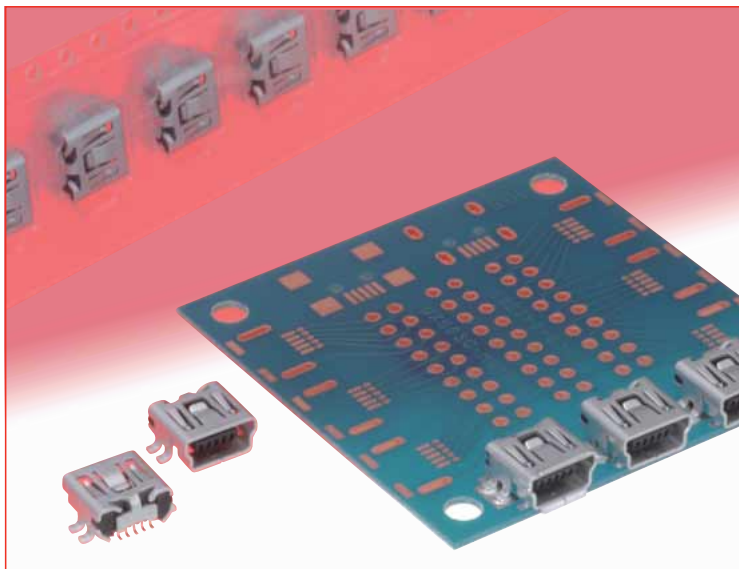


## Mini-B Connectors, SMT mount receptacles meeting requirements of USB 2.0 Standard

### UX60S Series



Meets requirements of USB 2.0 Standard  
USB 2.0 certified



#### ■ Features

##### 1. USB 2.0 Standard data transmission rate

Max. data transmission rate of 480 Mbps.

##### 2. Reduced size – less board space

Reduction in the overall length (as compared with other HRS versions) of the receptacle (7.0 mm) translates into less board mounting space.

##### 3. Board placement with automatic equipment

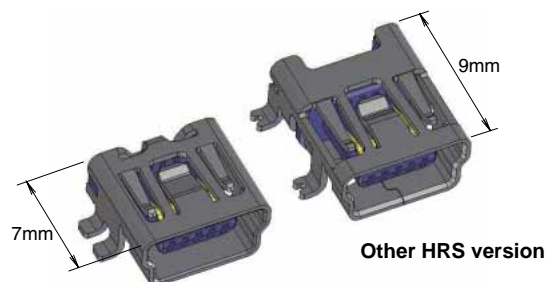
Flat top areas and packaging on tape-and-reel allows use of vacuum pick-up nozzles.

Versions with heat resistant pick-up tape can be also supplied.

##### 4. RoHS compliant

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

#### Smaller size

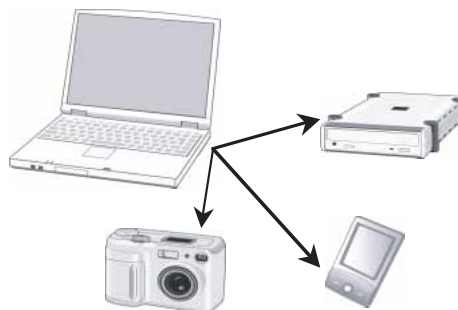


22% Volume Reduction

#### ■ Applications

Personal computer peripheral equipment, data terminals, portable terminals, digital cameras, and MP3 players and other devices requiring use of Mini-B receptacles complying with all requirements of USB 2.0 Standard.

#### Ideal for the connection of personal computer peripherals



## UX60S Series ■ Mini-B Connectors, SMT mount receptacles meeting requirements of USB 2.0 Standard

### ■ Specifications

Ratings	Voltage rating	5 V AC	Operating temperature range	-30 to +75°C
	Current rating	1 A	Storage temperature range	-40 to +85°C (Note 1)

