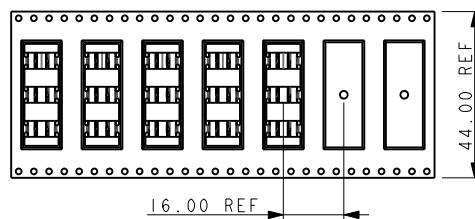
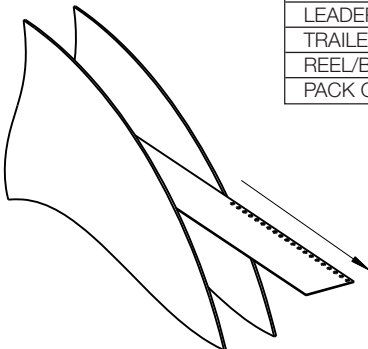
SMT PCB LAYOUT

PURE TIN PADS



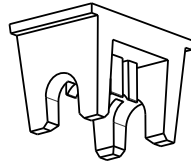
PACKING DETAILS

REEL QTY	400
LEADER	500MM
TRAILER	400MM
REEL/BOX	4
PACK QTY	1600

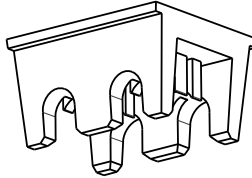


INSERTION TOOLING – REQUIRES HAND PRESS WITH FLAT ROCK PLATES

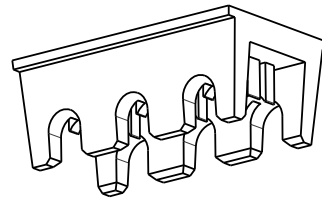
1 WAY



2 WAY



3 WAY



HIGH PRODUCTION Metal

No. of Ways	Max Insulation Dia	Tool Part Number
1	∅ 4.25	06 9177 7017 01 001
	∅ 3.50	06 9177 7017 03 001
	∅ 2.75	06 9177 7017 03 001
2	∅ 4.25	06 9177 7017 01 002
	∅ 3.50	06 9177 7017 02 002
	∅ 2.75	06 9177 7017 03 002
3	∅ 4.25	06 9177 7017 01 003
	∅ 3.50	06 9177 7017 02 003
	∅ 2.75	06 9177 7017 03 003

MED PRODUCTION Metal

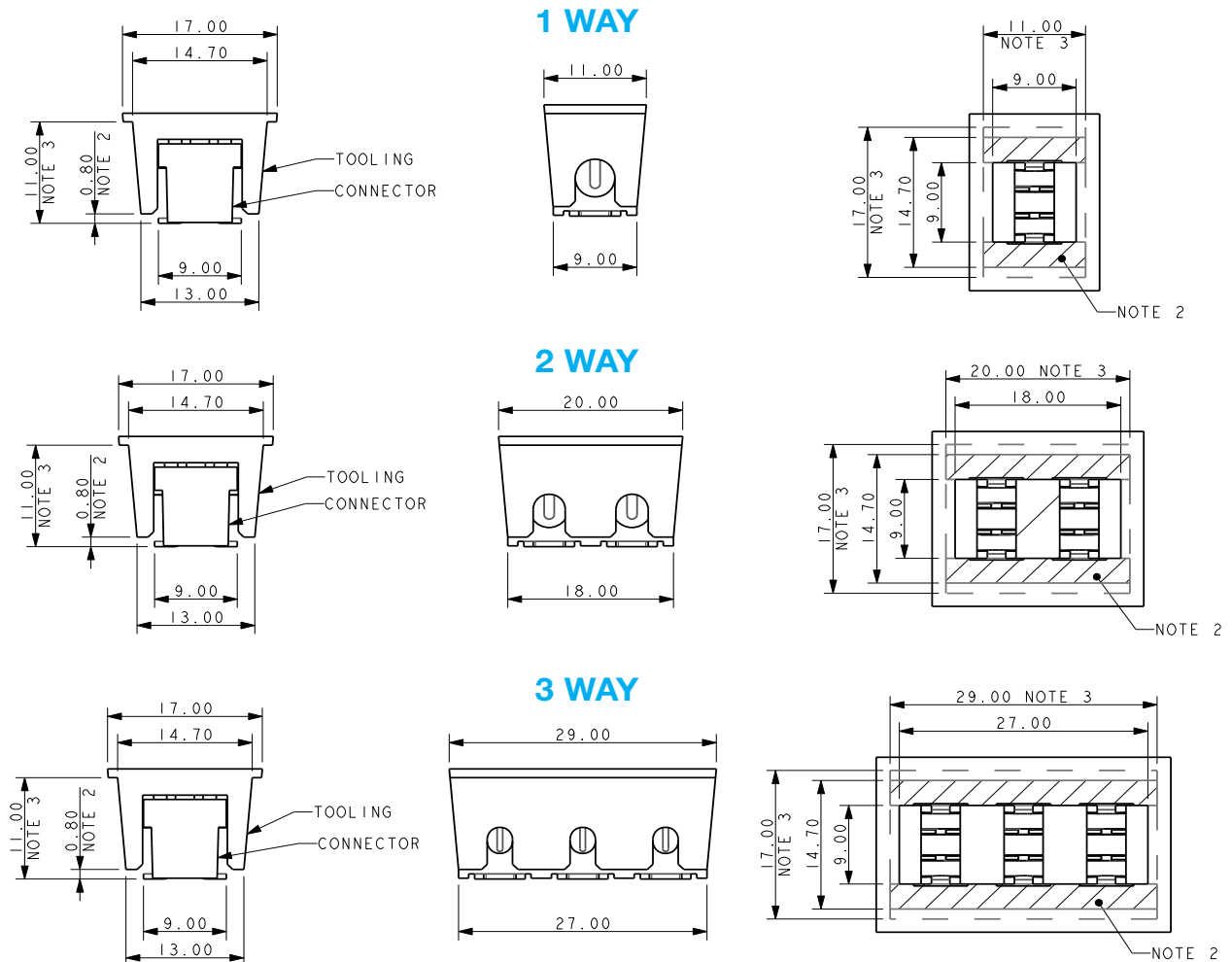
No. of Ways	Max Insulation Dia	Tool Part Number
1	∅ 4.25	06 9177 7016 01 001
	∅ 3.50	06 9177 7016 02 001
	∅ 2.75	06 9177 7016 03 001
2	∅ 4.25	06 9177 7016 01 002
	∅ 3.50	06 9177 7016 02 002
	∅ 2.75	06 9177 7016 03 002
3	∅ 4.25	06 9177 7016 01 003
	∅ 3.50	06 9177 7016 02 003
	∅ 2.75	06 9177 7016 03 003

