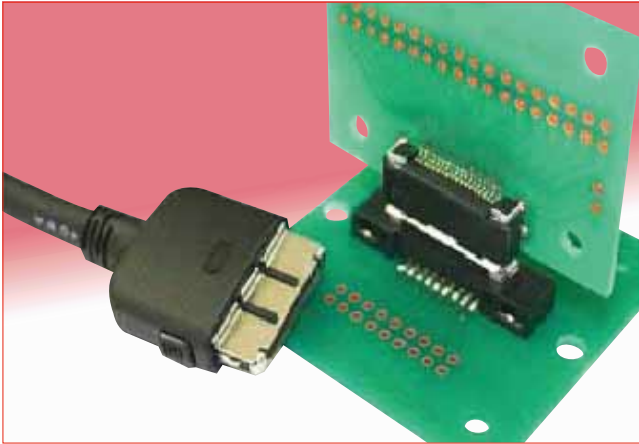


# High Life Cycle Interface Connectors

## 3800 Series



### Hirose's Unique Contact Structure with High Durability

- 1) Minimum contact shaving due to a rolled surface on the bellows contact side
- 2) The spring contact design prevents buckling.
- 3) Stable contact design provides the support needed to endure 20,000 mating cycles. Provides ideal long term contact force.

Rolled surface

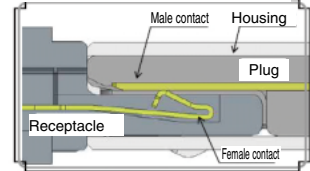
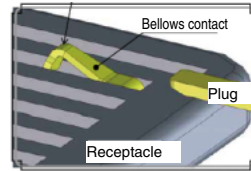


Fig.①

### ■ Features

1. 20,000 mating/unmating life cycle with unique Hirose contact structure.

2. The structure utilizes a metal shell that is 0.35 mm thick. The shell is designed to cover the housing and protect against rough mechanical operation.

The addition of reinforced metal fittings increases the PCB retention force and allows these connectors to be mounted with commercially available screws for the cradle type. (Fig.②)

3. Sequential mating, that features a 0.5 mm range (Fig.③)

4. Its small size and light weight design are helpful for use in compact devices

5. Simple mating process with a tactile click that assures proper mating completion.

The pushbutton locking system leads to a simplified mating process that delivers a tactile click to ensure that the mating process was correctly completed.

6. One piece plug cover

The assembly of this connector is simplified due to its one-piece plug cover.

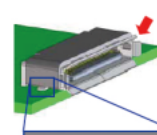
7. RoHS compliant

All materials and substances used to produce this product comply with the RoHS free standards.

### Robust Structure

- 1) The 0.35 mm thick metal shell protects the housing.

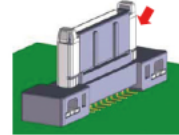
◆ Receptacle



◆ Plug



◆ Cradle plug

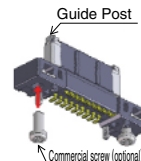


- 2) Protected Guide Posts

The metal shell on the cradle provides protection and cover to the guide posts on the cradle plug.

- 3) Optional screw fastening

The cradle can be secured to the PCB with the use of commercially available screws (M2 x 0.4 x 5) to provide additional retention force.



- 4) Reinforcing metal fittings

Solder is allowed to flow into the through hole and onto the reinforcing metal fittings to increase the PCB retention force.

Fig.②

### Sequential Mating Structure

The No.1 and 18 contacts are the first contacts to mate, with the remaining contacts mating thereafter.