Item	Specification	Conditions
1.Contact resistance	50 mΩ max.	100 mA
2.Insulation resistance	100 MΩ min.	100 V DC
3.Withstanding voltage	No flashover or insulation breakdown	100 V AC / one minute
4.Capacitance	2 pF max.	Measure between adjacent contacts at 1,000 ±10Hz
5.Total insertion/ withdrawal force	Insertion force : 35 N max. Withdrawal force : 7 N min.	Measure with an applicable connector.
6.Durability (mating/unmating)	With corresponding HRS connector. Contact resistance: 70 mΩ max. Withdrawal force: 3 N min.	5,000 cycles
7.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, 2 hours in each of the 3 axial directions
8.Random vibration		Frequency 50 to 2,000 Hz, 3 directions for 15 minutes each.
9.Shock		Acceleration of 490m/s <sup>2</sup> , 11 ms continuous time, sine half-wave, 3 cycles in each of the 6 directions
10.Heat Shock	Contact resistance: 70 mΩ max.	Temperature:-55°C → +20°C to 35°C → +85°C → +20°C to 35°C Time: 30min. → 2 to 3 min. → 30 min. → 2 to 3 minutes 10 cycles
11.Temperature cycle	Insulation resistance: 10 MΩ min. (when dry)	7 cycles (168 hours) at -10 to 65°C , humidity of 90 to 98%
12.Salt spray	Contact resistance: 70 mΩ max.	48 hours, 5% solution of salt water
13.Solderability	Wet state, solder coverage area 95% min.	Solder temperature 245°C, immersion time 2 to 3 seconds

Note 1: The term "storage" refers to connectors stored for a long period of time prior to mounting and use.

### ■ Materials and Finish

Part	Material	Finish	Remarks
Insulator	Synthetic resin	Color: Black	UL94V-0
Contacts	Copper alloy	Contact area: Gold plated Lead area: Gold plated	———
Shell	Copper alloy	Tin plated	———

# ■ Ordering information

UX60S

C

-

MB

-

5

S

T

①

②

③

④

⑤

⑥

①	Series name	UX60S (Mini - USB, Receptacle, reduced size)
②	Mating side configuration	C : Standard A : With interface entry angle
③	Connector style	MB : Mini-B receptacle
④	Number of contacts	5
⑤	Contact type	S : Female
⑥	Shell termination style	T : SMT 8 : Solder, through hole (solder tab length 0.8mm)

● Latest Engineering Drawings containing more information may be requested using exact part numbers from individual pages of this catalog.

## UX60S Series Mini-B Connectors, SMT mount receptacles meeting requirements of USB 2.0 Standard

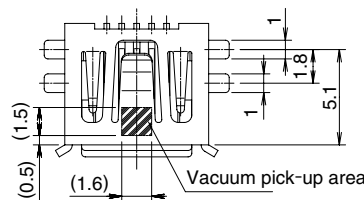
### ●Receptacle -With interface entry angle



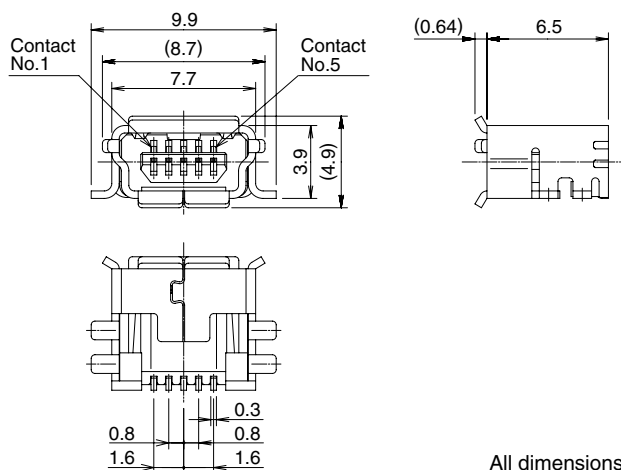
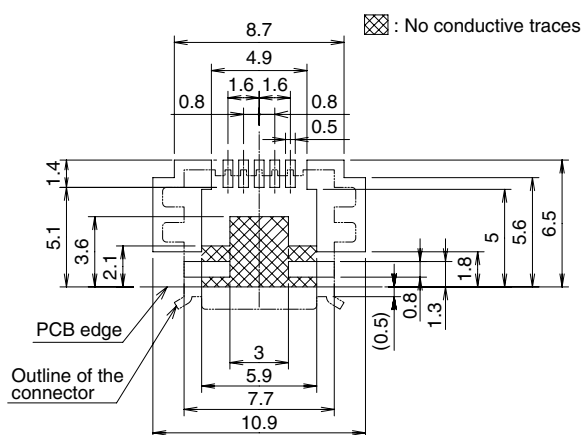
Part No.	CL No.	RoHS
UX60SA-MB-5ST	240-0015-3	YES

Note 1: Tape and reel packaging (1,000 pieces/reel).

Order by number of reels.



