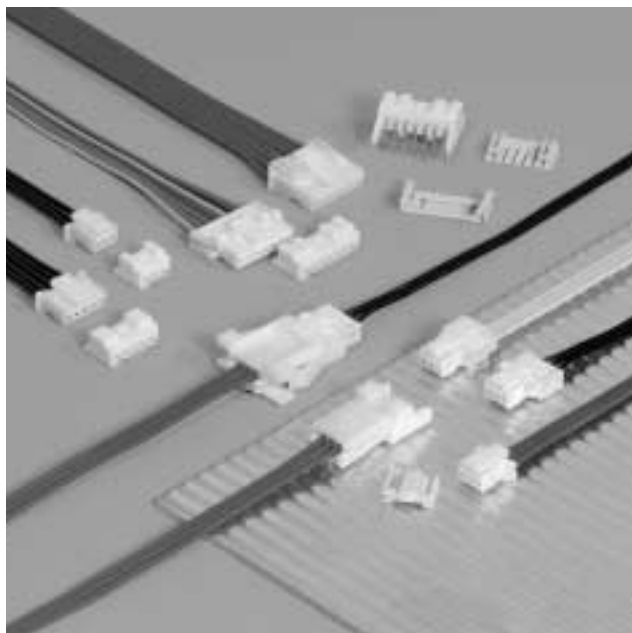
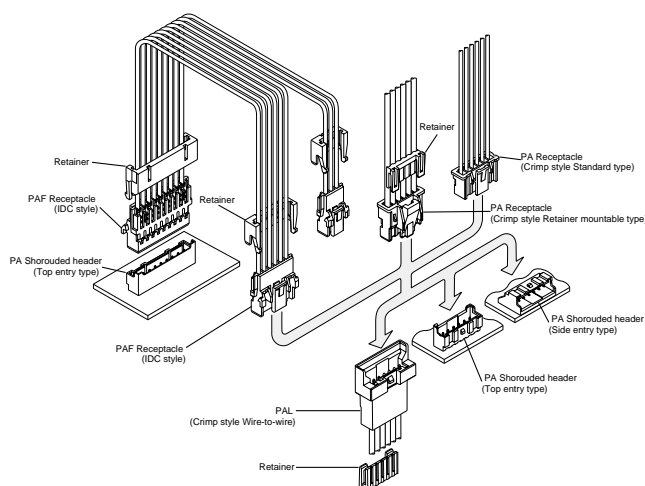


PA FAMILY SERIES/PA•PAF•PAL CONNECTOR

Wire-to-board (Crimp style/IDC) / Wire-to-wire (Crimp style/IDC)



Based upon wire-to-board crimp style PA connectors, the PA series family of connector have been expanded to meet the requirement of complex wire harness of 2.0mm (.079") pitch connectors with secure locking mechanism thanks to the additional line up of wire-to-board IDC style PAF connectors and wire-to-wire crimp style PAL connectors.



Standards

- Recognized E60389
- 1 Certified LR20812

Features

• Secure locking device

The housing has a locking device to prevent accidental disconnection because of routing of wires or of vibration, and also reverse and different circuit numbers mating.

• Interchangeable between crimp and IDC socket

Both crimp and IDC sockets use the same headers and wire-to-wire mating halves.

• Secondary retainers

Secondary retainers enhance safety in case of partial insertion or accidental release of the contact.

• Harness variation

PAL, wire-to-wire crimp style connector, increases wire harness variation.

PA connector (Standard type, Retainer mountable type)

• Highly reliable contact

The box contact supplies stable contact performance even under conditions of vibration, distortion, low voltage or low current.

• Insertion guide mechanism

Header has housing insertion guides for easy and secure insertion.

• Flanged press pin

Top entry type header has flanged press pins, preventing accidental removal of the pins that might result from the distorted unmating especially in the case of small no. of circuits.

PAF connector

• The industry's first secure lock IDC connectors

By separating ID section and secure lock section, the industry's first secure lock specification has been achieved for IDC that was said to be impossible. Our fully automatic IDC machines, BCD-M5BP (for simple harness) and CAM-M12B, SAD-M12E (for multi-harness), can be applied for harness making.

• Metallic strain relief

Metallic strain relief on the contact securely grips wire insulation that can avoid direct stress of vibration or impact. The same grip strength as insulation barrel of crimp style contact could be achieved.

• Retainer with four locking points

The new four locking points design ensures wire retention force of every direction that is almost superior to contact retention force of crimp style connectors. It also completely covers exposed terminated ID contact.

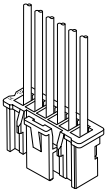
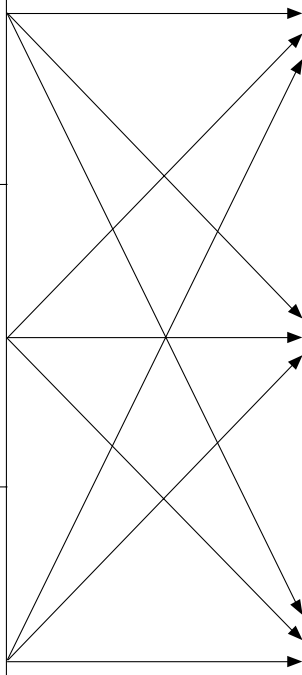
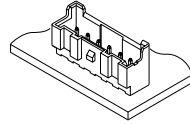
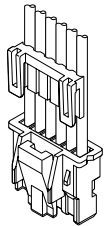
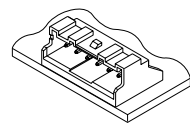
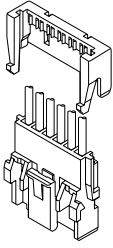
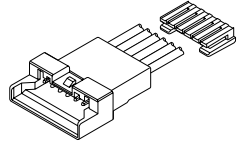
PAL connector

• The industry's first wire to wire 2.0mm (.078") pitch retainer mountable type connector.

