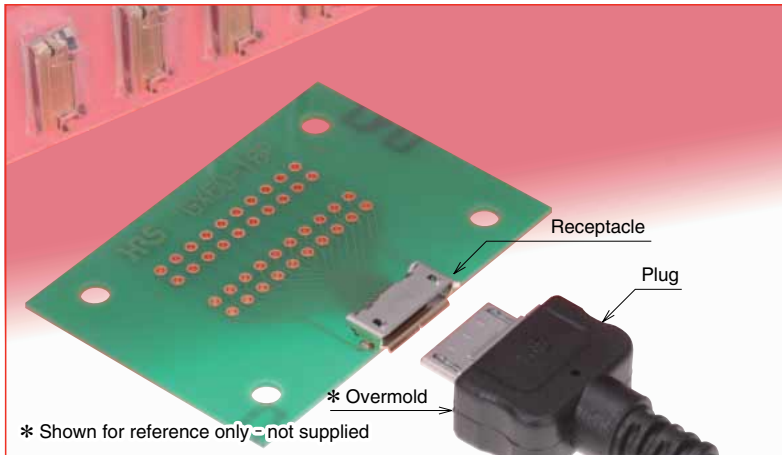
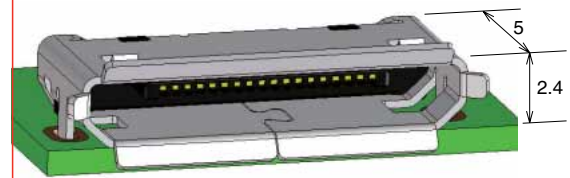


# 0.4 mm Pitch, Space-saving Interface Connectors

## GX Series



### Small size



(18 conductors)

Receptacle

GX60-18P

### Overview

Developed as input/output connectors for use in portable devices requiring reliable high durability connection.

### Features

#### 1. Small size

With a width of 5 mm and 2.4 mm height above the mounting surface the connectors may be used in applications where board and volume space is restricted.

#### 2. Strong construction

Single piece shell increases the board retention and resists rotational forces encountered in demanding consumer environment

#### 3. High durability

Unique lock latches will maintain high retention force (plug with corresponding receptacle) up to 10,000 cycles, confirming fully mated condition with a distinctive tactile "click" sensation.

#### 4. ESD protection

Increased distance from the edge of the metal shell to the front of the contacts offers circuit protection from electrostatic discharge.

#### 5. RoHS compliant

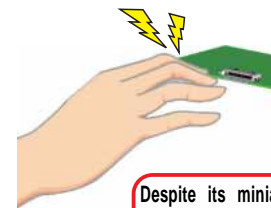
All components and materials comply with the requirements of EU Directive 2002/95/EC

### Applications

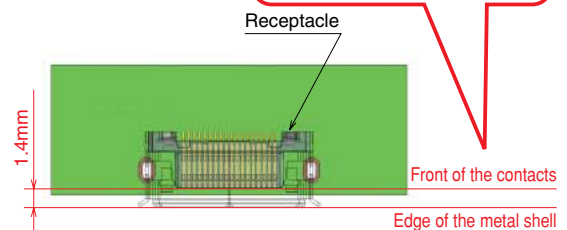
DSC, PDA, notebook computers, mobile phones and other portable devices requiring high durability interface connectors.



### ESD protection



Despite its miniature size the long distance from the metal shell edge to the front of the contacts provides protection from electrostatic discharge.



Edge of the metal shell

## GX Series 0.4 mm Pitch, Space-saving Interface Connectors

### ■ Specifications

Ratings	Current rating	0.5 A (1 A / contact, each contact at the end, 2 contacts only)	Operating temperature range	-30°C to +80°C Note 1
	Voltage rating	30 V AC	Storage temperature range	-40°C to +85°C Note 2