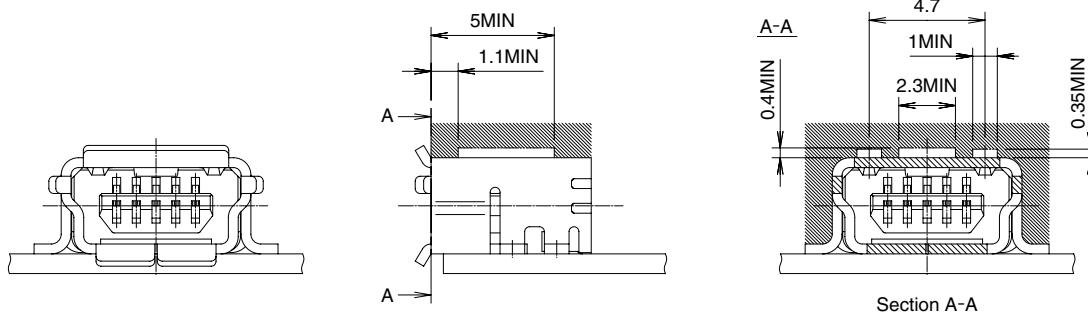
### ◆Recommended PCB mounting pattern



All dimensions: mm

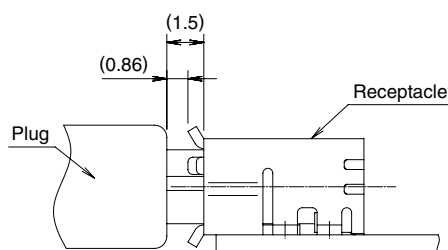
### ■Recommended clearance areas

Dimensions shown in the shaded areas (in the illustrations below) must be free of any materials or components, as this may interfere with the free movement of the ground contacts.



### ◆Mated Assembly – Receptacle - with interface entry angle

●Shown for Reference

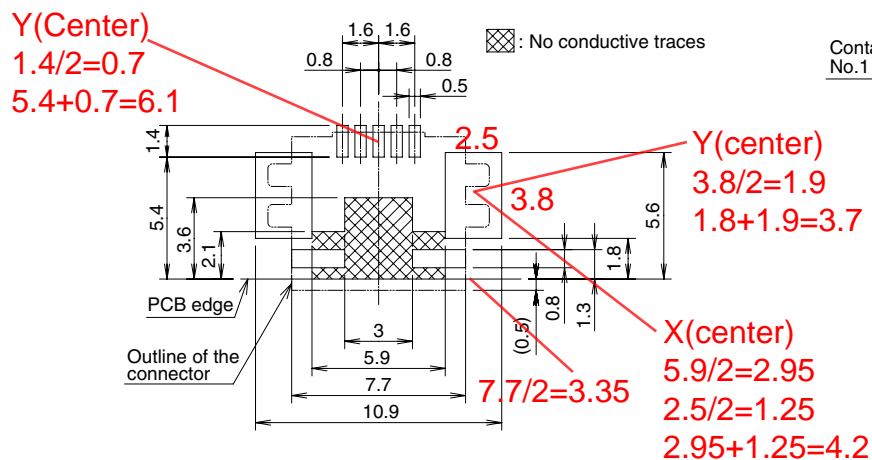


All dimensions: mm

## ●Receptacle - Standard – Shell SMT



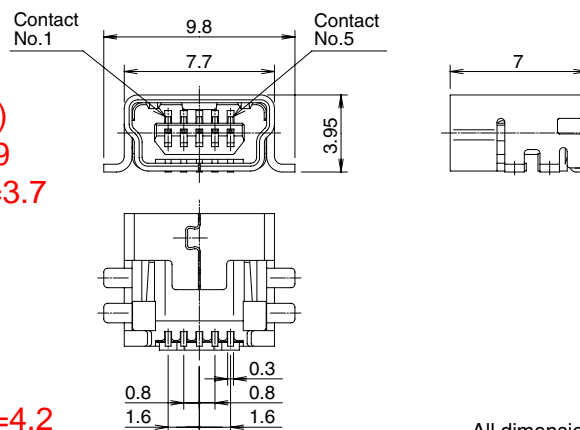
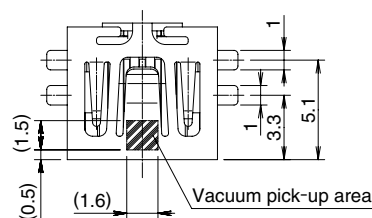
## ◆Recommended PCB mounting pattern



Part No.	CL No.	RoHS
UX60SC-MB-5ST	240-0016-6	YES

Note 1: Tape and reel packaging (1,000 pieces/reel).

