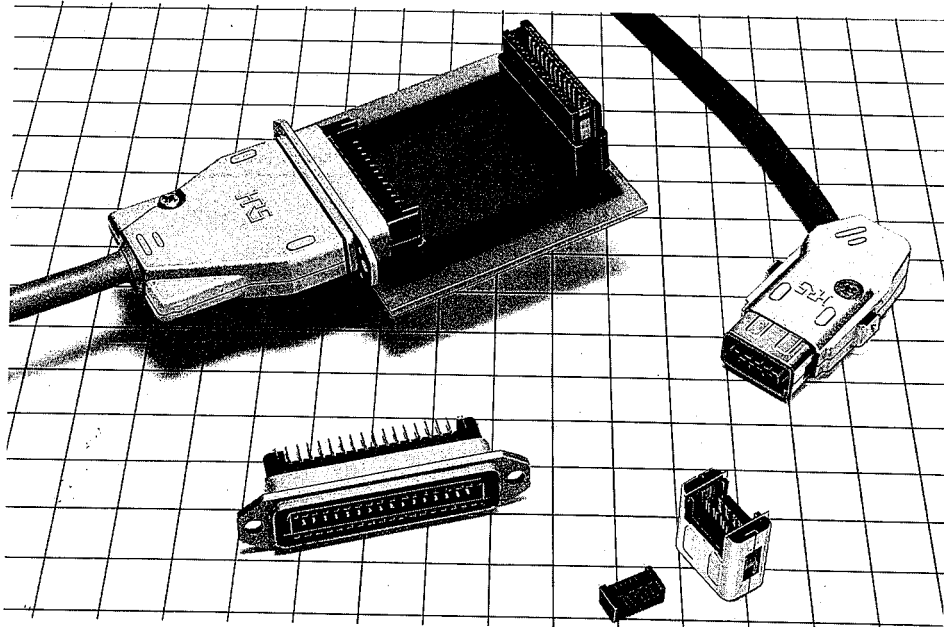


# QM (1.78mm-.070") CONNECTORS-"MICRO 70"

## General

Designed to fill the needs of high density and miniature interconnection, the QM series are Super-Small IDC Connection. This IDC plug uses I/O Cable <AWG #

30> with 0.89mm (.035") spacing. This new QM connector-design ensures RFI/EMI shielding protection. Available in 8, 14, 26, and 32 way.



## Features

- (1) 1.78mm (.070") grid contact position enables high density designs.
- (2) Ribbon construction of contacts provides excellent mechanical strength.
- (3) Capable group IDC termination of 0.89 mm (.035") pitch cable (AWG No.30) to achieve labor saving in connection work.
- (4) The connectors can be grounded to the PCB to isolate EMI/FRI generated from the cable and connector as well as latched to PCB.
- (5) Zinc alloy die-cast shell and Metallic shell reduce the penetration of external EM noise.
- (6) Hood type and with Lock mechanism type are available for Cover shell. One touch lock mechanism assures easy and quick connection.

## Applications

Suitable for personal terminals, peripherals and terminals.

## Specifications

| Item                  | Specification                 |
|-----------------------|-------------------------------|
| Current Rating        | 0.5A                          |
| Voltage               | AC100V                        |
| Insulation Resistance | 1000M $\Omega$ or more DC100V |
| Contact Resistance    | 35m $\Omega$ or less DC100mA  |
| Withstanding Voltage  | 300V for 1 minute             |

## Material and Finish

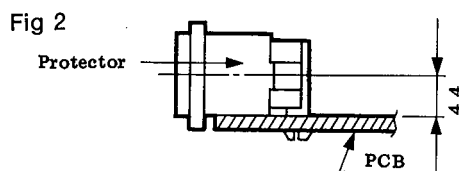
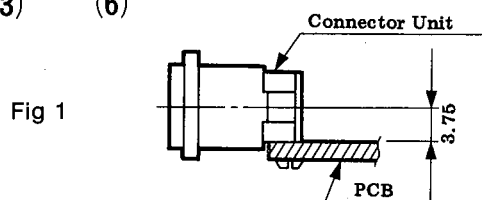
| Item       | Material            | Finish                 |
|------------|---------------------|------------------------|
| Hood       | Zinc alloy die-cast | Silver finish          |
| Insulation | PET Resin           | Black                  |
| Contact    | Pin                 | Beryllium copper       |
|            | Socket              | Phosphor bronze        |
|            |                     | Selective gold plating |

## Ordering Information

QM    10 — 14    R    (L) — PR  
 |       |       |       |       |  
 (1)    (2)       (3)    (4)    (5)    (6)

QM    30 — 14    P — EP  
 |       |       |       |       |  
 (1)    (2)       (3)    (4)    (6)

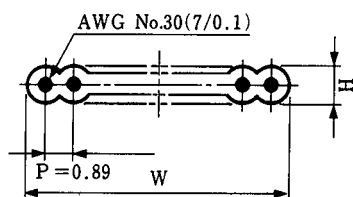
QM — 14 — CS  
 |       |       |  
 (1)    (3)    (6)



