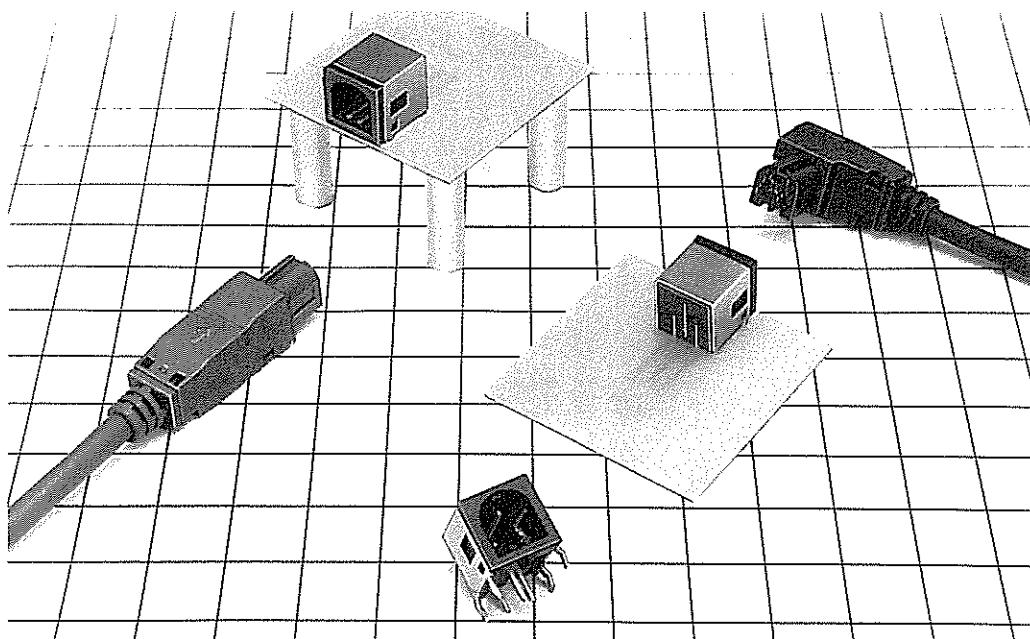


# HRS RP34 SERIES COMPACT PLASTIC CONNECTOR FOR AC ADAPTER

## ■ Scope

Model RP34 Connector is a compact, lightweight, 3-pole plastic connector specially designed for the AC adapter interface for notebook type personal computers.

Plug is available in either straight type or right-angle type. Right angle type offers low insertion profile. The receptacle is a very compact part with a 10mm-square mating surface and 11.3mm depth.



## ■ Features

- (1) Snap-lock locking permits easy insertion and disconnection.
- (2) Right-angle plug permits cable take-out on either right side or left side depending on the application.
- (3) One of the three poles is designed for grounding terminal which makes contact before the other two poles.
- (4) D-shaped mating section permits easy insertion.
- (5) Six different guide locations are available. Connectors can be installed in line permitting correct matching of receptacle and plug.
- (6) Snap-fit assembling method for plug, eliminating use of screws, is easy and simple.
- (7) The external appearance is simplified cubical shape and fits well to any equipment.

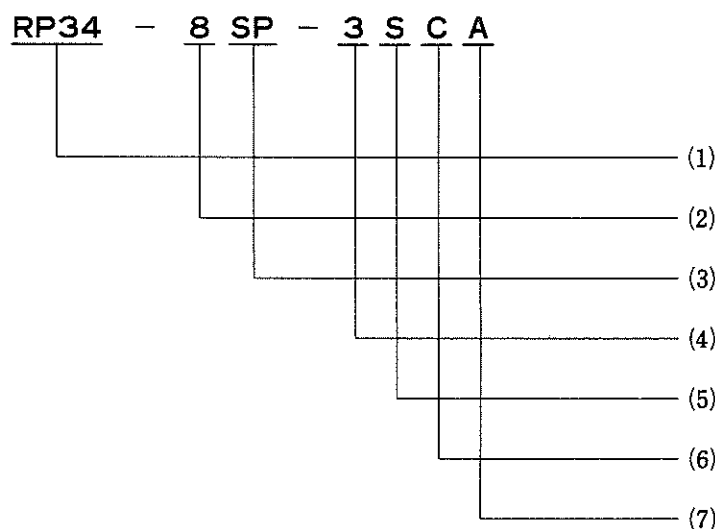
## ■ Application

OA equipment, communications equipment, audio equipment and small size electronic products.

## ■ Material and Finish

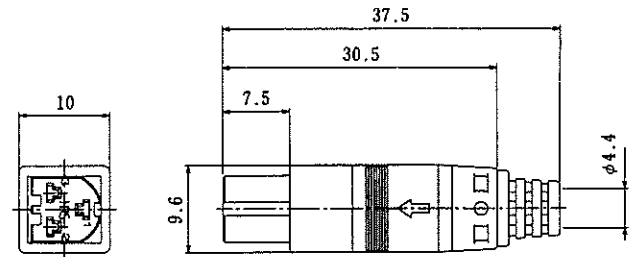
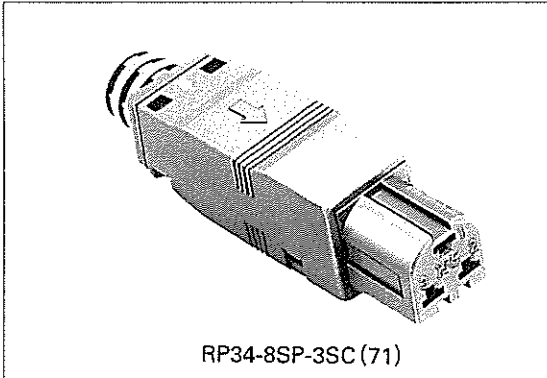
| Part Name                | Material  | Finish         |
|--------------------------|---|----------------|
| Main Frame and Insulator | Polycarbonate resin containing glass, and PBT resin UL94V-0 | (Black)        |
| Male Terminal            | Brass   | Silver plating |
| Female Terminal          | Phosphor bronze   | Silver plating |