• Either with or without panel lock can be selected according to application.

PA FAMILY SERIES /PA•PAF•PAL CONNECTOR

List of combinations

| | | | | |
|--|---|--|---|---|
| <p>Crimp style Standard type</p>  | <p><u>Contact</u> SPHD-001T-P0.5 SPHD-002T-P0.5</p> <p><u>Housing</u> PAP-()V-S</p> |  | <p><u>Shrouded header</u> B()B-PASK B()B-PASK-1</p> | <p><u>Top entry type</u></p>  |
| <p>Crimp style Retainer mountable type</p>  | <p><u>Contact</u> SPA-001T-P0.5</p> <p><u>Housing</u> PARP-()V</p> <p><u>Retainer</u> PMS-()V-S</p> | | <p><u>Shrouded header</u> S()B-PASK-2</p> | <p><u>Side entry type</u></p>  |
| <p>Insulation displacement type</p>  | <p><u>Receptacle</u> ()PAF-6S</p> <p><u>Retainer</u> PAFS-()V-S</p> | | <p><u>Contact</u> SPAL-001T-P0.5 SPAL-002T-P0.5</p> <p><u>Receptacle housing</u> PALR-()V(F)</p> <p><u>Retainer</u> PMS-()V-S</p> | <p><u>Wire to wire Connectors</u></p>  |

Specifications

PA Connector (Standard type)

- Current rating: 3A AC, DC (AWG#22)
- Voltage rating: 250V AC, DC
- Temperature range: -25°C to +85°C
(including temperature rise in applying electrical current)
- Contact resistance: Initial value/10m Ω max.
After environmental testing/20m Ω max.
- Insulation resistance: 1,000M Ω min.
- Withstanding voltage: 800V AC/minute
- Applicable wire: AWG #28 to #22
- Applicable PC board thickness: 1.6mm(.063")

PA Connector (Retainer mountable type)

- Current rating: 3A AC, DC (AWG#22)
- Voltage rating: 100V AC, DC
- Temperature range: -25°C to +85°C
(including temperature rise in applying electrical current)
- Contact resistance: Initial value/15m Ω max.
After environmental testing/25m Ω max.
- Insulation resistance: 1,000M Ω min.
- Withstanding voltage: 800V AC/minute
- Applicable wire: AWG #28 to #22

PAF Connector

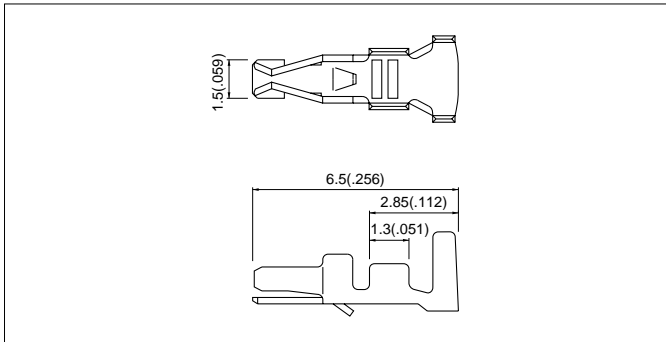
- Current rating: 1.0A AC, DC (AWG#26)
- Voltage rating: 100V AC, DC
- Temperature range: -25°C to +85°C
(including temperature rise in applying electrical current)
- Contact resistance: Initial value/15m Ω max.
After environmental testing/25m Ω max.
- Insulation resistance: 1,000M Ω min.
- Withstanding voltage: 800V AC/minute
- Applicable wire: UL1061(Contact JST for details regarding other UL wires.)
AWG #26
Conductor/7 strands, tin-coated annealed copper
Insulation O.D./0.9 to 1.0mm(.035" to .039")

PAL Connector

- Current rating: 3A AC, DC (AWG#22)
- Voltage rating: 100V AC, DC
- Temperature range: -25°C to +85°C
(including temperature rise in applying electrical current)
- Contact resistance: Initial value/15m Ω max.
After environmental testing/25m Ω max.
- Insulation resistance: 1,000M Ω min.
- Withstanding voltage: 800V AC/minute
- Applicable wire: AWG #28 to #22
- Applicable panel thickness : 0.5 to 2.0mm(.020" to .079")

PA FAMILY SERIES /PA CONNECTOR (Crimp style Standard type)

Contact

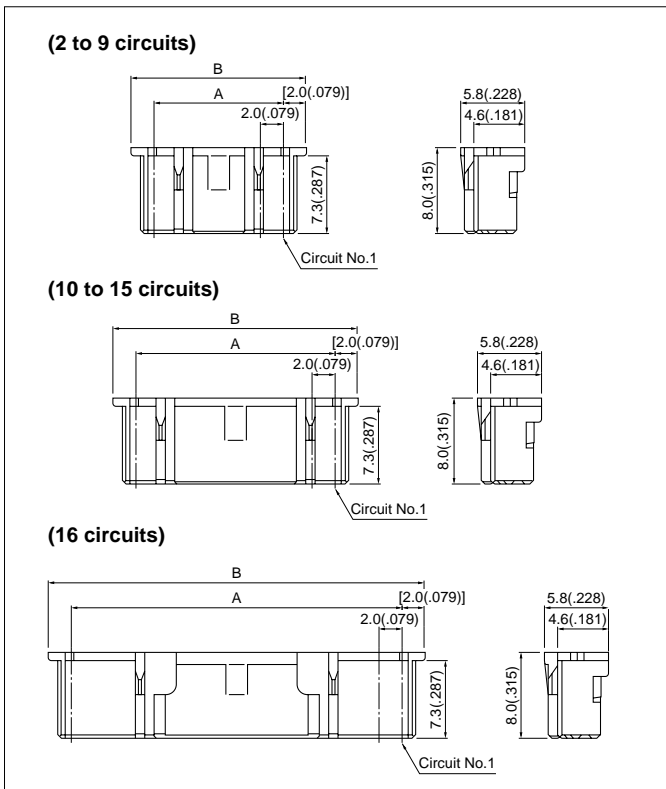


| Model No. | Applicable wire | | | Q'ty / reel |
|-----------------------|-----------------|----------|--------------------------|-------------|
| | mm ² | AWG # | Insulation O.D. mm(in.) | |
| SPHD-001T-P0.5 | 0.13 to 0.33 | 26 to 22 | 1.0 to 1.5(.039 to .059) | 8,000 |
| SPHD-002T-P0.5 | 0.08 to 0.21 | 28 to 24 | 0.9 to 1.5(.035 to .059) | |