The assembly tooling restricts the available space/component heights on the PCB.
For details see below.

NOTES:

1. ALL DIMENSIONS FOR REFERENCE DIMENSIONS.
2. MAXIMUM COMPONENT HEIGHT 0.80MM IN THIS AREA.
3. MAXIMUM COMPONENT HEIGHT 11.00 MM IN THIS AREA.
4. THE SAME RESTRICTIONS APPLY TO ALL WIRE INSULATION DIAMETERS.

INSERTION TOOLING – PCB RESTRICTED AREAS FOR ASSEMBLY TOOLING



AMERICAS

AVX Myrtle Beach, SC
Tel: 843-448-9411

AVX Northwest, WA
Tel: 360-699-8746

AVX Midwest, IN
Tel: 317-861-9184

AVX Mid/Pacific, CA
Tel: 408-988-4900

AVX Northeast, MA
Tel: 617-479-0345

AVX Southwest, CA
Tel: 949-859-9509

AVX Canada
Tel: 905-238-3151

AVX South America
Tel: +55-11-4688-1960

EUROPE

AVX Limited, England
Tel: +44-1252-770000

AVX S.A.S., France
Tel: +33-1-69-18-46-00

AVX GmbH, Germany
Tel: +49-8131-9004-0

AVX SRL, Italy
Tel: +39-02-614-571

AVX Czech Republic
Tel: +420-57-57-57-521

AVX/ELCO UK
Tel: +44-1638-675000

ELCO Europe GmbH
Tel: +49-2741-299-0

AVX S.A., Spain
Tel: +34-91-63-97-197

AVX Benelux
Tel: +31-187-489-337

ASIA-PACIFIC

**AVX/Kyocera (S) Pte Ltd.,
Singapore**
Tel: +65-6286-7555

**AVX/Kyocera, Asia, Ltd.,
Hong Kong**
Tel: +852-2363-3303

**AVX/Kyocera Yuhan Hoesa,
South Korea**
Tel: +82-2785-6504

**AVX/Kyocera HK Ltd.,
Taiwan**
Tel: +886-2-2656-0258

**AVX/Kyocera (M) Sdn Bhd,
Malaysia**
Tel: +60-4228-1190

**AVX/Kyocera International
Trading Co. Ltd.,
Shanghai**
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**AVX/Kyocera Asia Ltd.,
Shenzen**
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**AVX/Kyocera International
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Beijing**
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**AVX/Kyocera India
Liaison Office**
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ASIA-KED (KYOCERA Electronic Devices)

KED Hong Kong Ltd.
Tel: +852-2305-1080/1223

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**KED Company Ltd.
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**KED Hong Kong Ltd.
Beijing**
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KED Taiwan Ltd.
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**KED Korea Yuhan Hoesa,
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**KED (S) Pte Ltd.
Singapore**
Tel: +65-6509-0328

**Kyocera Corporation
Japan**
Tel: +81-75-604-3449

Contact:



<http://www.avx.com>

S-LED0M310-C