- (1) Series Number: QM
- (2) Serial sign for series
  - 10: Right Angle P.C. Mount receptacle
  - 20: Straight P.C. Mount receptacle
  - 30: IDC Plug
  - 40: Solder Type
- (3) No. of Pin: 8, 14, 26 and 32 way
- (4) Type of opening
  - P: Plug (for Hood cover)
  - PA: Plug (for cover with Lock mechanism)
  - R: Receptacle
- (5) Type of Snap Latch mounting
  - Blank: Connector unit on a level with PCB. (see Fig 1)
  - L: Protector on a level with PCB. (see Fig 2)
- (6) Accessories
  - CS: Cover case with Lock mechanism
  - CV: Hood cover case
  - CF: Hood
  - PR: Protector
  - CFI: Hood
  - PR1: Protector (Without mounting hole)
  - EP: Ground Plate
  - SP: Stopper Plate

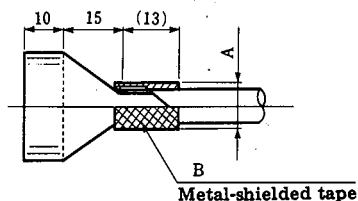
# Plug Connector

## 1. Applicable Cable



| No. of Core | Size      | Pitch | W     | H                                         |
|-------------|-----------|-------|-------|-------------------------------------------|
| 8           | AWG No.30 | 0.89  | 7.12  | 0.7-0.75                                  |
| 14          | AWG No.30 | 0.89  | 12.46 | *When Vinyl Chloride is used as Insulator |
| 26          | AWG No.30 | 0.89  | 23.14 |                                           |
| 32          | AWG No.30 | 0.89  | 28.48 |                                           |

## 2. I/O End Finish



| No. of Pin | A   | B                                                                                               |
|------------|-----|-------------------------------------------------------------------------------------------------|
| 8          | 4.8 | After holding shield braid over cable sheath, wrap metal shielded tape up to about 1.5 circles. |
| 14         | 5.5 |                                                                                                 |
| 26         | 6.8 |                                                                                                 |
| 32         | 7.3 |                                                                                                 |

## 3. Tooling

| No. of Pin | Part No.  | Pressure Block | Guide Plate | Connecting Press     |
|------------|-----------|----------------|-------------|----------------------|
| 8          | QM30-8P*  | QM30-**PB      | QM30-8GP    | HIF Connecting Press |
| 14         | QM30-14P* |                | QM30-14GP   |                      |
| 26         | QM30-26P* |                | QM30-26GP   |                      |
| 32         | QM30-32P* |                | QM30-32GP   |                      |

## 4. How to install cover case

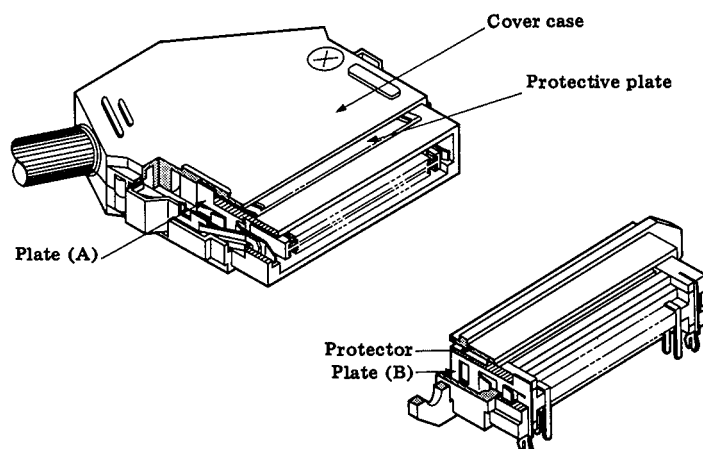
Please refer to next page.

## 5. Precaution for Cable End Finish

The cover case of QM series is made of zinc alloy die-cast which is effective for EMI shielding protection and the outside of cover case is coated with silver to provide excellent connection.

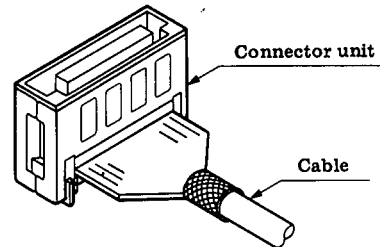
The shield structure for this QM series comprises 5 parts as per figure below, Therefore, I/O End Finish Treatment is essential for EMI shielding protection.

Grounding to PCB can be accomplished through the connection of plates provided on both sides of plug and receptacle.

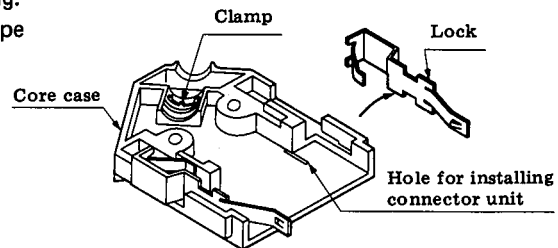
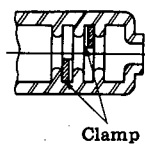


## How To Install Cover Case-QM-\*\*-CS

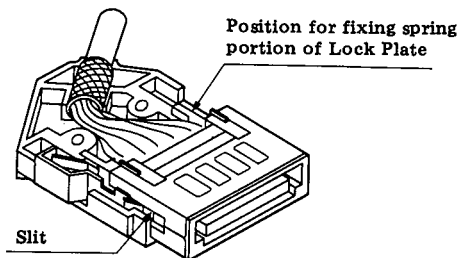
- (1) Use HIROSE Connecting tools, to perform IDC connection to Connector Unit (QM30-\*PA-EP).



