

Meet requirements of USB 2.0

UX Series





Features

1. Certified to perform as required in USB 2.0 Standard Tested and certified by USB Association approved laboratory the connectors will perform at transmission speeds up to 480Mbps.

2. Designed for Low Skew performance

The distance between twisted pairs conductors (i.e., contact nos. 2 and 3) is of equal electrical length, for receptacle and plug, resulting in zero theoretical skew.

3. Controlled Termination of Individual Conductors

The termination part of the contact is firmly attached in the molded insulator body. Hirose's Electric unique design of the metal shield prevents short circuits, allowing the overmold resin to flow in the terminated area.

By not using heat shrinkable tubing (or any other additional process), the non-twisted part of the conductors is very short, suppressing any unwanted impedance disturbances in the termination area.

4. Ease of mating and handling

Thin design of the plug assembly and the overmold section allows use in small spaces.

The plug also incorporates a build-in snap-lock feature, providing tactile verification of the full and secure mating of plug and receptacle.

5. Two types of metal shields

Two styles of the receptacle metal shield are available, depending on the customer's PCB design requirement: -Surface Mount Termination

-Solder Dip Type

6. Printed Circuit Board placement features

Precise location on the board can be accomplished using receptacle assemblies with or without the positioning boss.

7. Board placement with Automatic Equipment

Receptacle assemblies are provided with a heat resistant flat surfaces, removable after completion of the soldering process and are supplied on the reels.

8. Environmental considerations

Plating is lead-free in order to protect environment.

Support of Non-halogen Cable

Wiring harness can be arranged in non-halogen cable types.

Applications Personal and mobile computer peripheral equipment, data terminals, digital cameras, MP3 players, PDA's, GPS

Note: Non-halogen items are not covered in the current USB 2.0 Standard.





■Product Specifications

D. ()		Current rating	1 A		°0
Ratin	gs	Voltage rating	5 V AC	Operating temperature range	-30°C to +75°C

Item	Specification	Conditions	
1.Contact resistance	50 m ohms max.	Measured at 100 mA	
2.Insulation resistance	100 M ohms min.	Measured at 100 V DC	
3.Dielectric Withstanding Voltage	No flashover or insulation breakdown	100 V AC / one minute	
4.Capacitance	2 PF min.	Measured at 1000 ± 10Hz between adjacent contacts	
5.Mating/un-mating forces	Mating: 35N max. Un-mating: 7N min.	With corresponding connector.	
6.Durability (mating / un-mating)	Contact resistance: 70 m ohms max. Un-mating force: 3N min.	5000 cycles	
7.Vibration	No electrical discontinuity of 1 ms or more	Frequency: 10 to 55 Hz, single amplitude of 0.75 mm, 2 hours in each of the 3 axis.	
8.Shock	No electrical discontinuity of 1 ms. min.	Frequency: 50 to 2000 Hz, 15 minutes in each of the 3 axis.	
9.Shock	No electrical discontinuity of 1 ms. min.	Acceleration of 490 m/s², 11 ms duration, sine half-wave waveform, 3 cycles in each of the 3 axis	
10.Thermal shock	Contact resistance: 70 m ohms max.	Temperature: -55° C $\rightarrow +20^{\circ}$ C to $+35^{\circ}$ C $\rightarrow +85^{\circ}$ C $\rightarrow +20^{\circ}$ Cto $+35^{\circ}$ C Time: $30\rightarrow 2$ to $3\rightarrow 30\rightarrow 2$ to 3 (Minutes) 10 cycles	
11.Humidity	Insulation resistance: 10 M ohms min. (Dry state)	168 hours at -10°Cto +65°C and Relative Humidity of 90% to 98% 7 cycles	
12.Salt Spray	Contact resistance: 70 m ohms max.	Exposed to 5% salt water solution for 48 hours	
13.Solderability	Wet state, with solder coverage area over 95%	Soldering temperature: 245°C Recommended solder immersion time: 2 to 3 seconds	