Order by number of reels.

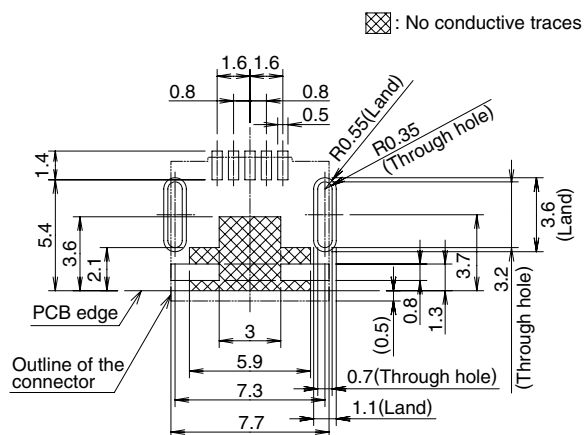


All dimensions: mm

## ●Receptacle - Standard - Shell through Hole



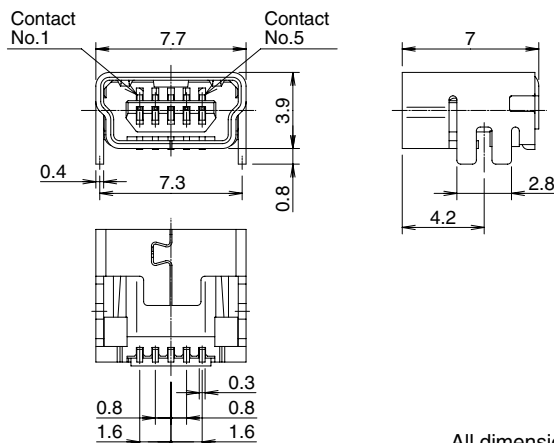
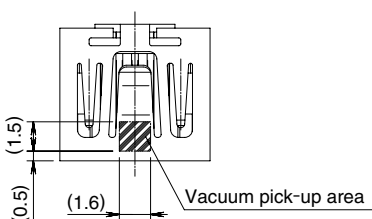
## ◆Recommended PCB mounting pattern



Part No.	CL No.	RoHS
UX60SC-MB-5S8	240-0020-3	YES

Note 1: Tape and reel packaging (1,000 pieces/reel).

Order by number of reels.

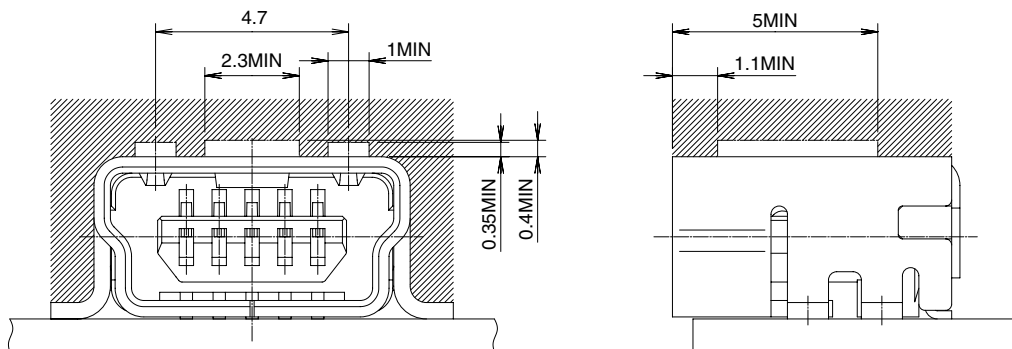


All dimensions: mm

## UX60S Series Mini-B Connectors, SMT mount receptacles meeting requirements of USB 2.0 Standard

### Recommended clearance areas

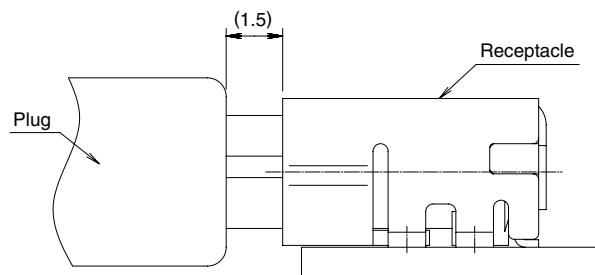
Dimensions shown in the shaded areas (in the illustrations below) must be free of any materials or components, as this may interfere with the free movement of the ground contacts.