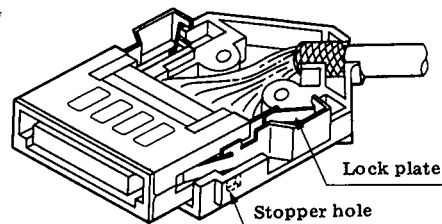
- (2) Take out one side of the lock from the housing. Bend the accompanying clamp into a bow shape and install it on the housing.



- (3) Insert the lock plate into the slit at both sides of Connector Unit.

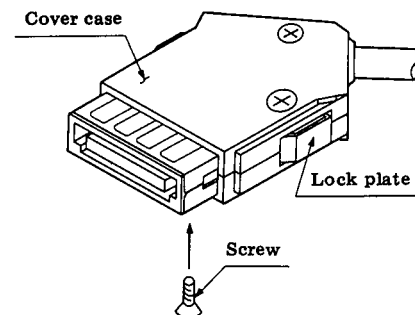


- (4) Insert another lock plate as described above, and fix connector unit into the correct position in the cover case.



- (5) Fix spring portion of lock plate into the correct position.

- (6) Assemble it with attached screw (M25\*0.45\*6)  
(When assembling the cover case, do it by pushing the lock button;  
Connector unit to be completely installed)



**Caution:** Be sure to install the cable, connector unit, and lock at the specified positions. Parts installed at improper positions will cause a gap in the housing joint and damage the connector unit.

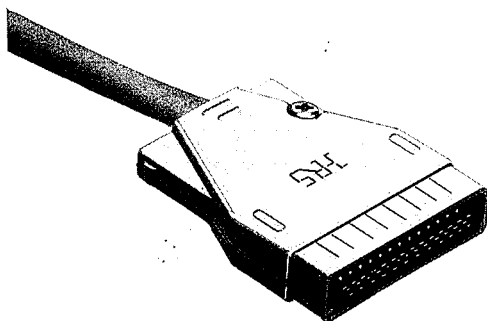
## QM40-\*\*\*P/QM40-\*\*\*PA (Solder Plug Connectors)

The solder connectors have been developed for use with thinner cables than the conventional specified cables.

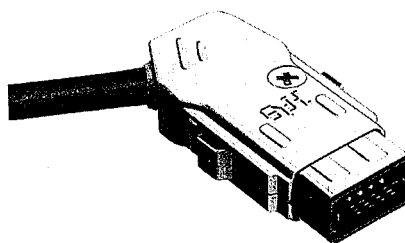
The connectors are basically the same as the QM30. Design the harness by considering the following.

- 1 Solder wires quickly (15W·3sec) because the connector housings are made of PET resin (thermoplastic).
- 2 Be sure to make the diameter cables to the dimensions specified on Page 177.

### Connector Setup View



Cover case: QM--CV  
Connector: QM30-\*P-EP



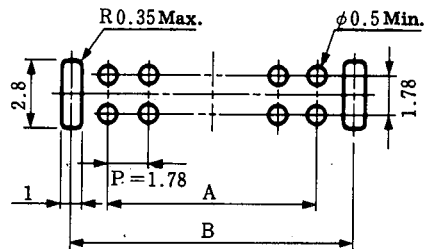
Cover case: QM--CS  
Connector: QM30--PA-EP

# P.C. Mount Receptacle Connector

## 1. PCB Layout

(mm)

Thickness of PCB: 1.6 mm.

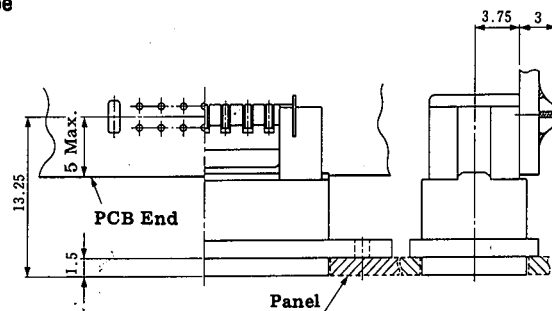


| No. of Pin | Part No. | A     | B     |
|------------|----------|-------|-------|
| 8          | QM*-8R   | 5.34  | 9.62  |
| 14         | QM*-14R  | 10.68 | 14.96 |
| 26         | QM*-26R  | 21.36 | 25.64 |
| 32         | QM*-32R  | 26.70 | 30.98 |

## 2. Mounting Style

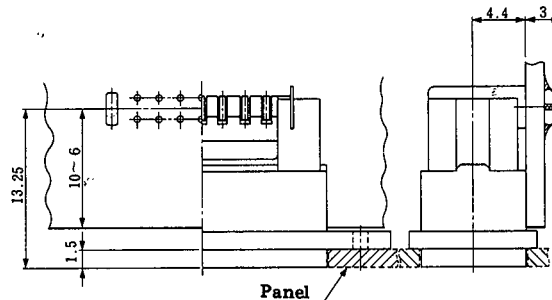
(mm)

### A Type



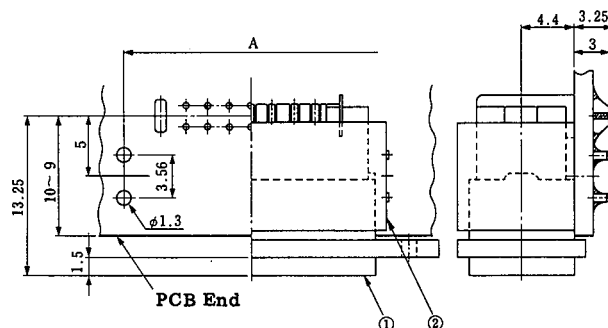
| No. of Pin | Part No.    |
|------------|-------------|
| 8          | QM10-8R-PR  |
| 14         | QM10-14R-PR |
| 26         | QM10-26R-PR |
| 32         | QM10-32R-PR |