## ■ Ordering Information



- |  |  |
|--|--|
| <p>(1) RP34 : Name of series</p> <p>(2) 8 : Size of shell, or outer dia. of mating section.<br/>Size 8 is only available for this connector.</p> <p>(3) SP : Type of connector.<br/>SP : Straight plug<br/>P : Right-angle plug<br/>R : Receptacle</p> <p>(4) 3 : Number of terminals.<br/>3 and 4 pole is available for this connector.</p> | <p>(5) S : Contact Type.<br/>P : Male contact<br/>S : Female contact</p> <p>(6) C : Wire-to-contact connecting method, or shape of terminal.<br/>C : Crimping type<br/>DL : Right-angle dip type</p> <p>(7) A : Defines location of mating guide as A, B, D, E and F. Refer to figures on page 148 for detail. Mating is possible only between the same guide locations.</p> |
|--|--|

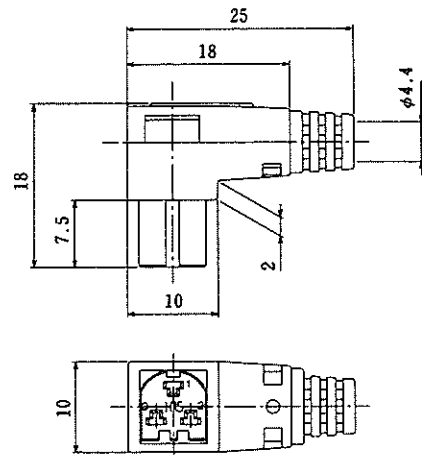
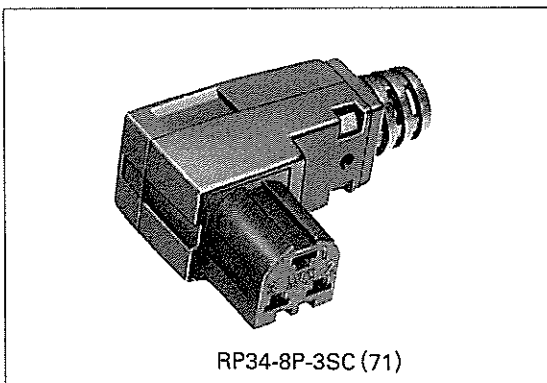
## ■ Straight Plug



(An example in shape)

| HRS No.       | Part No.           | No. of pins | A   | Remark         | RoHS |
|---------------|--------------------|-------------|-----|----------------|------|
| 113-5049-1-71 | RP34-8SP-3SC (71)  | 3           | 9.6 | Standard Part  | ○    |
| 113-5059-5-71 | RP34-8SP-3SCA (71) | 3           | 9.6 | Mating Guide A |      |
| 113-5061-7-71 | RP34-8SP-3SCD (71) | 3           | 9.6 | Mating Guide D |      |
| 113-5063-2-71 | RP34-8SP-3SCF (71) | 3           | 9.6 | Mating Guide F |      |
| 113-5097-4-71 | RP34-8SP-4SC (71)  | 4           | 11  | Standard Part  |      |
|               |                    |             |     |                |      |

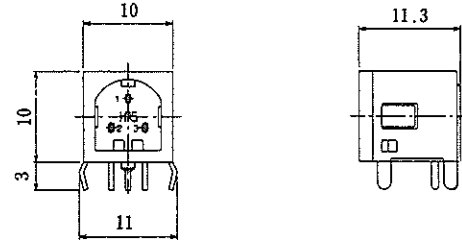
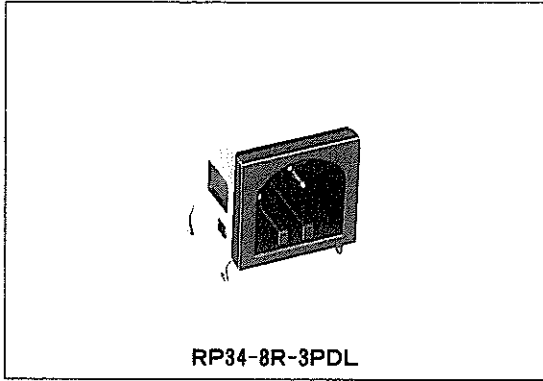
## ■ Right-Angle Plug