Material and Finish

Phosphor bronze, tin-plated

Housing



| Circuits | Model No. | Dimensions mm(in.) | | Q'ty / bag |
|----------|------------------|--------------------|-------------|------------|
| | | A | B | |
| 2 | PAP-02V-S | 2.0(.079) | 6.0(.236) | 5,000 |
| 3 | PAP-03V-S | 4.0(.157) | 8.0(.315) | 5,000 |
| 4 | PAP-04V-S | 6.0(.236) | 10.0(.394) | 5,000 |
| 5 | PAP-05V-S | 8.0(.315) | 12.0(.472) | 5,000 |
| 6 | PAP-06V-S | 10.0(.394) | 14.0(.551) | 1,000 |
| 7 | PAP-07V-S | 12.0(.472) | 16.0(.630) | 1,000 |
| 8 | PAP-08V-S | 14.0(.551) | 18.0(.709) | 1,000 |
| 9 | PAP-09V-S | 16.0(.630) | 20.0(.787) | 1,000 |
| 10 | PAP-10V-S | 18.0(.709) | 22.0(.866) | 1,000 |
| 11 | PAP-11V-S | 20.0(.787) | 24.0(.945) | 1,000 |
| 12 | PAP-12V-S | 22.0(.866) | 26.0(1.024) | 1,000 |
| 13 | PAP-13V-S | 24.0(.945) | 28.0(1.102) | 1,000 |
| 14 | PAP-14V-S | 26.0(1.024) | 30.0(1.181) | 1,000 |
| 15 | PAP-15V-S | 28.0(1.102) | 32.0(1.260) | 1,000 |
| 16 | PAP-16V-S | 30.0(1.181) | 34.0(1.339) | 1,000 |

Material and Finish

Nylon 66, UL94V-0, natural (white)

<For reference> As the color identification, the following alphabet shall be put in the underlined part. For availability, delivery and minimum order quantity, contact JST.

ex. **PAP-02V-S**

S...natural (white)

K...black R...red E...blue M...green O...orange N...brown

P...purple PK...pink Y...yellow L...lemon yellow FY...vivid yellow

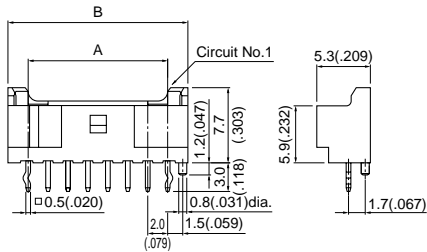
LE...light blue H...gray TR...tomato red

PA FAMILY SERIES /PA CONNECTOR (Crimp style Standard type)

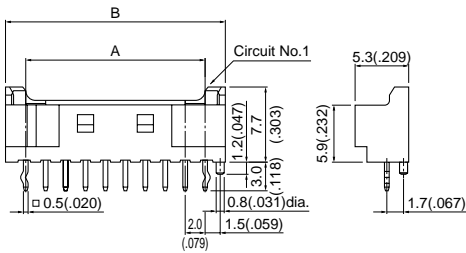
Shrouded header

Top entry type

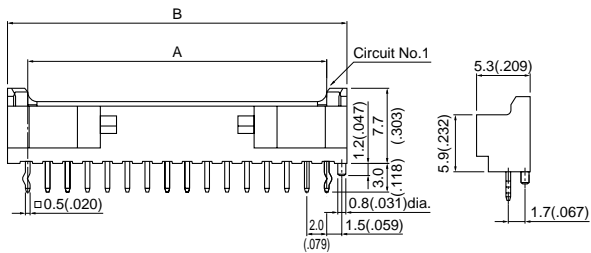
(2 to 9 circuits)



(10 to 15 circuits)



(16 circuits)



| Circuits | Model No. | | Dimensions mm(in.) | | Q'ty / bag |
|-----------|---------------------|----------------------|--------------------|-------------|------------|
| | Without a boss | With a boss | A | B | |
| 2 (Note1) | B02B-PAFYK-A | B02B-PAFYK-1A | 2.0(.079) | 6.0(.236) | 1,000 |
| 2 | B02B-PASK | B02B-PASK-1 | 2.0(.079) | 6.0(.236) | 1,000 |
| 3 | B03B-PASK | B03B-PASK-1 | 4.0(.157) | 8.0(.315) | 1,000 |
| 4 | B04B-PASK | B04B-PASK-1 | 6.0(.236) | 10.0(.394) | 1,000 |
| 5 | B05B-PASK | B05B-PASK-1 | 8.0(.315) | 12.0(.472) | 500 |
| 6 | B06B-PASK | B06B-PASK-1 | 10.0(.394) | 14.0(.551) | 500 |
| 7 | B07B-PASK | B07B-PASK-1 | 12.0(.472) | 16.0(.630) | 500 |
| 8 | B08B-PASK | B08B-PASK-1 | 14.0(.551) | 18.0(.709) | 500 |
| 9 | B09B-PASK | B09B-PASK-1 | 16.0(.630) | 20.0(.787) | 500 |
| 10 | B10B-PASK | B10B-PASK-1 | 18.0(.709) | 22.0(.866) | 500 |
| 11 | B11B-PASK | B11B-PASK-1 | 20.0(.787) | 24.0(.945) | 250 |
| 12 | B12B-PASK | B12B-PASK-1 | 22.0(.866) | 26.0(1.024) | 250 |
| 13 | B13B-PASK | B13B-PASK-1 | 24.0(.945) | 28.0(1.102) | 250 |
| 14 | B14B-PASK | B14B-PASK-1 | 26.0(1.024) | 30.0(1.181) | 250 |
| 15 | B15B-PASK | B15B-PASK-1 | 28.0(1.102) | 32.0(1.260) | 250 |
| 16 | B16B-PASK | B16B-PASK-1 | 30.0(1.181) | 34.0(1.339) | 250 |