### B Type



| No. of Pin | Part No.       |
|------------|----------------|
| 8          | QM10-8R(L)-PR  |
| 14         | QM10-14R(L)-PR |
| 26         | QM10-26R(L)-PR |
| 32         | QM10-32R(L)-PR |

### C Type

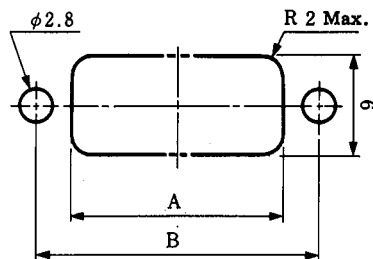


STOPPER PLATE assures strong holding force between connector and PCB against the external forces.

| No. of Pin | Part No. ①     | Part No. ② | A     |
|------------|----------------|------------|-------|
| 8          | QM10- 8R(L)-PR | QM- 8-SP1  | 16.00 |
| 14         | QM10-14R(L)-PR | QM-14-SP1  | 21.34 |
| 26         | QM10-26R(L)-PR | QM-26-SP1  | 32.02 |
| 32         | QM10-32R(L)-PR | QM-32-SP   | 37.36 |

### 3. Panel Cutout (mm)

Thickness of Panel: Max. 1.6 mm



| No. of Pin | Part No.     | A     | B     |
|------------|--------------|-------|-------|
| 8          | QM*-8R*-PR*  | 15.62 | 21.02 |
| 14         | QM*-14R*-PR* | 20.96 | 26.36 |
| 26         | QM*-26R*-PR* | 31.64 | 37.04 |
| 32         | QM*-32R*-PR* | 36.98 | 42.38 |

### 4. Precaution for selection of Cleaning Solvents

Insulation material is PET that has excellent chemical and heat resistance. As for Protector, please refer to table—1 below for selection of cleaning because of the coating treatment used.

Table—1

|                           | Ultrasonic cleaning ※1 | Vapor phase cleaning ※2 |
|---------------------------|------------------------|-------------------------|
| Alcohol                   | ○                      | ○                       |
| Trichlorotrifluoromethane | ○                      | △                       |
| Chloroethene              | ○                      | △                       |

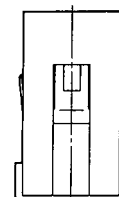
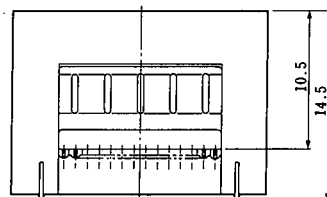
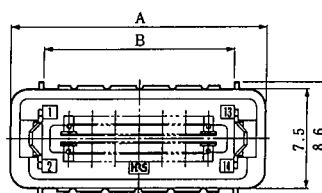
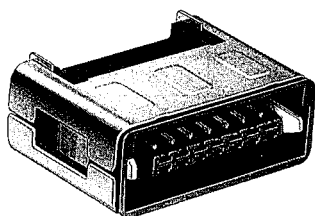
※1: Ultrasonic cleaning : 10 minutes

※2: Vapor cleaning: 3 minutes

(Repeat of vapor and ultrasonic cleaning (30 sec)).

△; For thirty minutes to one hour after washing the connectors, handle PCBs on which the connectors are mounted with special care because the coating surface swells and can be easily flawed.

## Plug Connector (for Cover Case with Lock Mechanism)

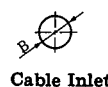
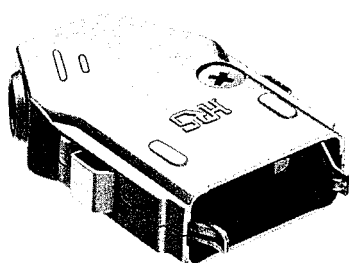


CL226-0062-7  
QM30-14PA-EP

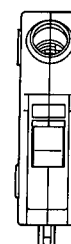
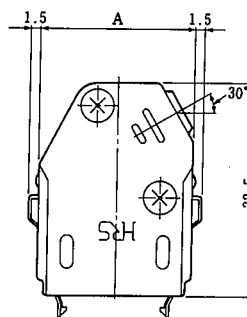
Unit: mm

| HRS No.      | No. of Pin | Part No.     | A     | B     |
|--------------|------------|--------------|-------|-------|
| CL226-0061-4 | 8          | QM30-8PA-EP  | 14.12 | 9.32  |
| CL226-0062-7 | 14         | QM30-14PA-EP | 19.46 | 14.66 |
| CL226-0063-0 | 26         | QM30-26PA-EP | 30.14 | 25.34 |
| CL226-0064-2 | 32         | QM30-32PA-EP | 35.48 | 30.68 |