(An example in shape)

| HRS No.       | Part No.          | Remark         | RoHS |
|---------------|-------------------|----------------|------|
| 113-5041-0-71 | RP34-8P-3SC (71)  | Standard Part  | ○    |
| 113-5054-1-71 | RP34-8P-3SCA (71) | Mating Guide A |      |
| 113-5056-7-71 | RP34-8P-3SCD (71) | Mating Guide D |      |
| 113-5058-2-71 | RP34-8P-3SCF (71) | Mating Guide F |      |
|               |                   |                |      |
|               |                   |                |      |

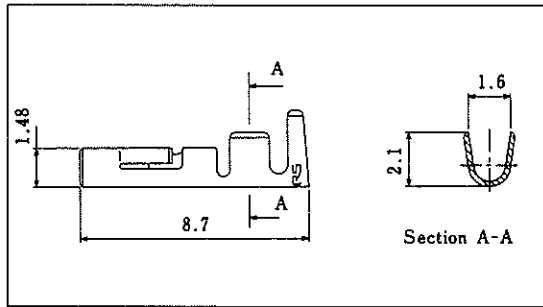
## ■ Receptacle



(An example in shape)

| HRS No.    | Part No.      | No. of pins | A  | B  | Remark        | RoHS |
|------------|---------------|-------------|----|----|---------------|------|
| 113-5042-2 | RP34-8R-3PDL  | 3           | 10 | 11 | Standard Part | ○    |
| 113-5064-5 | RP34-8R-3PDLA | 3           | 10 | 11 | Mating GuideA |      |
| 113-5066-0 | RP34-8R-3PDLD | 3           | 10 | 11 | Mating GuideD |      |
| 113-5068-6 | RP34-8R-3PDLF | 3           | 10 | 11 | Mating GuideF |      |
| 113-5098-7 | RP34-8R-4PDL  | 4           | 11 | 12 | Standard Part |      |

## ■ Contact (Female Terminal)

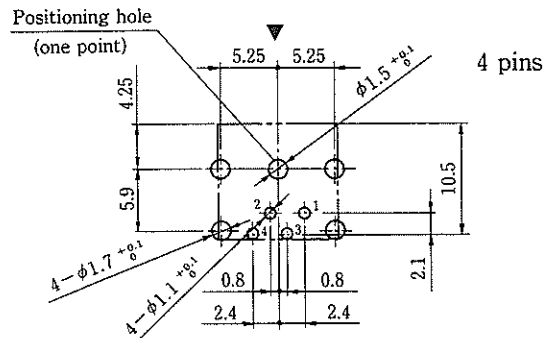
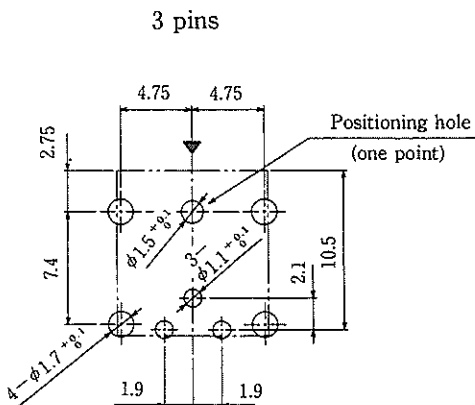


| HRS No.    | Part No.    | Remarks       | RoHS |
|------------|-------------|---------------|------|
| 113-5043-5 | RP34-SC-212 | Chain Contact | ○    |
| 113-5076-4 | RP34-SC-112 | Loose Contact |      |

**Note:**

- Loose terminals are available in packs of 100 pieces. Strip terminals are available in reels of 10,000 pieces.

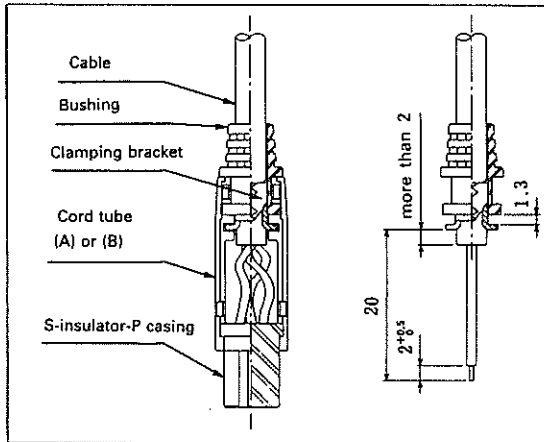
## ■ PCB Layout



- Applicable board range is 0.8-1.6 mm in thickness.
- Recommended dimensional arrangement tolerance for the board is  $\pm 0.05\text{mm}$ .
- The figure shows the board surface in which connector dip posts are to be inserted. ▼ shows the mating surface.

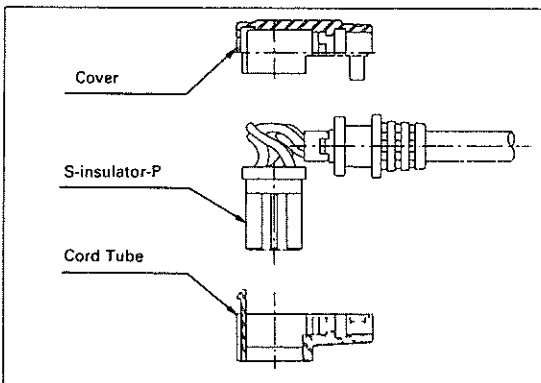
## ◆ Assembly Procedure

### ● Straight Plug



1. Insert bushing over terminated cable, and install terminal by crimping.
2. Put crimped terminal into the terminal hole of S-insulator-P casing. Lightly pull the cable to confirm crimped terminal is firmly engaged in the terminal hole.
3. Use proper tool (RP34-TC-01) to crimp fit clamping bracket to cable.
4. Assemble S-insulator-P casing, clamping bracket and bushing to cord tube (A) or (B) where applicable. S-insulator-P casing can be installed inverted 180°. Use suitable orientation as required.
5. Finally, assemble cord tube (A) or (B), whichever is remaining, to complete assembly.