Material

Post: Copper alloy, copper-undercoated, tin/lead-plated
 Wafer: Glass-filled PBT, UL94V-0, natural (white)
 (Note1) Nylon 66, UL94V-0, vivid yellow

<For reference> As the color identification, the following alphabet shall be put in the underlined part.
 For availability, delivery and minimum order quantity, contact JST.

ex. **B02B-PASK**

S...natural (white)

K...black R...red E...blue M...green O...orange N...brown

P...purple PK...pink Y...yellow L...lemon yellow FY...vivid yellow

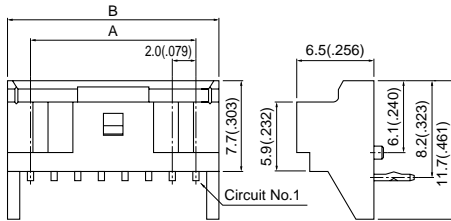
LE...light blue H...gray TR...tomato red

PA FAMILY SERIES /PA CONNECTOR (Crimp style Standard type)

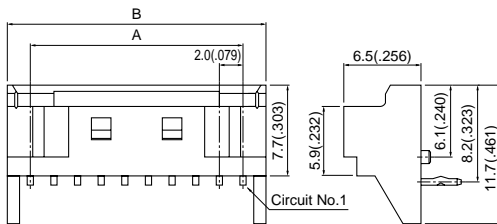
Shrouded header

Side entry type

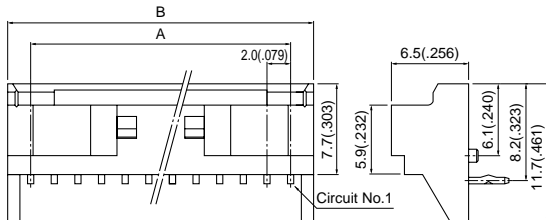
(2 to 9 circuits)



(10 to 15 circuits)



(16 circuits)



| Circuits | Model No. | Dimensions mm(in.) | | Qty / box |
|----------|--------------------|--------------------|-------------|-----------|
| | | A | B | |
| 2 | S02B-PASK-2 | 2.0(.079) | 6.0(.236) | 1,000 |
| 3 | S03B-PASK-2 | 4.0(.157) | 8.0(.315) | 1,000 |
| 4 | S04B-PASK-2 | 6.0(.236) | 10.0(.394) | 500 |
| 5 | S05B-PASK-2 | 8.0(.315) | 12.0(.472) | 500 |
| 6 | S06B-PASK-2 | 10.0(.394) | 14.0(.551) | 500 |
| 7 | S07B-PASK-2 | 12.0(.472) | 16.0(.630) | 500 |
| 8 | S08B-PASK-2 | 14.0(.551) | 18.0(.709) | 250 |
| 9 | S09B-PASK-2 | 16.0(.630) | 20.0(.787) | 250 |
| 10 | S10B-PASK-2 | 18.0(.709) | 22.0(.866) | 250 |
| 11 | S11B-PASK-2 | 20.0(.787) | 24.0(.945) | 250 |
| 12 | S12B-PASK-2 | 22.0(.866) | 26.0(1.024) | 250 |
| 13 | S13B-PASK-2 | 24.0(.945) | 28.0(1.102) | 250 |
| 14 | S14B-PASK-2 | 26.0(1.024) | 30.0(1.181) | 200 |
| 15 | S15B-PASK-2 | 28.0(1.102) | 32.0(1.260) | 200 |
| 16 | S16B-PASK-2 | 30.0(1.181) | 34.0(1.339) | 200 |

Material and Finish

Post: Copper alloy, copper-undercoated, tin/lead-plated

Wafer: Glass-filled PBT, UL94V-0, natural (white)

<For reference> As the color identification, the following alphabet shall be put in the underlined part. For availability, delivery and minimum order quantity, contact JST.

ex. **S03B-PASK-2**

S...natural (white)

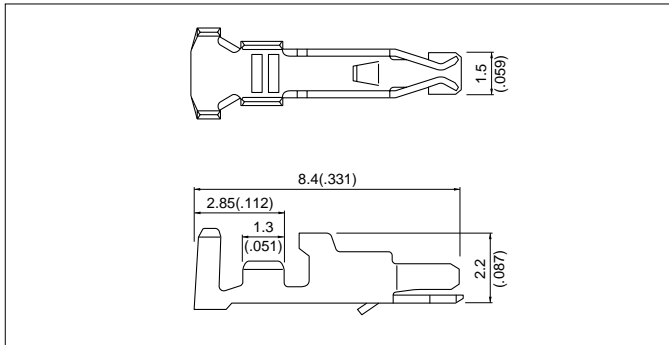
K...black R...red E...blue M...green O...orange N...brown

P...purple PK...pink Y...yellow L...lemon yellow LE...light blue

H...gray TR...tomato red

PA FAMILY SERIES /PA CONNECTOR (Crimp style Retainer mountable type)