## 30° Cable Exit Cover Case with Lock Mechanism



Cable Inlet

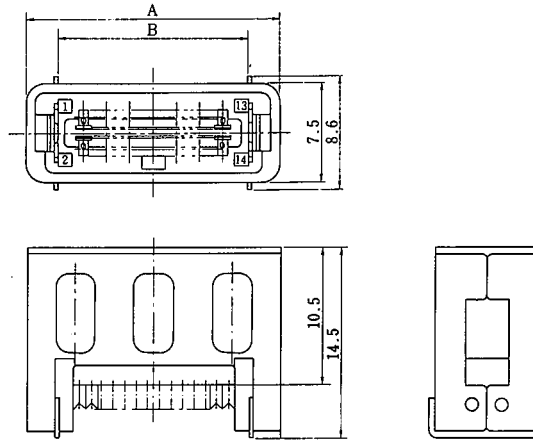
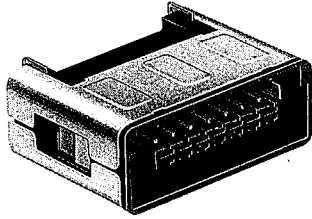


CL226-0058-0  
QM-14-CS

Unit: mm

| HRS No.      | No. of Pin | Part No. | A     | B         |
|--------------|------------|----------|-------|-----------|
| CL226-0057-7 | 8          | QM-8-CS  | 18.02 | φ4.8      |
| CL226-0058-0 | 14         | QM-14-CS | 23.36 | φ5.5      |
| CL226-0059-2 | 26         | QM-26-CS | 34.04 | 5.5 x 8.5 |
| CL226-0060-1 | 32         | QM-32-CS | 39.38 | 5.5 x 9.5 |

## Plug Connector (for Hood Cover Case)

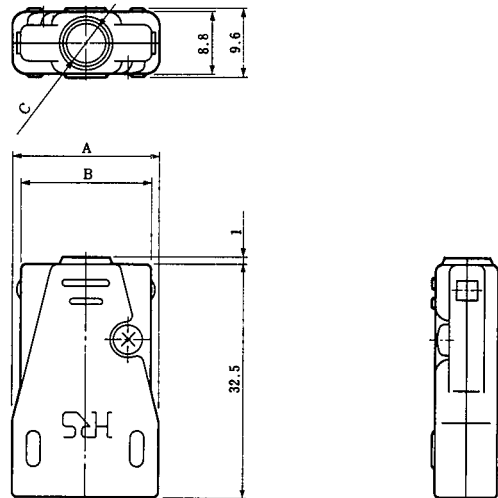
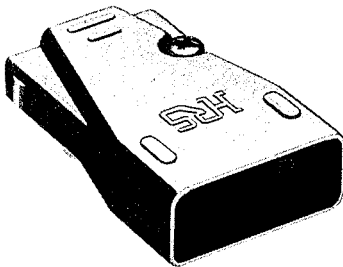


CL226-0009-4  
QM30-14P-EP

Unit: mm

| HRS No.      | No. of Pin | Part No.    | A     | B     |
|--------------|------------|-------------|-------|-------|
| CL226-0039-5 | 8          | QM30- 8P-EP | 14.12 | 9.32  |
| CL226-0009-4 | 14         | QM30-14P-EP | 19.46 | 14.66 |
| CL226-0010-3 | 26         | QM30-26P-EP | 30.14 | 25.34 |

## Hood Cover Case

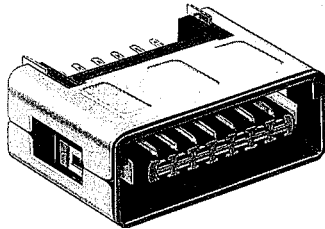


CL226-0011-6  
QM-14-CV

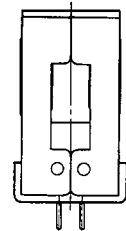
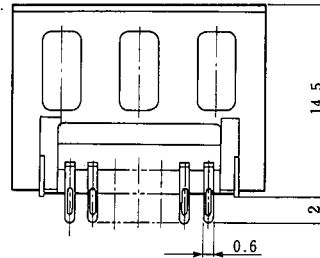
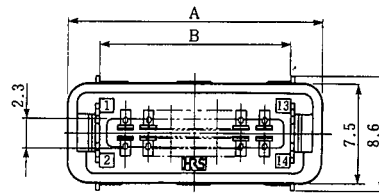
Unit: mm

| HRS No.      | No. of Pin | Part No. | A     | B    | C         |
|--------------|------------|----------|-------|------|-----------|
| CL226-0040-4 | 8          | QM- 8-CV | 15.42 | -    | φ4.8      |
| CL226-0011-6 | 14         | QM-14-CV | 20.76 | 18.5 | φ5.5      |
| CL226-0012-9 | 26         | QM-26-CV | 31.44 | 26.0 | 5.5 x 8.5 |

## Solder Type (for Hood Cover Case)



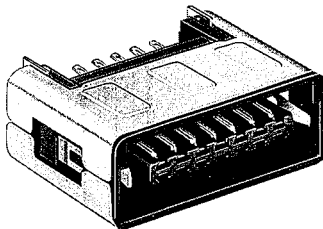
CL226-0078-7  
QM40-14P-EP



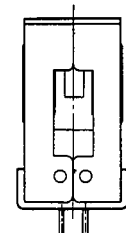
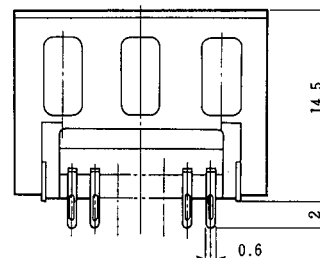
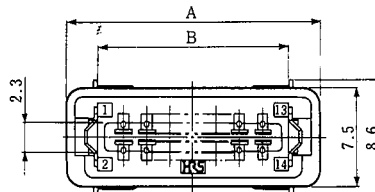
Unit: mm

| HRS No.      | No. of Pin | Part No.    | A     | B     |
|--------------|------------|-------------|-------|-------|
| CL226-0072-0 | 8          | QM40- 8P-EP | 14.12 | 9.32  |
| CL226-0078-7 | 14         | QM40-14P-EP | 19.46 | 14.66 |
| CL226-0079-0 | 26         | QM40-26P-EP | 30.14 | 25.34 |