[Effective Mating Length]  
1 & 18 Contact: 1.4 mm  
2 to 17 Contact: 0.9 mm

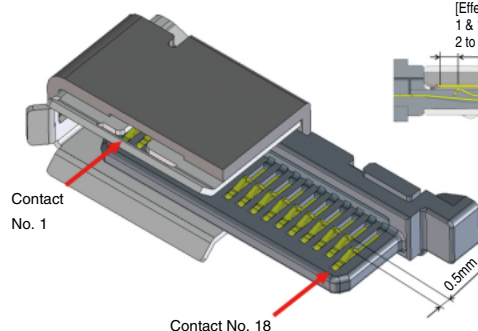


Fig.③

■Product Specifications

|                          |  |   |   |            |  |
|--------------------------|--|---|---|------------|--|
| Ratings                  | Rated Current  | No.2 ~ No.17 ⇒ 0.5A<br>No.1, No.18 ⇒ 1.5A | Rated Voltage                                 | AC 125V    |  |
|                          |  |   | Operating Temperature Range                   | −40 ~ +85℃ |  |
| Items                    | Specifications   |   | Conditions                                    |            |  |
| 1. Insulation Resistance | Minimum of 1,000MΩ   |   | Measured with DC 250V.                        |            |  |
| 2. Withstanding Voltage  | No flashover or breakdown  |   | Apply 350V AC for 1 minute                    |            |  |
| 3. Contact Resistance    | Maximum of 70mΩ  |   | Measured with 100mA (DC or 1,000 Hz) or below |            |  |
| 4. Durability            | 1) Maximum of 20mΩ of deflection from its initial state<br>2) No damaged, cracked or loose parts |   | 20,000 mating cycles                          |            |  |

■Materials / Finish

●Receptacle

| Component   | Materials       | Color/Finish           | Remarks |
|-------------|-----------------|------------------------|---------|
| Housing     | Polyamide resin | Black                  | UL94V-0 |
| Contact     | Copper alloy    | Selective gold plating | –       |
| Dust cover  | Polyamide resin | Black                  | UL94V-0 |
| Metal shell | Stainless Steel | Tin plating            | –       |

●Cradle Type Plug

| Component             | Materials       | Color/Finish           | Remarks |
|-----------------------|-----------------|------------------------|---------|
| Housing               | Polyamide resin | Black                  | UL94V-0 |
| Contact               | Copper alloy    | Selective gold plating | –       |
| Metal shell           | Stainless steel | Tin plating            | –       |
| Fastening screw metal | Steel           | Nickel under plating   | –       |

●Plug

| Component   | Materials       | Color/Finish           | Remarks |
|-------------|-----------------|------------------------|---------|
| Housing     | Polyamide resin | Black                  | UL94V-0 |
| Contact     | Copper alloy    | Selective gold plating | –       |
| Cover       | Polycarbonate   | Black                  | UL94V-0 |
| Metal shell | Stainless steel | –                      | –       |

■Product Number Structure

Refer to the chart below when determining the product specifications from the product number.  
Please select from the product numbers listed in this catalog when placing orders.

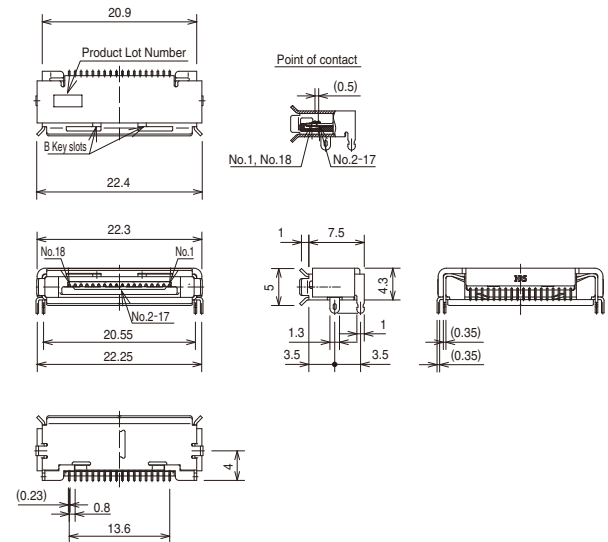
**38 40 - B - 18 P**  
① ② ③ ④ ⑤

|  |   |
|--|---|
| ① Series Number : 38   | ③ Mating Key Type                                 |
| ② Termination style<br>40 : Soldering Type<br>60 : Right Angle SMT Type<br>80 : Cradle Type SMT Type | ④ No. of Contacts                                 |
|  | ⑤ Type of Connector<br>P : Plug<br>S : Receptacle |