Contact

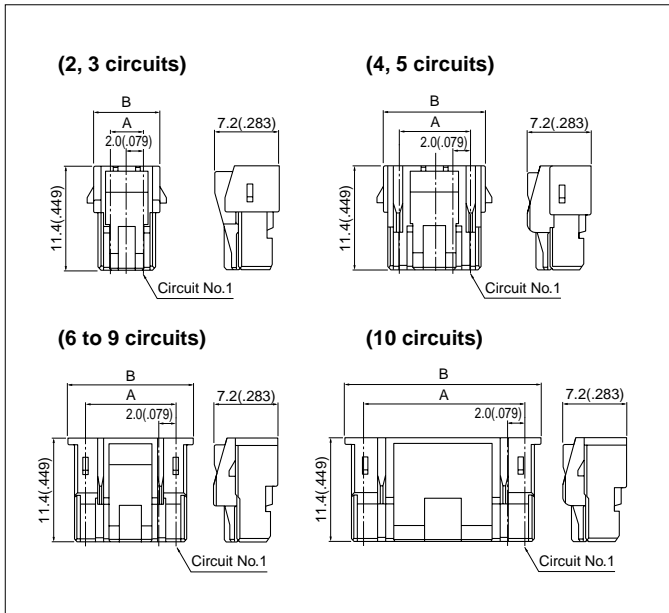


| Model No. | Applicable wire | | | Q'ty / reel |
|----------------------|-----------------|----------|--------------------------|-------------|
| | mm ² | AWG # | Insulation O.D. mm(in.) | |
| SPA-001T-P0.5 | 0.13 to 0.33 | 26 to 22 | 1.0 to 1.5(.039 to .059) | 10,000 |

Material and Finish

Phosphor bronze, tin-plated

Housing



| Circuits | Model No. | Dimensions mm(in.) | | Q'ty / bag |
|----------|-----------------|--------------------|------------|------------|
| | | A | B | |
| 2 | PARP-02V | 2.0(.079) | 5.4(.213) | 1,000 |
| 3 | PARP-03V | 4.0(.157) | 7.4(.291) | 1,000 |
| 4 | PARP-04V | 6.0(.236) | 9.4(.370) | 1,000 |
| 5 | PARP-05V | 8.0(.315) | 11.4(.449) | 1,000 |
| 6 | PARP-06V | 10.0(.394) | 14.0(.551) | 1,000 |
| 7 | PARP-07V | 12.0(.472) | 16.0(.630) | 1,000 |
| 8 | PARP-08V | 14.0(.551) | 18.0(.709) | 1,000 |
| 9 | PARP-09V | 16.0(.630) | 20.0(.787) | 1,000 |
| 10 | PARP-10V | 18.0(.709) | 22.0(.866) | 1,000 |

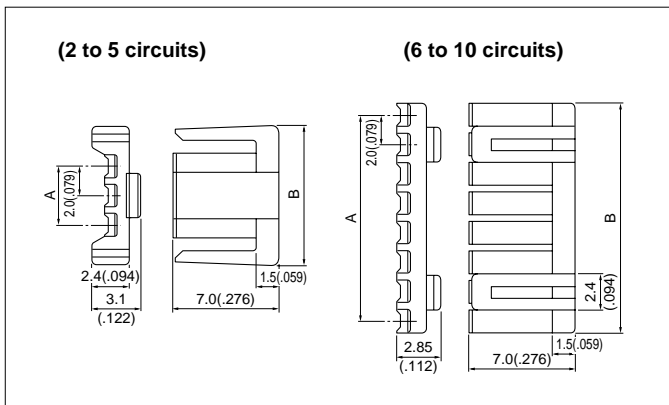
Material

Nylon 66, UL94V-0, natural (white)

<For reference> As the color identification, the following alphabet shall be put in the underlined part. For availability, delivery and minimum order quantity, contact JST.

ex. **PARP-02V-oo**
 (blank)...natural (white)
 R...red E...blue Y...yellow M...green

Retainer



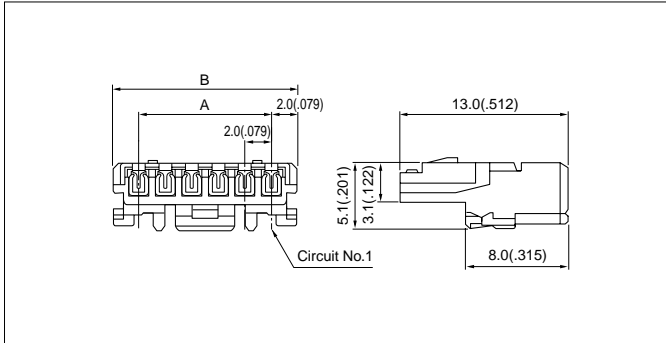
| Circuits | Model No. | Dimensions mm(in.) | | Q'ty / bag |
|----------|------------------|--------------------|-------------|------------|
| | | A | B | |
| 2 | PMS-02V-S | 2.0(.079) | 7.3(.287) | 1,000 |
| 3 | PMS-03V-S | 4.0(.157) | 9.3(.366) | 1,000 |
| 4 | PMS-04V-S | 6.0(.236) | 11.3(.445) | 1,000 |
| 5 | PMS-05V-S | 8.0(.315) | 13.3(.524) | 1,000 |
| 6 | PMS-06V-S | 10.0(.394) | 11.55(.455) | 1,000 |
| 7 | PMS-07V-S | 12.0(.472) | 13.55(.533) | 1,000 |
| 8 | PMS-08V-S | 14.0(.551) | 15.55(.612) | 1,000 |
| 9 | PMS-09V-S | 16.0(.630) | 17.55(.691) | 1,000 |
| 10 | PMS-10V-S | 18.0(.709) | 19.55(.770) | 1,000 |