## Solder Type (Cover Case with Lock Mechanism)



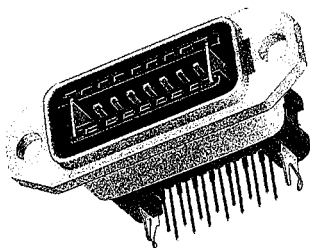
CL226-0076-1  
QM40-14PA-EP



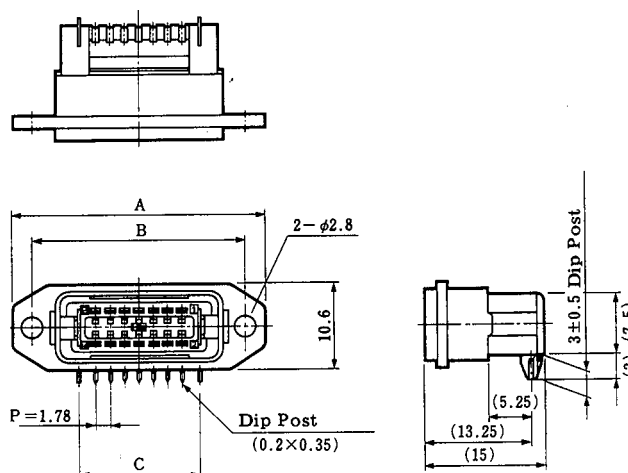
Unit: mm

| HRS No.      | No. of Pin | Part No.     | A     | B     |
|--------------|------------|--------------|-------|-------|
| CL226-0083-7 | 8          | QM40- 8PA-EP | 14.12 | 9.32  |
| CL226-0076-1 | 14         | QM40-14PA-EP | 19.46 | 14.66 |
| CL226-0080-9 | 26         | QM40-26PA-EP | 30.14 | 25.34 |
| CL226-0092-8 | 32         | QM40-32PA-EP | 35.48 | 30.68 |

## Receptacle with Protector (Right Angle P.C. Mount Type)



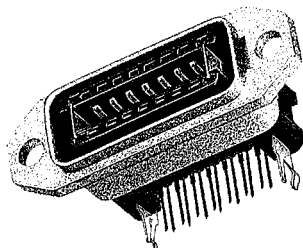
CL226-0015-7-02  
QM10-14R-PR(02)



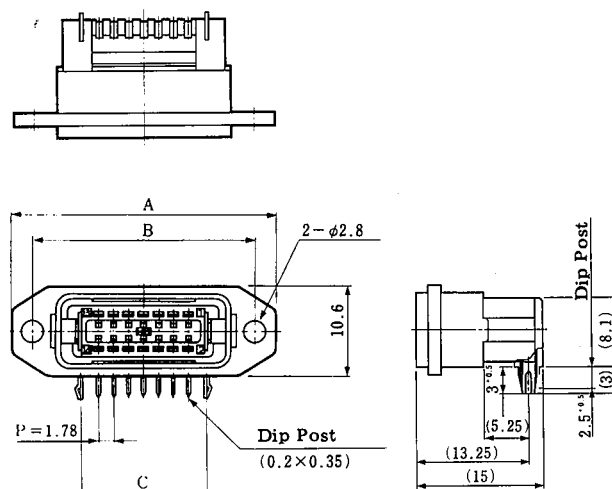
Unit:mm

| HRS No.         | No. of Pin | Part No.        | A     | B     | C     |
|-----------------|------------|-----------------|-------|-------|-------|
| CL226-0042-0-02 | 8          | QM10-8R-PR(02)  | 26.02 | 21.02 | 9.62  |
| CL226-0015-7-02 | 14         | QM10-14R-PR(02) | 31.36 | 26.36 | 14.96 |
| CL226-0016-0-02 | 26         | QM10-26R-PR(02) | 42.04 | 37.04 | 25.64 |