### ● Right-angle Plug

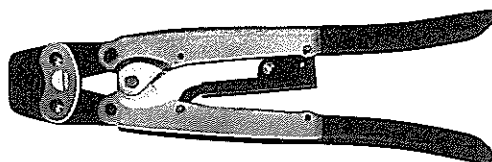


1. Same assembly procedures apply to either right-angle plug or straight plug. S-insulator-P casing can be installed 180° inverted against cord tube. Install the casing in the cable take-out direction as required.

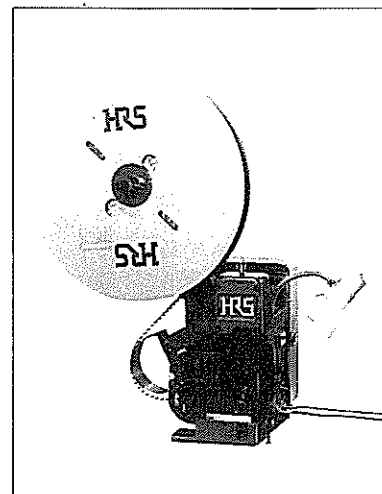
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## ◆ Applicable Tools

| Type      | Item                            | HRS No.    | Part No.   | Applicable terminal | Applicable wire |
|-----------|---------------------------------|------------|------------|---------------------|-----------------|
| Automatic | Automatic crimping machine body | 901-0005-4 | CM-105     | —                   | —               |
|           | Applicator                      | 901-2025-2 | 105-RP34-1 | RP34-SC-212         | AWG # 18~ # 22  |
|           | Cable crimping tool             | 150-0074-1 | RP34-TC-01 | —                   | —               |
|           | Extractor                       | 150-0072-6 | RP34-SC-TP | —                   | —               |



Cable Crimping Tool RP34-TC-01



Automatic Crimping Machine CM-105

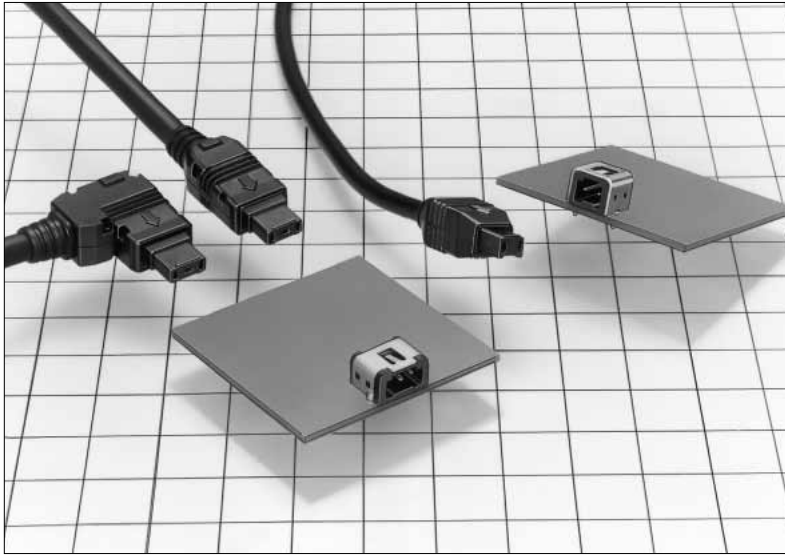
## ◆ Terminal Arrangement, guide locations and principal performance

|  |   |  |  |  |  |  |
|--|---|--|--|--|--|--|
| Terminal Arrangement, 3 pins Guide locations |   |  |  |  |  |  |
| Terminal Arrangement, 4 pins Guide locations |   |  |  |  |  |  |
| No. of Poles                                 | 3,4 (Terminal No.1 is contacted faster than other terminal) |  |  |  |  |  |
| Withstanding voltage                         | AC150V 1 min  |  |  |  |  |  |
| Current capacity                             | 3A  |  |  |  |  |  |
| Insulation resistance                        | 1,000MΩ Min (DC100V)  |  |  |  |  |  |
| Contact resistance                           | 30mΩ Max(DC 100V)   |  |  |  |  |  |
| Applicable cable dia.                        | φ 4   |  |  |  |  |  |
| Applicable cable                             | AWG # 18~ # 22  |  |  |  |  |  |

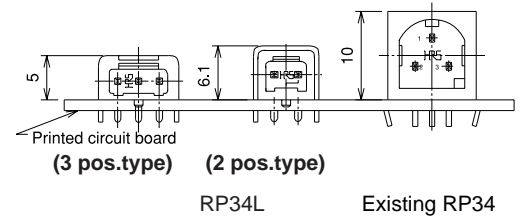
(Remarks) 1. Figures above show guide locations viewed from receptacle mating surface (from cable-connecting section of plug).  
 2. Voltage rating for normal use is 30VAC or 42VDC and under.