Material

Glass-filled nylon 66, UL94V-0, natural (ivory)

PA FAMILY SERIES /PAF CONNECTOR (Insulation displacement type)

Receptacle



| Circuits | Model No. | Dimensions mm(in.) | | Q'ty / bag |
|----------|-----------------|--------------------|-------------|------------|
| | | A | B | |
| 2 | 02PAF-6S | 2.0(.079) | 6.0(.236) | 1,000 |
| 3 | 03PAF-6S | 4.0(.157) | 8.0(.315) | 1,000 |
| 4 | 04PAF-6S | 6.0(.236) | 10.0(.394) | 500 |
| 5 | 05PAF-6S | 8.0(.315) | 12.0(.472) | 500 |
| 6 | 06PAF-6S | 10.0(.394) | 14.0(.551) | 500 |
| 7 | 07PAF-6S | 12.0(.472) | 16.0(.630) | 500 |
| 8 | 08PAF-6S | 14.0(.551) | 18.0(.709) | 250 |
| 9 | 09PAF-6S | 16.0(.630) | 20.0(.787) | 250 |
| 10 | 10PAF-6S | 18.0(.709) | 22.0(.866) | 250 |
| 11 | 11PAF-6S | 20.0(.787) | 24.0(.945) | 250 |
| 12 | 12PAF-6S | 22.0(.866) | 26.0(1.024) | 250 |
| 13 | 13PAF-6S | 24.0(.945) | 28.0(1.102) | 250 |
| 14 | 14PAF-6S | 26.0(1.024) | 30.0(1.181) | 250 |
| 15 | 15PAF-6S | 28.0(1.102) | 32.0(1.260) | 250 |

Material and Finish

Contact: Phosphor bronze, tin-plated
Housing: Nylon 66, UL94V-0, natural (white)

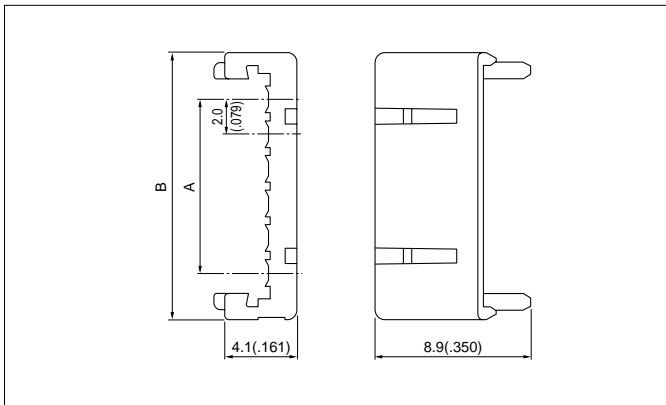
<For reference> As the color identification, the following alphabet shall be put in the underlined part.
For availability, delivery and minimum order quantity, contact JST.

ex. **02PAF-6S**

S...natural (white)

R...red E...blue M...green Y...yellow

Retainer



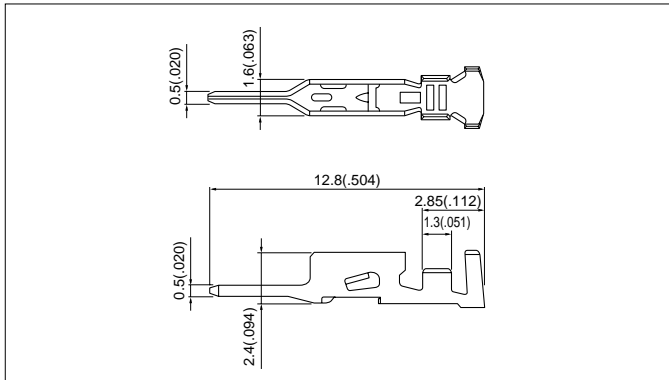
| Circuits | Model No. | Dimensions mm(in.) | | Q'ty / bag |
|----------|-------------------|--------------------|-------------|------------|
| | | A | B | |
| 2 | PAFS-02V-S | 2.0(.079) | 7.4(.291) | 1,000 |
| 3 | PAFS-03V-S | 4.0(.157) | 9.4(.370) | 1,000 |
| 4 | PAFS-04V-S | 6.0(.236) | 11.4(.449) | 1,000 |
| 5 | PAFS-05V-S | 8.0(.315) | 13.4(.528) | 1,000 |
| 6 | PAFS-06V-S | 10.0(.394) | 15.4(.606) | 1,000 |
| 7 | PAFS-07V-S | 12.0(.472) | 17.4(.685) | 1,000 |
| 8 | PAFS-08V-S | 14.0(.551) | 19.4(.764) | 1,000 |
| 9 | PAFS-09V-S | 16.0(.630) | 21.4(.843) | 1,000 |
| 10 | PAFS-10V-S | 18.0(.709) | 23.4(.921) | 1,000 |
| 11 | PAFS-11V-S | 20.0(.787) | 25.4(1.000) | 1,000 |
| 12 | PAFS-12V-S | 22.0(.866) | 27.4(1.079) | 1,000 |
| 13 | PAFS-13V-S | 24.0(.945) | 29.4(1.157) | 1,000 |
| 14 | PAFS-14V-S | 26.0(1.024) | 31.4(1.236) | 1,000 |
| 15 | PAFS-15V-S | 28.0(1.102) | 33.4(1.315) | 1,000 |

Material

Glass-filled nylon 66, UL94V-0, natural (ivory)

PA FAMILY SERIES /PAL CONNECTOR (Wire-to-wire type)