Item	Specification	Conditions
1. Contact resistance	60 mΩ max.	100 mA DC
2. Insulation resistance	100 MΩ min.	100 V DC
3. Withstanding voltage	No flashover or insulation breakdown	100 V AC / 1 minute
4. Durability	Contact resistance: 100 mΩ max. No damage cracks or parts dislocation.	10,000 cycles
5. Shock	No electrical discontinuity of 1 μs or longer. No damage, cracks or parts dislocation.	Acceleration of 490m/s <sup>2</sup> , 11 ms duration, sine half-wave, 3 cycles, 3 axis
6. Vibration	No electrical discontinuity of 1 μs or longer. No damage, cracks or parts dislocation.	Frequency: 10 to 55 Hz, single amplitude of 0.75 mm, 3 directions for 2 hours
7. Temperature cycle	Contact resistance: 100 mΩ max. No damage, cracks or parts dislocation.	Temperature: -55°C → +15°C to 35°C → +85°C → +15°C to 35°C Time: 30min. → 2min. to 3min. → 30min. → 2min. to 3 min. 5 cycles
8. Humidity	Insulation resistance: 100 MΩ min. Insulation resistance: 10 MΩ min.	96 hours at a 40 ±3°C, RH of 90 to 95%, then leave for 1 to 2 hours at normal temperature and humidity
9. Heat resistance	Contact resistance: 100 mΩ max.	96 ±4 hours at +85 ±2°C
10. Cold resistance	Contact resistance: 100 mΩ max.	96 ±4 hours at -40 ±3°C
11. Salt spray test	Contact resistance: 100 mΩ max.	48 hours at a concentration of 5% ±1%, and humidity of 85 ±3°C

Note 1. Includes temperature raise caused by current flow.

Note 2. The term "storage" refers to products stored for long period, prior to mounting and use.

### ■ Materials

#### ● Receptacle

Part	Material	Finish	Remarks
Insulator	Synthetic resin	Color: Black	UL94V-0
Contacts	Copper alloy	Gold plated	_____
Shell	Stainless steel	Selective gold plated	_____

#### ● Plug

Part	Material	Finish	Remarks
Insulator	Synthetic resin	Color: Black	UL94V-0
Contacts	Copper alloy	Gold plated	_____
Shells	Stainless steel	Nickel plated	_____
Lock	Stainless steel	_____	_____

### ■ Ordering information

#### ● Receptacle

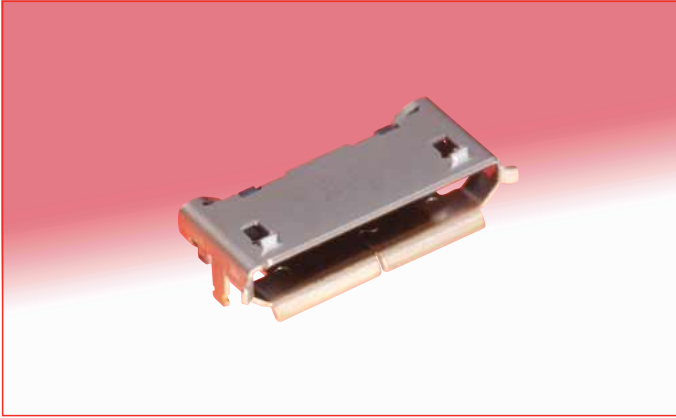
**GX60 - 18 P**  
 ①            ②    ③

#### ● Plug

**GX40 - 18 S**  
 ①            ②    ③

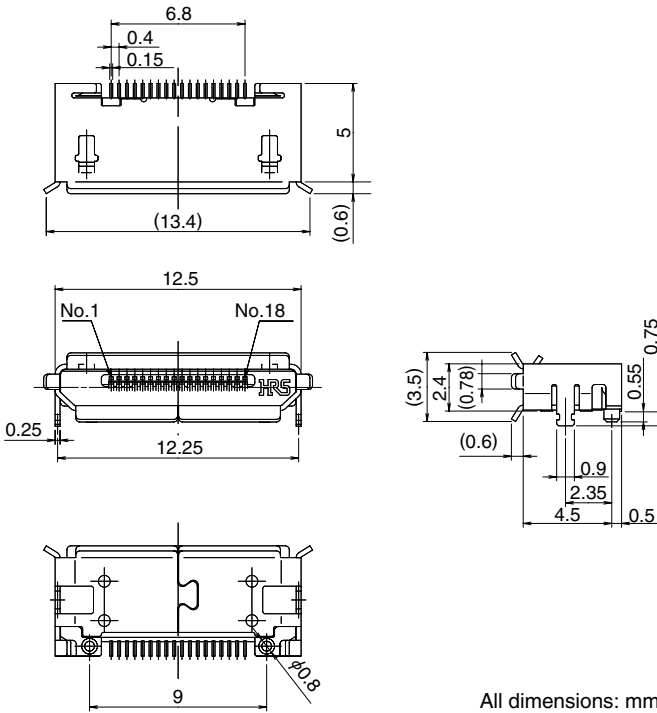
① Series name: GX60 (Receptacles) GX40 (Plugs)
② Number of contacts : 18
③ Contacts type P: Male S: Female