# Low Profile Connectors for AC power supply

## RP34L Series



### Receptacle installed height



## ■Features

### 1. Low profile

Receptacles are designed with their installation heights to be shorter than those of conventional RP34 series.

### 2. Space saving

Both 2 and 3 position receptacles are miniaturized to 7mm length, resulting in a small board mounting area.

### 3. Snap-lock mechanism

Audible click when connector is fully mated.

### 4. Precise mated connection

Secure hold of the plug on au 3 axis.

### 5. Sequence mating

The 3 contact type has sequenced mating. One pin makes contact as a ground terminal before the other contacts.

### 6. No Mismatching

Two polarized keys prevent any insertion error.

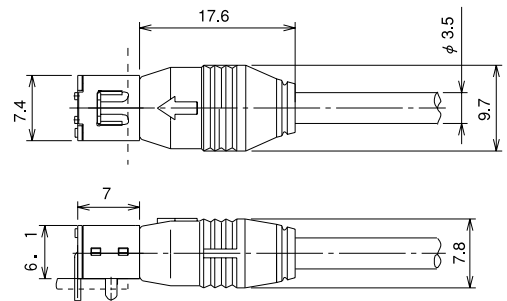
### 7. Ease of Mating

An arrow on the top of the plug shows the proper direction for insertion.

## ■Applications

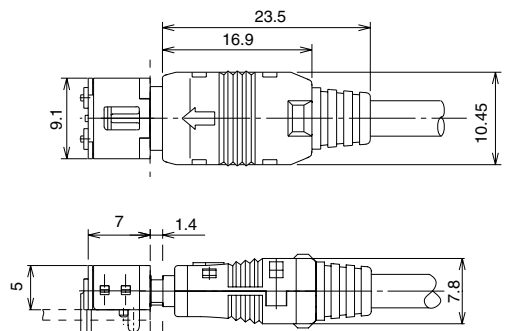
Notebook PCs, portable remote terminals, AV equipment, etc.

### Mated dimensions



This 2 contact plug is an over-molded (i.e., cable-integrated form) type. Recommended cable diameter is 3.5mm dia.

### Mated dimensions



This 3-contact plug is a field assembly type. Recommended cable diameter is 4mm dia.

## Product Specifications

|         |                                  |                      |  |                            |
|---------|----------------------------------|----------------------|--|----------------------------|
| Ratings | Current rating<br>Voltage rating | 5A<br>30V AC, 42A DC | Operating temp. range<br>Storage temp. range | -25°C~+85°C<br>-10°C~+60°C |
|---------|----------------------------------|----------------------|--|----------------------------|

| Item                    | Specification                             | Conditions   |
|-------------------------|---|--|
| 1.Contact resistance    | 30mΩ or max.                              | 1A DC  |
| 2.Insulation resistance | 1000mΩ min.                               | 100V DC  |
| 3.Withstanding voltage  | No flashover or insulation breakdown      | 150V AC/1 minute   |
| 4.Vibration             | No electric disconnection of 10μs or more | 10~55Hz, one-sided amplitude 0.75mm, 3 directions for 2hours, respectively                           |
| 5.Temperature cycle     | Insulation resistance:100mΩ min.          | -55°C for 30 min.→normal temp. for 10~15 min.→+85°C for 30 min.→normal temp. for 10~15 min. 5 cycles |
| 6.Salt spray            | No corrosions                             | 5% salt water solution, 48 hours   |
| 7.Durability            | Contact resistance:60mΩ max.              | 5,000 mating / un-mating   |

## Material

| Component |             | Material        | Finish / Color    | Remarks |
|-----------|-------------|-----------------|-------------------|---------|
| 2 pos.    | Metal comp. | Phosphor bronze | Solder-plating    | —       |
|           | Insulator   | Nylon           | Black             | UL94HB  |
|           | Contacts    | Brass           | Palladium-plating | —       |
| 2 pos.    | Cover       | Vinyl chloride  | Black             | UL94V-0 |
|           | Insulator   | Nylon           | Black             | UL94HB  |
|           | Contacts    | Phosphor bronze |                   | —       |
| 3 pos.    | Metal comp. | Phosphor bronze | Solder-plating    | —       |
|           | Insulator   | PPS             | Black             | UL94V-0 |
|           | Contacts    | Brass           | Palladium-plating | —       |
| 3 pos.    | Cover       | Polycarbonate   | Black             | UL94V-0 |
|           |             | Vinyl chloride  | Black             | UL94V-0 |
|           | Insulator   | PPS             | Black             | UL94V-0 |
|           | Contacts    | Phosphor bronze | Palladium-plating | —       |

## Ordering information

RP34L - 5 PA - 2 SC (\*\*\*\*)