Contact

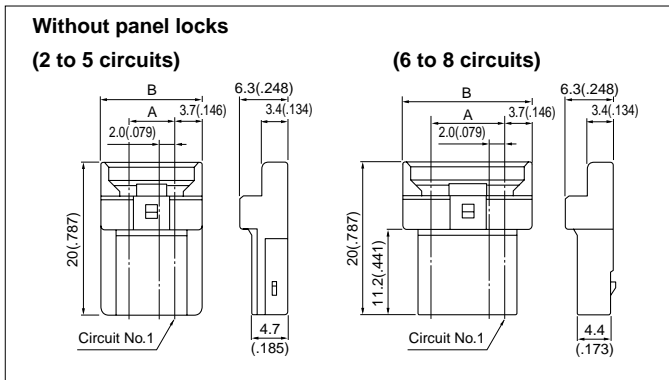


| Model No. | Applicable wire | | | Q'ty / reel |
|-----------------------|-----------------|----------|--------------------------|-------------|
| | mm ² | AWG # | Insulation O.D. mm(in.) | |
| SPAL-001T-P0.5 | 0.13 to 0.33 | 26 to 22 | 1.0 to 1.5(.039 to .059) | 10,000 |
| SPAL-002T-P0.5 | 0.08 to 0.21 | 28 to 24 | 0.9 to 1.5(.035 to .059) | |

Material and Finish

Phosphor bronze, tin-plated

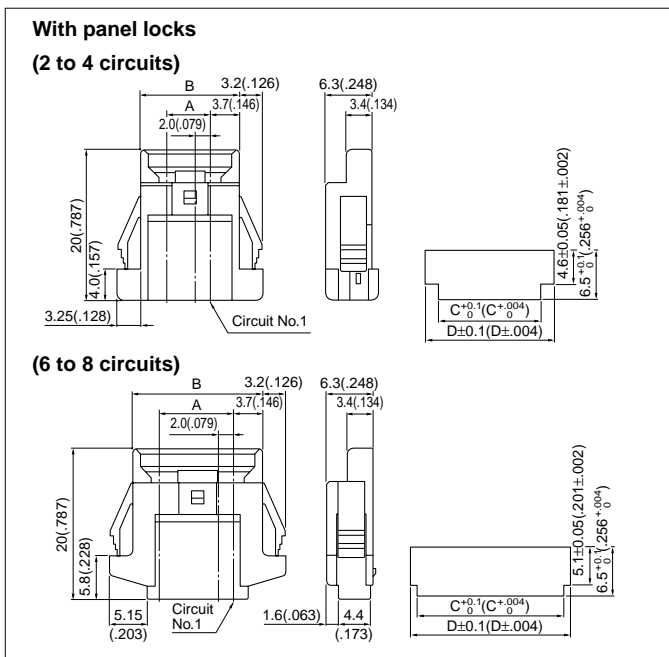
Housing



| Circuits | Model No. | Dimensions mm(in.) | | Q'ty / bag |
|----------|------------------|--------------------|-------------|------------|
| | | A | B | |
| 2 | PALR-02VF | 2.0 (.079) | 9.4 (.370) | 1,000 |
| 3 | PALR-03VF | 4.0 (.157) | 11.4 (.449) | 1,000 |
| 4 | PALR-04VF | 6.0 (.236) | 13.4 (.528) | 1,000 |
| 5 | PALR-05VF | 8.0 (.315) | 15.4 (.606) | 1,000 |
| 6 | PALR-06VF | 10.0 (.394) | 17.4 (.685) | 1,000 |
| 7 | PALR-07VF | 12.0 (.472) | 19.4 (.764) | 1,000 |
| 8 | PALR-08VF | 14.0 (.551) | 21.4 (.843) | 1,000 |

Material

Nylon 66, UL94V-0, natural (white)



| Circuits | Model No. | Dimensions mm(in.) | | | | Q'ty / bag |
|----------|-----------------|--------------------|------------|------------|-------------|------------|
| | | A | B | C | D | |
| 2 | PALR-02V | 2.0(.079) | 9.4(.370) | 9.8(.386) | 13.4(.528) | 1,000 |
| 3 | PALR-03V | 4.0(.157) | 11.4(.449) | 11.8(.465) | 15.4(.606) | 1,000 |
| 4 | PALR-04V | 6.0(.236) | 13.4(.528) | 13.8(.543) | 17.4(.685) | 1,000 |
| 6 | PALR-06V | 10.0(.394) | 17.4(.685) | 19.8(.780) | 21.4(.843) | 1,000 |
| 7 | PALR-07V | 12.0(.472) | 19.4(.764) | 21.8(.858) | 23.4(.921) | 1,000 |
| 8 | PALR-08V | 14.0(.551) | 21.4(.843) | 23.8(.937) | 25.4(1.000) | 1,000 |

Material

Nylon 66, UL94V-0, natural (white)

<For reference> As the color identification, the following alphabet shall be put in the underlined part. For availability, delivery and minimum order quantity, contact JST.