All dimensions: mm

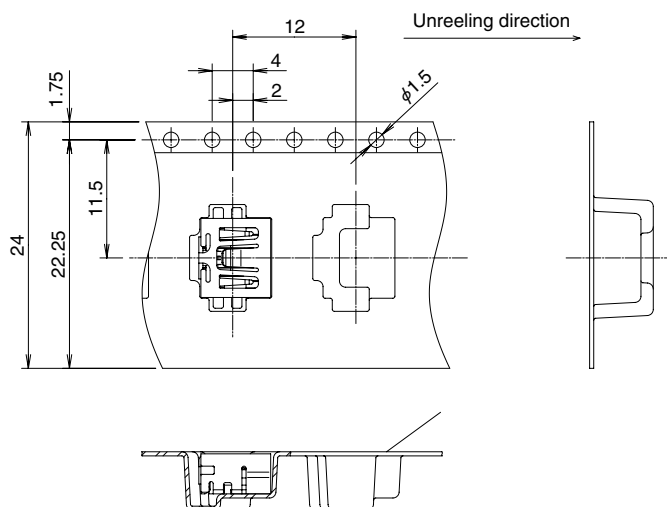
### ◆ Mated Assembly – Receptacle

● Shown for Reference

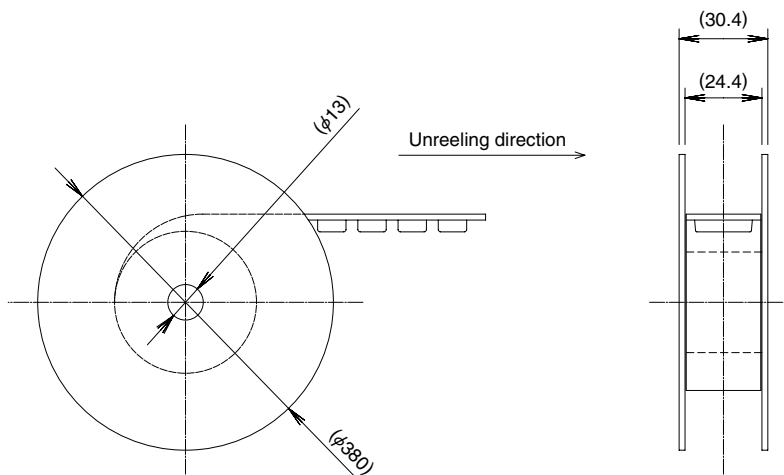


## ◆ Packaging Specifications

### ● Embossed carrier tape dimensions

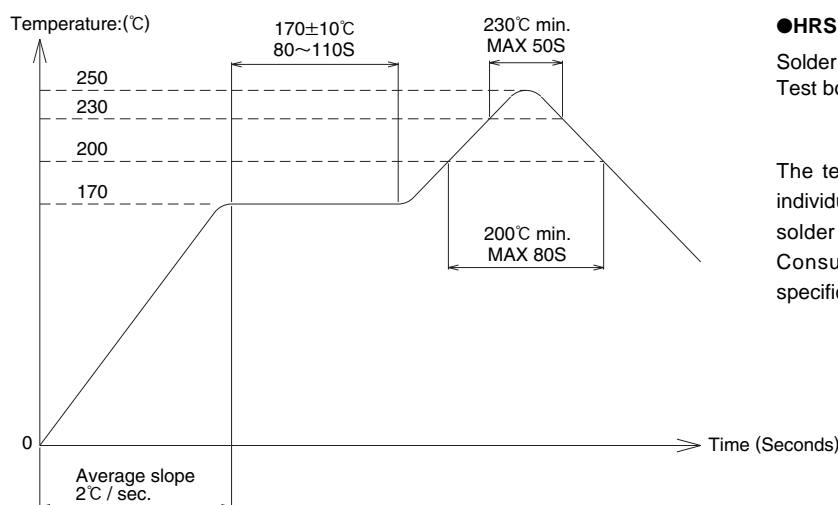


### ● Reel Dimensions



## ◆ Recommended temperature profile

### ● Lead-free solder paste



### ● HRS test condition

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

The temperature profile is based on the shown conditions. In individual applications the temperature may vary, depending on solder paste type, volume/thickness and board size/thickness. Consult your solder paste and equipment manufacturer for specific recommendations.