①    ②    ③    ④    ⑤    ⑥

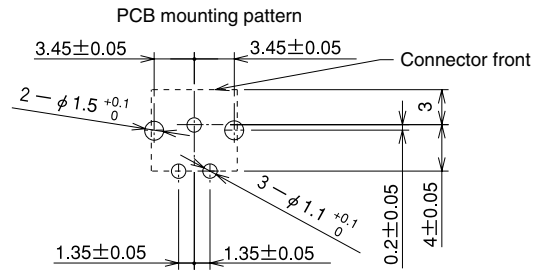
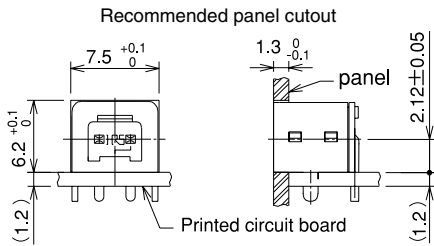
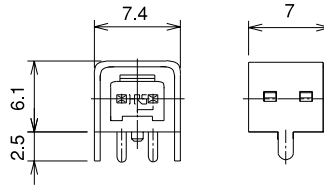
|  |   |
|--|---|
| ① Series name: RP34L   | ④ Number of contacts:<br>2, 3   |
| ② Shell: Shell.size, 5   |   |
| ③ Type:<br>Receptacle: R<br>Assembled straight plug: P<br>Assembled right angle plug: LP<br>Cable ass'y, straight plug: PA | ⑤ Type of contact:<br>PD: through hole male contact<br>SC: crimp female contact |
|  | ⑥ Cable length:(****) depends on each cable (mm).                               |



## ■ Receptacles

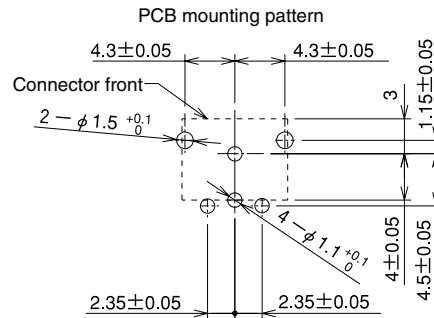
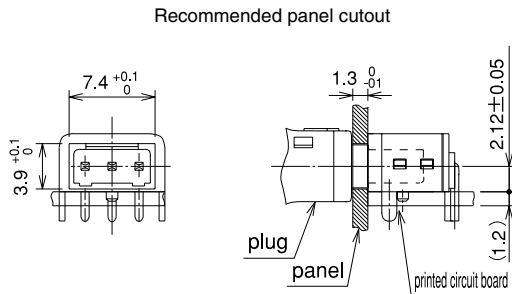
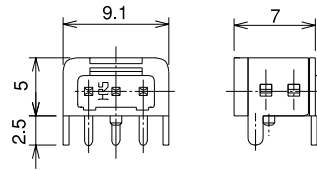
● 2 pos.

RP34L-5R-2PD(71)



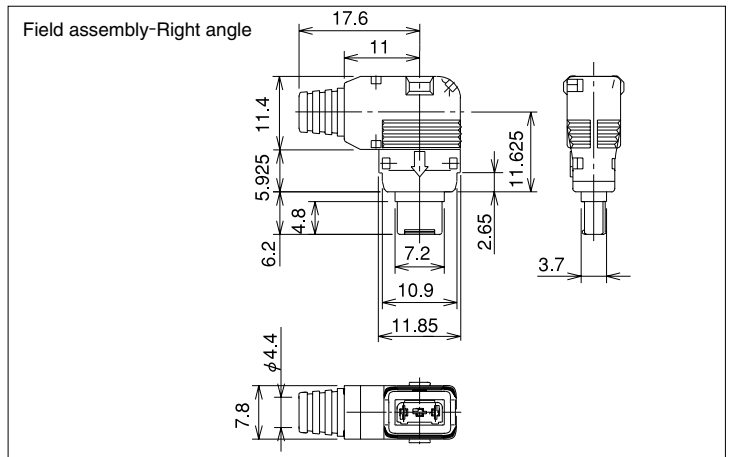
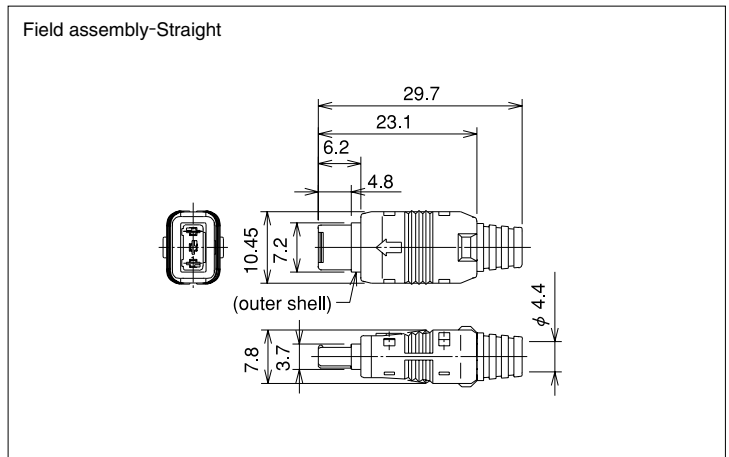
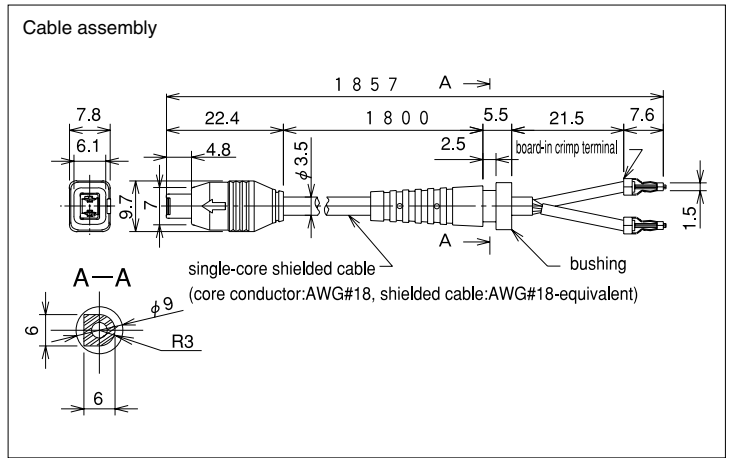
● 3 pos.