## ■ Receptacle



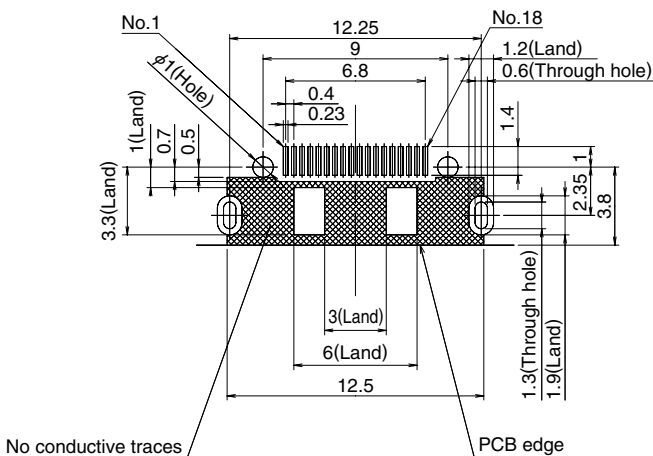
Part Number	CL No.	RoHS
GX60-18P	247-0001-3	YES

Note : Tape and reel packaging (1,500 pieces/reel).  
 Order by number of reels.



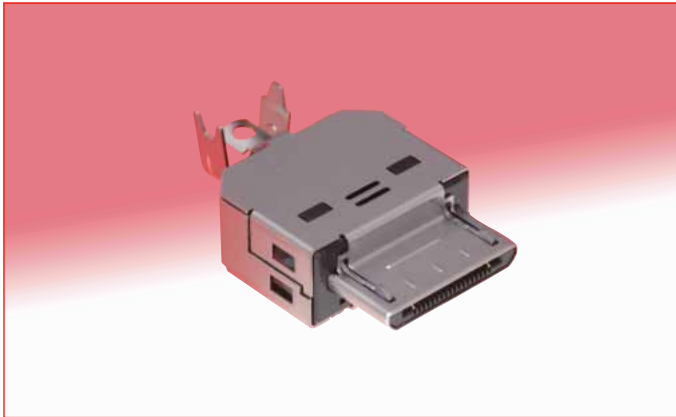
All dimensions: mm

## ◆ Recommended PCB mounting pattern



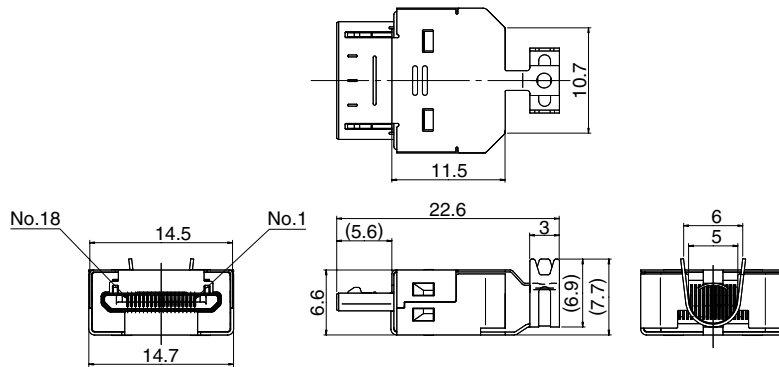
All dimensions: mm

■ Plug



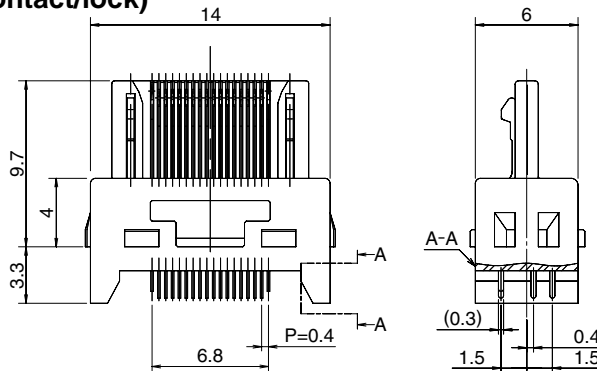
Part Number	CL No.	RoHS
GX40-18S	247-0002-6	YES

● Assembled components - Supplied non-terminated, without overmold



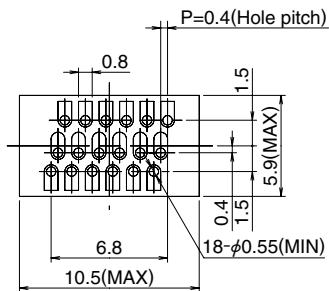
All dimensions: mm

● Assembly (insulator/ contact/lock)