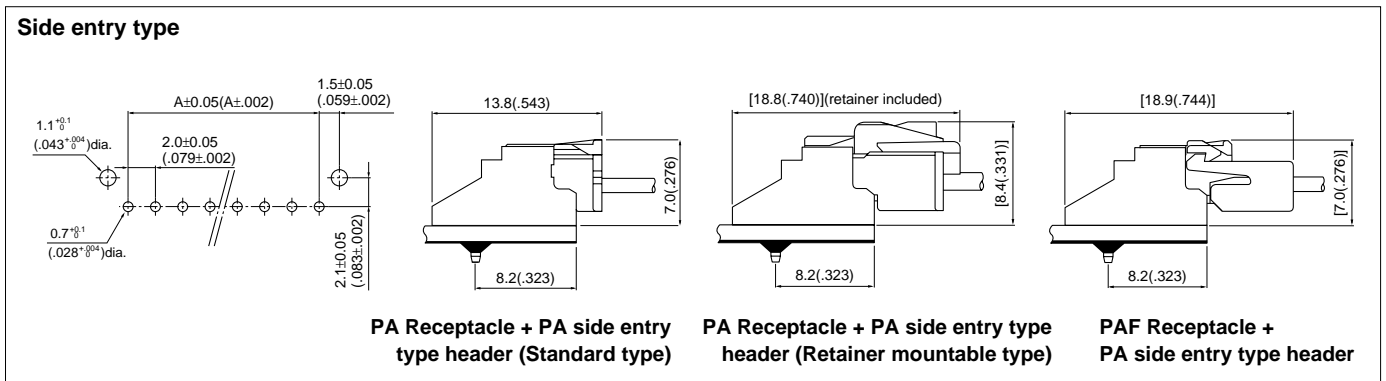
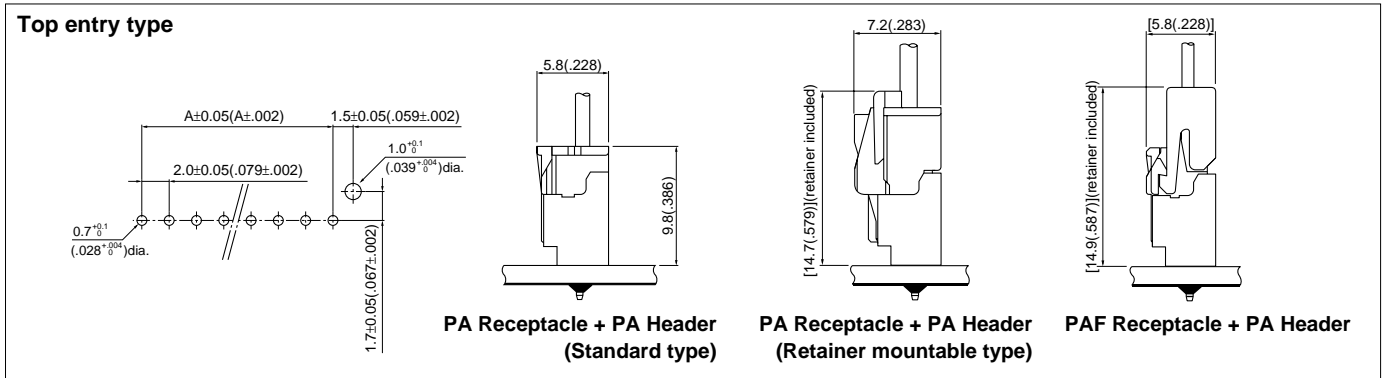
ex. **PALR-02V(F)-oo**
 (blank)...natural (white)
 R...red E...blue M...green Y...yellow

Retainer

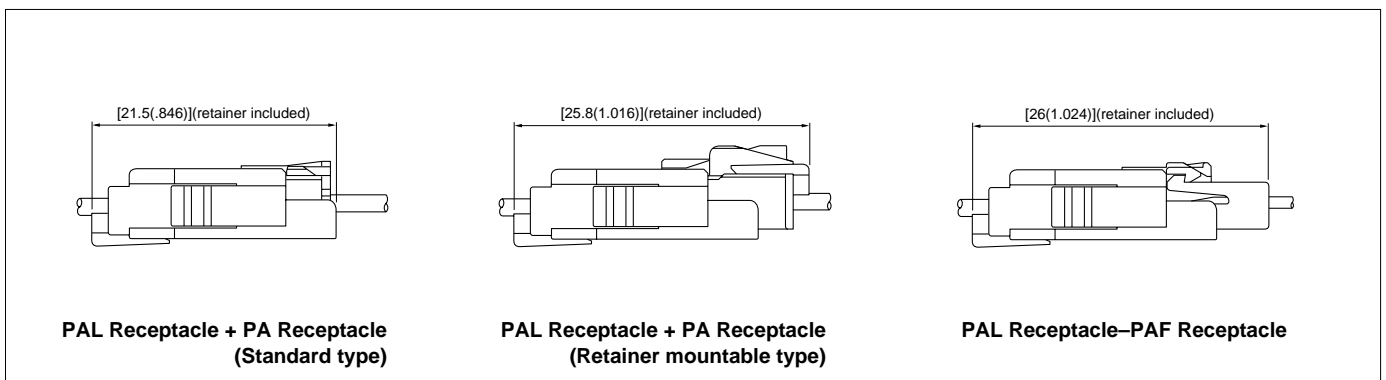
Retainers are interchangeable with those of the PA crimp style retainer mountable type.

PA FAMILY SERIES /PA•PAF•PAL CONNECTOR

PC board layout (viewed from component side) and Assembly layout



Assembly layout



Applicator for the semi-automatic press AP-K2N

| Contact | Crimp applicator MKS-L(-10) | | Compact crimp applicator MKS-LS-10 | | Strip-crimp applicator MKS-SC-10 |
|-----------------------|-----------------------------|----------------------|------------------------------------|----------------------|----------------------------------|
| | with safety cover | without safety cover | with safety cover | without safety cover | with safety cover |
| SPHD-001T-P0.5 | APLMK SPHD001-05 | APLNC SPHD001-05 | APLMKLS SPHD001-05 | APLLSNC SPHD001-05 | APLSC SPHD001-05 |
| SPHD-002T-P0.5 | APLMK SPHD002-05 | APLNC SPHD002-05 | APLMKLS SPHD002-05 | APLLSNC SPHD002-05 | APLSC SPHD002-05 |
| SPA-001T-P0.5 | APLMK SPA001-05 | APLNC SPA001-05 | - | - | - |
| SPAL-001T-P0.5 | APLMK SPAL001-05 | APLNC SPAL001-05 | - | - | - |
| SPAL-002T-P0.5 | APLMK SPAL002-05 | APLNC SPAL002-05 | - | - | - |