RP34L-5R-3PD(71)



| Part Number      | CL No.        | RoHS |
|------------------|---------------|------|
| RP34L-5R-2PD(71) | 113-5154-6-71 | YES  |
| RP34L-5R-3PD(71) | 113-5157-4-71 |      |

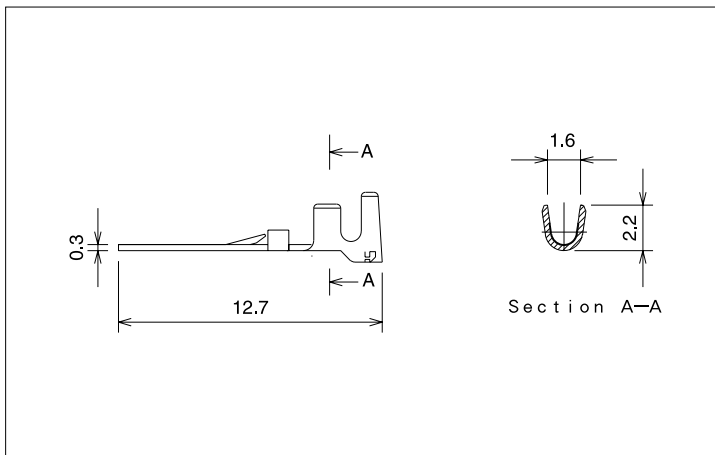
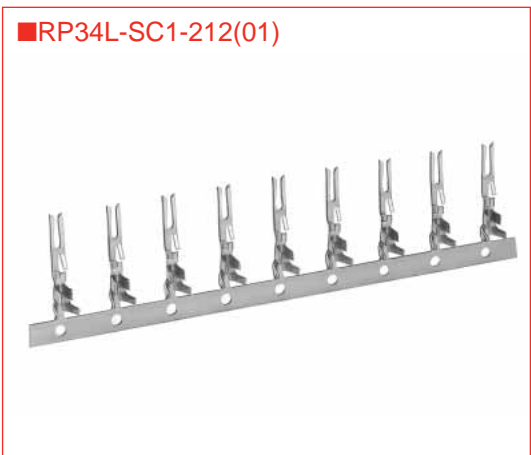
## Plugs



| Part Number             | CL No.        | RoHS |
|-------------------------|---------------|------|
| RP34L-5PA-2SC(1857)(71) | 113-5153-3-71 | YES  |
| RP34L-5PA-3SC(71)       | 113-5178-4-71 |      |
| RP34L-5LP-3SC(71)       | 113-5161-1-71 |      |

## ■Crimp contact

■RP34L-SC1-212(01)



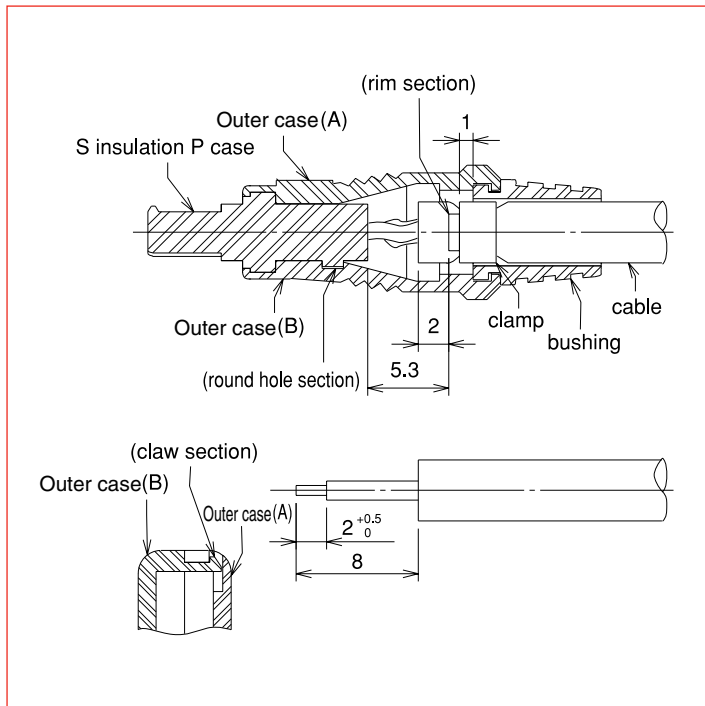
| Part Number       | CL No.        | RoHS |
|-------------------|---------------|------|
| RP34L-SC1-212(01) | 113-5151-8-01 | YES  |