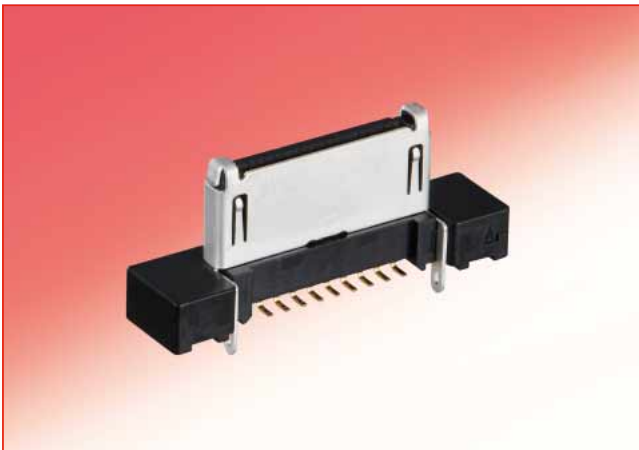
## ■Receptacle Connector



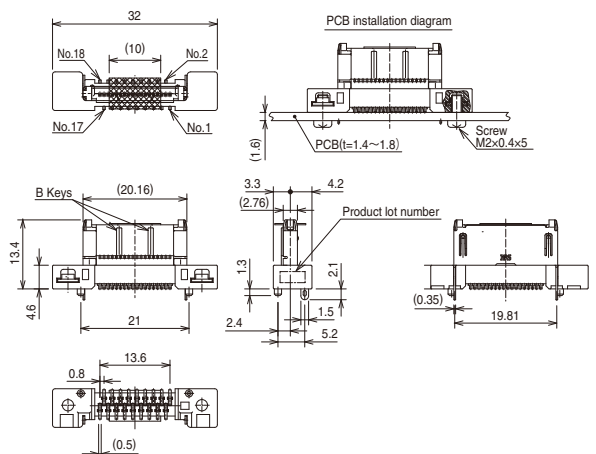
| Part No.   | HRS No.       | Quantity     |
|------------|---------------|--------------|
| 3860-B-18S | 238-2006-7 00 | 600 pcs/reel |



## ■Cradle Plug Connector



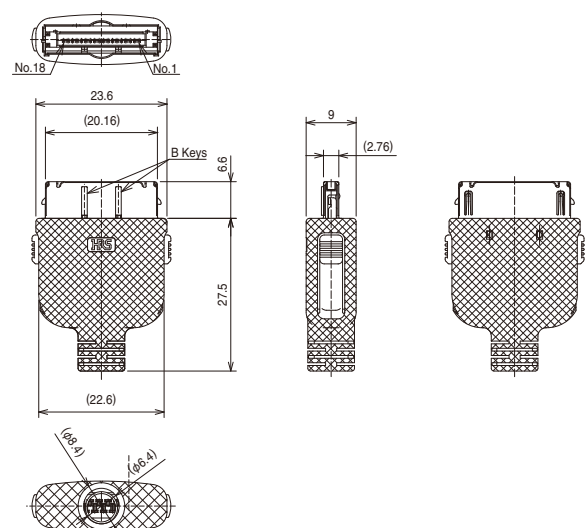
| Part No.   | HRS No.       |
|------------|---------------|
| 3880-B-18P | 238-2008-2 00 |



## ■Plug Connector



| Part No.   | HRS No.       |
|------------|---------------|
| 3840-B-18P | 238-2007-0 00 |