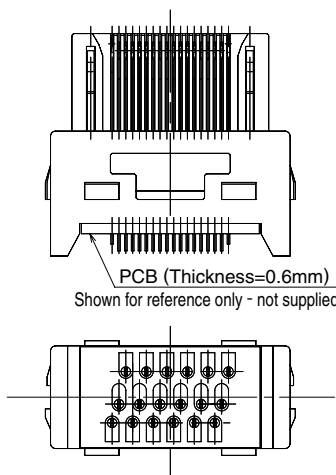


All dimensions: mm

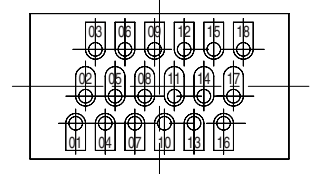
◆ Recommended PCB mounting pattern (Thickness=0.6mm)



◆ PCB installed



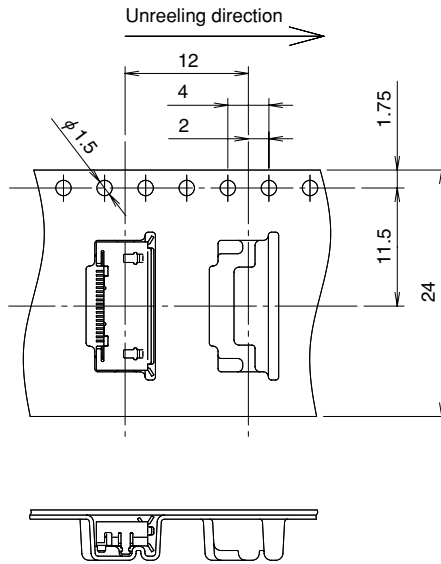
◆ Contact Number Identification



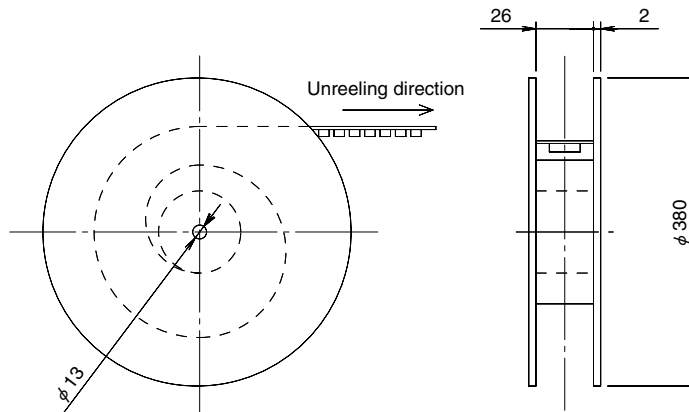
All dimensions: mm

## ■ Packaging Specifications

### ● Embossed carrier tape dimensions

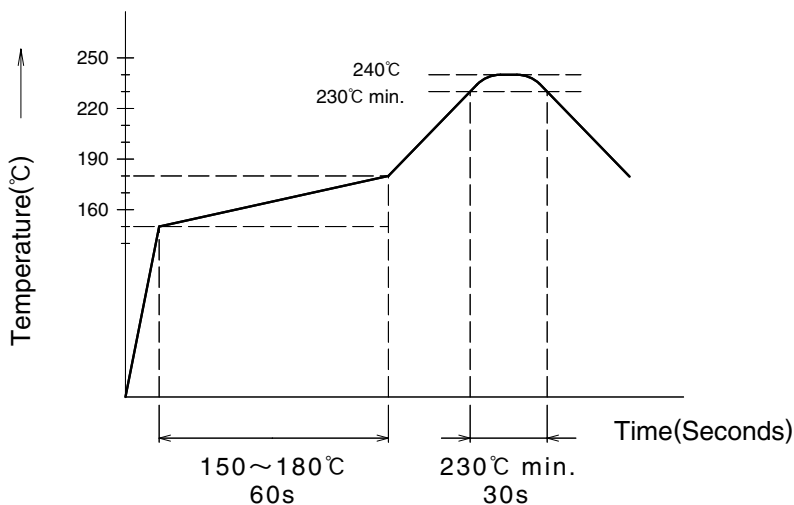


### ● Reel Dimensions



## ◆ Recommended reflow temperature profile - receptacles

### ● Using lead-free solder paste.



### ● HRS test condition

- Solder composition : Paste, 96.5%Sn/3.0%Ag/0.5%Cu
- Test board : Glass epoxy 35mm×50mm×0.8mm thick

The temperature profiles are based on the above conditions.

In individual applications the actual temperature may vary, depending on solder paste type, volume / thickness and board size / thickness. Consult your solder paste and equipment manufacturer for specific recommendations.