## ■Applicable Tools

| Type                 | Part Number          | CL No.              | Applicable contact | Applicable conductor |
|----------------------|----------------------|---------------------|--------------------|----------------------|
| Manual crimping tool | HT-102/RP34L-SC1-212 | —                   | RP34L-SC1-112(01)  | AWG#18~#22           |
| Crimper              | Automatic            | CM-105              | —                  | —                    |
|                      | Crimper body         | AP105-RP34L-SC1-212 | RP34L-SC1-212(01)  | AWG#18~#22           |
| Cable crimping tool  | RP34-TC-01           | 150-0074-1          | —                  | φ4                   |
| Drawing tool         | RP6-SC-TP            | 150-0039-0          | —                  | —                    |

## ■ Assembly Instructions(3-Position Plug)

### ● Straight Plug



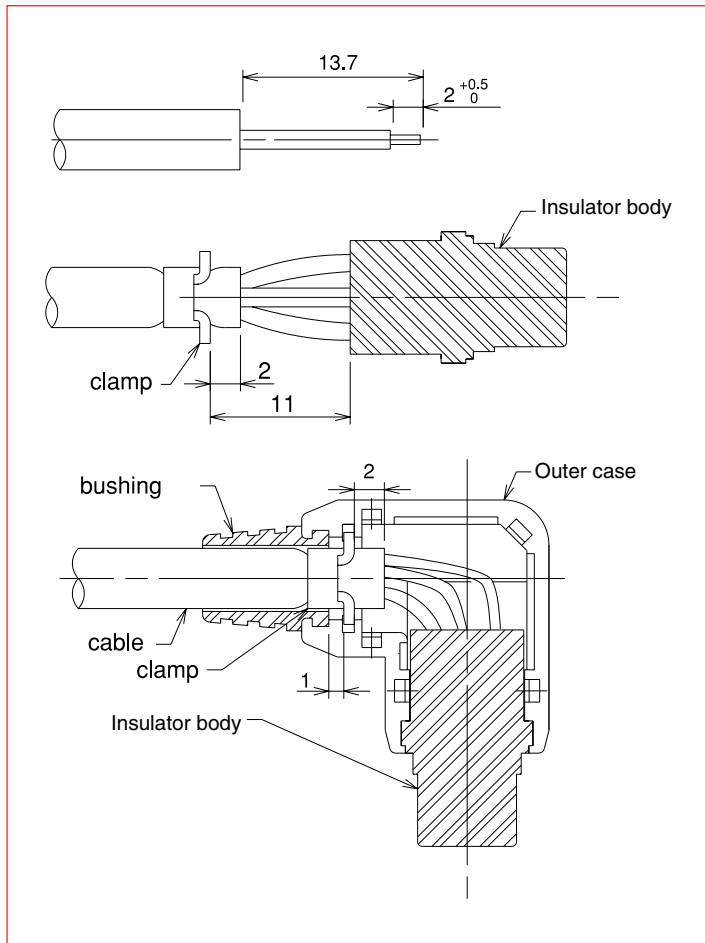
1. Slide the bushing over the cable.
2. Prepare the cable end and the conductors as shown.
3. Crimp the contacts to each conductor. Verify the crimp dimensions.
4. Insert each of the contacts into the insulator body. Verify that the contact is secure by slightly pulling on the conductor. Should the contacts require re-insertion, use the tool RP6-SC-TP to remove them (Inserted from the termination side).
5. Crimp the cable clamp over the cable at designated dimension (Tool number:RP34-TC-01).
6. Place the outer case on a flat surface, with inside facing up.
7. Carefully place the insulator body, clamp and the bushing into corresponding indents and cut-outs in the outer case. Verify correct location. (As shown on drawing)

Note A: When placing all components in the case, exercise caution as NOT to damage any of the protruding snap.

Note B: All components should fit easily, without use of any force.

8. Carefully align the other outer case over all components case. Do not force alignment.
9. Snap the case in place.

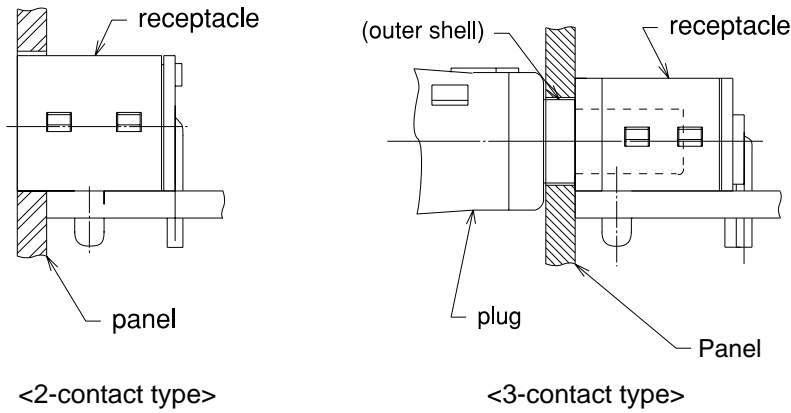
### ● Right Angle Plug



1. The right angle plug can also be assembled by using the same procedure as the straight plug.

## ■Precautions

1. Use the connector section with its panel held down so as not to have excessive load. For 2-contact type, hold the outer shell section of the receptacle, and for 3 contact type, the outer shell section of the plug.



2. After connector assembly, cable must not be pulled over 30N in the arrow-indicated direction. Be careful not to add excessive tensile load because it will lead the damage of connectors.