## Receptacle with Protector (Right Angle P.C. Mount (L) Type)



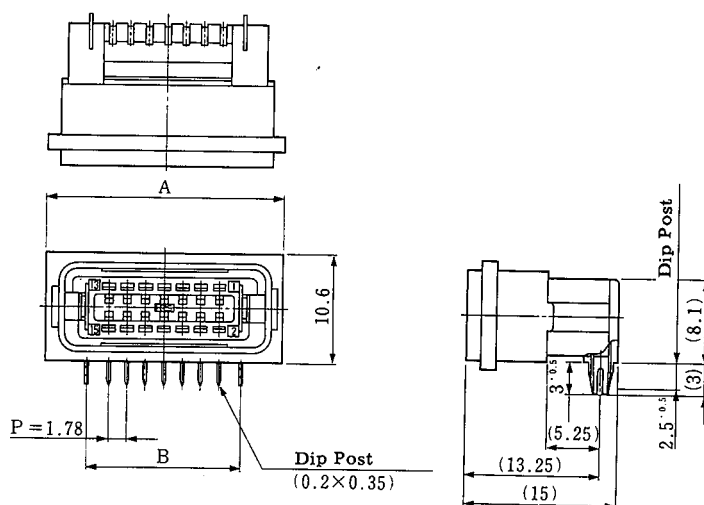
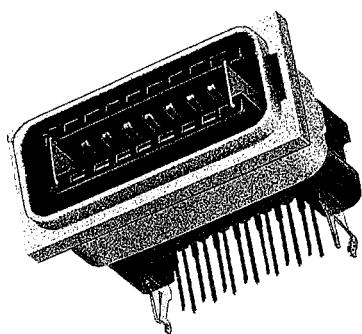
CL226-0019-8-02  
QM10-14R(L)-PR(02)



Unit: mm

| HRS No.         | No. of Pin | Part No.           | A     | B     | C     |
|-----------------|------------|--------------------|-------|-------|-------|
| CL226-0044-5-02 | 8          | QM10- 8R(L)-PR(02) | 26.02 | 21.02 | 9.62  |
| CL226-0019-8-02 | 14         | QM10-14R(L)-PR(02) | 31.36 | 26.36 | 14.96 |
| CL226-0020-7-02 | 26         | QM10-26R(L)-PR(02) | 42.04 | 37.04 | 25.64 |
| CL226-0033-9-02 | 32         | QM10-32R(L)-PR(02) | 47.38 | 42.38 | 30.98 |

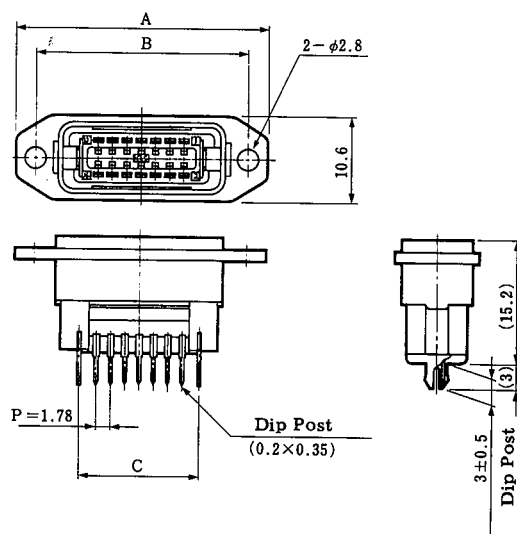
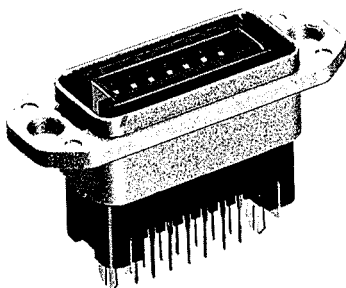
## Receptacle (without Mounting Hole) with Protector (Right Angle P.C. Mount Type)



CL226-0023-5-02  
QM10-14R(L)-PR1(02)

| Unit: mm        |            |                     |       |       |
|-----------------|------------|---------------------|-------|-------|
| HRS No.         | No. of Pin | Part No.            | A     | B     |
| CL226-0073-3-02 | 8          | QM10- 8R(L)-PR1(02) | 17.82 | 9.62  |
| CL226-0023-5-02 | 14         | QM10-14R(L)-PR1(02) | 23.16 | 14.96 |
| CL226-0024-8-02 | 26         | QM10-26R(L)-PR1(02) | 33.84 | 25.64 |
| CL226-0053-6-02 | 32         | QM10-32R(L)-PR1(02) | 39.18 | 30.98 |

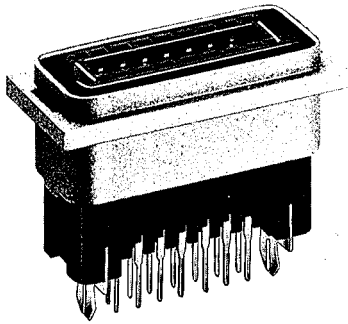
## Receptacle with Protector (Straight Dip Type)



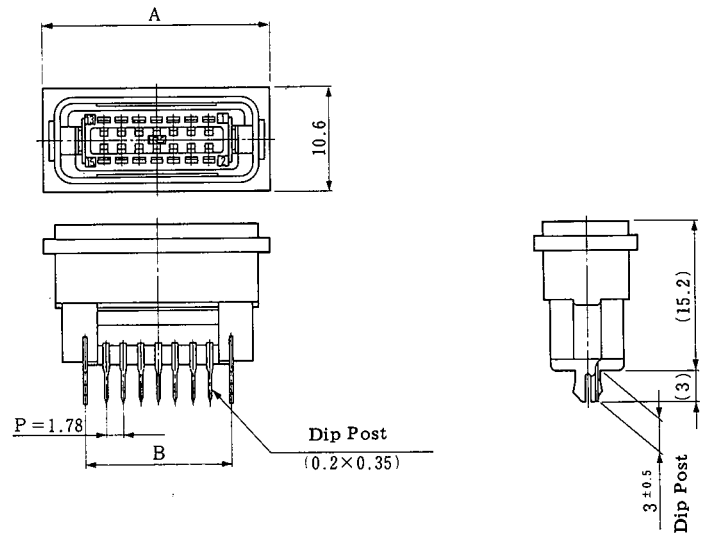
CL226-0017-2  
QM20-14R-PR

| Unit: mm     |            |             |       |       |       |
|--------------|------------|-------------|-------|-------|-------|
| HRS No.      | No. of Pin | Part No.    | A     | B     | C     |
| CL226-0017-2 | 14         | QM20-14R-PR | 31.36 | 26.36 | 14.96 |
| CL226-0018-5 | 26         | QM20-26R-PR | 42.04 | 37.04 | 25.64 |
| CL226-0032-6 | 32         | QM20-32R-PR | 47.38 | 42.38 | 30.98 |