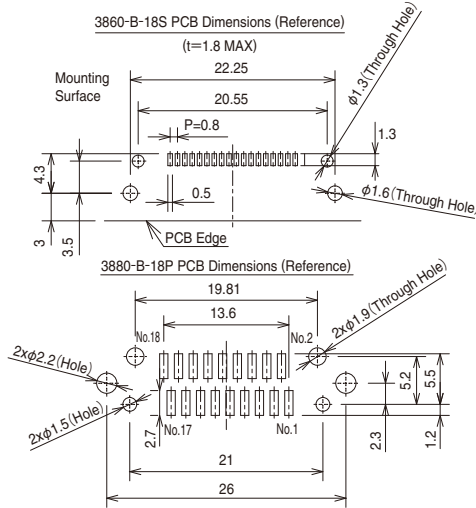


◆Applicable Cable

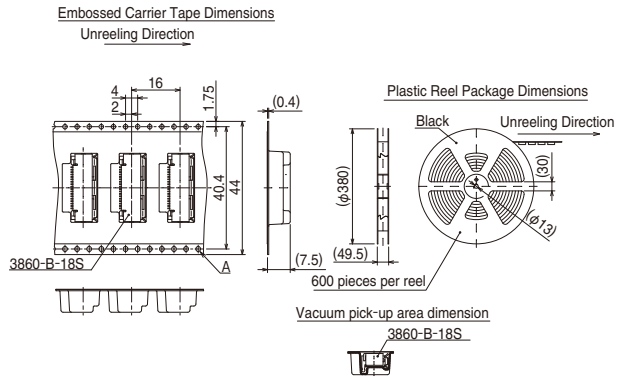
|                              |                |                     |
|------------------------------|----------------|---------------------|
| Conductor Size               | Cross Section  | 0.08mm <sup>2</sup> |
|                              | Configuration  | 7 / 0.127mm         |
|                              | Outer Diameter | φ0.38mm             |
| Outer Diameter of Insulation | φ0.58mm        |                     |
| Wire Size                    | 28 AWG         |                     |

UL STYLE OF APPLICABLE CABLE : 20620、20276

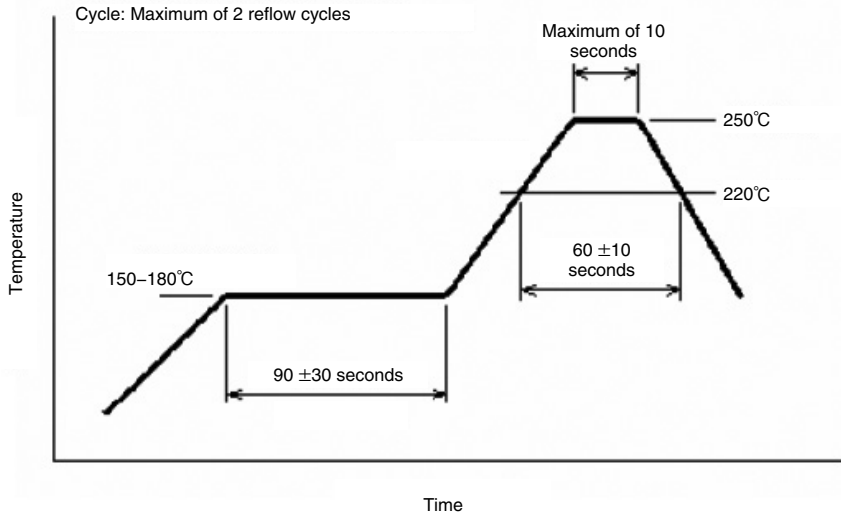
◆Recommended PCB Layout



◆Receptacle  
Reel packaging dimensions (JIS C 0806-3)



◆Recommended Reflow Temperature Profile



Please check the mounting conditions before use, conditions such as solder paste types, manufacturer, PCB size and any other soldering materials may alter the performance of such materials.



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<http://www.hirose.com>

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