## Receptacle (without Mounting Hole) with Protector (Straight Dip Type)



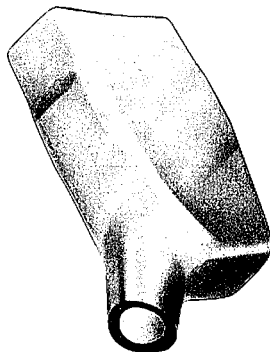
CL226-0054-9  
QM20-14R-PR1



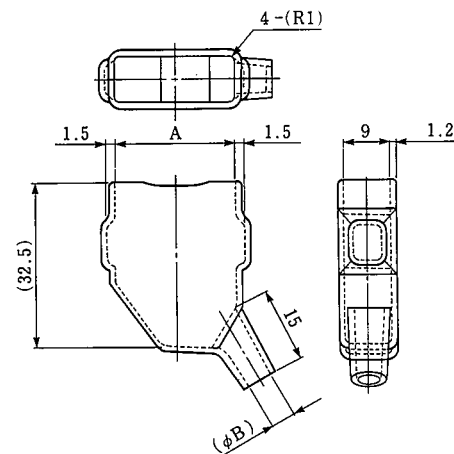
Unit:mm

| HRS No.      | No. of Pin | Part No.     | A     | B     |
|--------------|------------|--------------|-------|-------|
| CL226-0054-9 | 14         | QM20-14R-RP1 | 23.16 | 14.96 |
| CL226-0055-1 | 26         | QM20-26R-RP1 | 33.84 | 25.64 |
| CL226-0056-4 | 32         | QM20-32R-RP1 | 39.18 | 30.98 |

## Hood (QM-※※-CS)



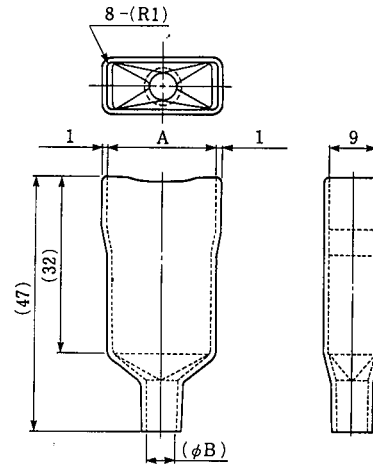
CL226-0086-5  
QM-14-CF



Unit:mm

| HRS No.      | No. of Pin | Part No. | A    | B   |
|--------------|------------|----------|------|-----|
| CL226-0086-5 | 14         | QM-14-CF | 23.4 | 5.5 |

## Hood (QM-※※-CV)

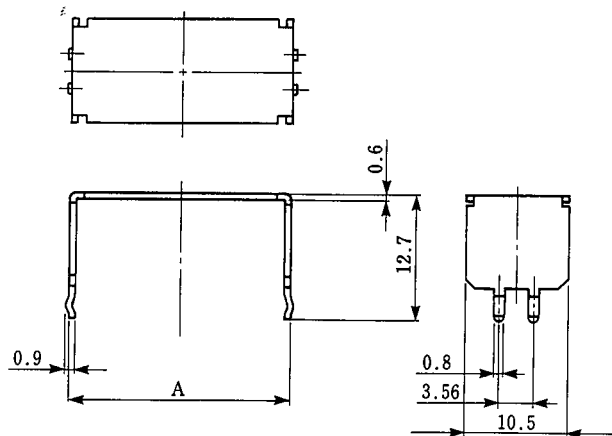
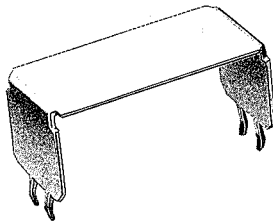


CL226-0093-0  
QM-8-CF1

Unit:mm

| HRS No.      | No. of Pin | Part No.  | A    | B   |
|--------------|------------|-----------|------|-----|
| CL226-0093-0 | 8          | QM-8-CF1  | 15.4 | 4.8 |
| CL226-0091-5 | 14         | QM-14-CF1 | 21   | 5.5 |

## Stopper Plate



CL226-0101-7  
QM-14-SP1

Unit: mm

| HRS No.      | No. of Pin | Part No.  | A     |
|--------------|------------|-----------|-------|
| CL226-0065-5 | 8          | QM- 8-SP  | 17.18 |
| CL226-0100-4 |            | QM- 8-SP1 |       |
| CL226-0021-0 | 14         | QM-14-SP  | 22.52 |
| CL226-0101-7 |            | QM-14-SP  |       |
| CL226-0022-2 | 26         | QM-26-SP  | 33.20 |
| CL226-0103-2 |            | QM-26-SP1 |       |
| CL226-0066-8 | 32         | QM-32-SP  | 38.54 |