■Materials

Receptacles

Part	Material	Finish	Remarks
Insulator	Synthetic resin	Color: Black	UL94V-0
Contacts	Copper alloy	Contact area: Gold plating Termination area: Tin alloy plating	
Metal shield	Copper alloy	Tin alloy plating	
Pick-and-place flat plate	Polyamide		

●Plugs

Part	Material	Finish	Remarks
Insulator	Synthetic resin	Color: Black	UL94V-0
Contacts	Copper alloy	Contact area: Gold plating Termination area: Tin alloy plating	
Metal shield	Steel	Tin alloy plating	
Over-mold compound (Note 1)	PVC	Black (Note 2)	

Note 1: The over-mold compound is applied at the time of the termination of the plug with the cable and can not be ordered as a separate part.

Note 2: The over-molding and cables can be supplied in a wide range of colors.

Please contact your Hirose Electric account representative for details.

■Ordering information

Receptacles

$$\frac{\mathsf{UX}}{\bullet} \ \frac{\mathsf{60}}{\bullet} \ \frac{\mathsf{A}}{\bullet} \ - \ \frac{\mathsf{MB}}{\bullet} \ - \ \frac{\mathsf{5}}{\bullet} \ \frac{\mathsf{S}}{\bullet} \ \frac{\mathsf{T}}{\bullet}$$

●Plugs

$$\frac{UX}{0} \frac{40}{2} \frac{A}{3} - \frac{MB}{2} - \frac{5}{6} \frac{P}{6}$$

Plug Harnesses

Series name		UX
2 Contact wiring		60: SMT type
		40: Solder wiring type
Receptacle serial in	ndication	A: Without positioning post
4 Connector type		MB: Mini B type
6 Number of contacts	3	5
6 Contact type		S: Female contact P: Male contact
Metal shield termin	ation	T: SMT type
		8: Solder dip type (Dip length 0.8) (Note 1)
8 Plug serial indication	on	A: Type supporting thick cable
Reverse side conn	ector type	A: Standard A type
Cable length		1000: 1000 mm (Note 2)
Serial number		(Note 3)

Note 1: Types with different dip style termination lengths can also be provided.

Please contact your Hirose Electric account representative for details.

Note 2: Various cable lengths can be provided.

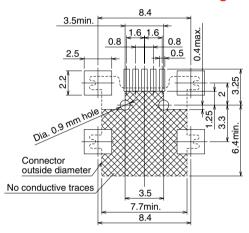
Note 3: Detailed specifications of the harness items can be supplied.

■Receptacles

●Metal Shield SMT Type With Positioning Post

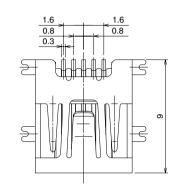


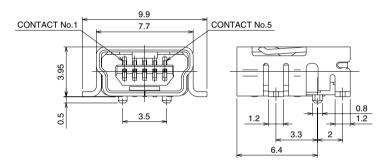
● Recommended Board Mounting Pattern



Part No. CL No. UX60-MB-5ST 240-0001-9

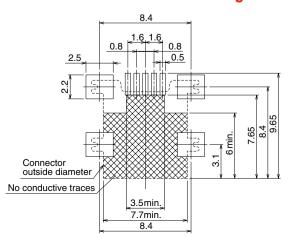
Note: Embossed tape reel packaging(1,000 pieces/reel)
Order by the number of reels.





Metal Shield SMT Type Without Positioning Post

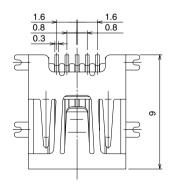


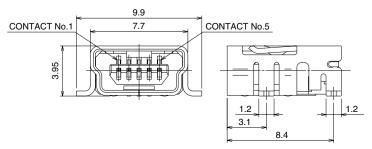


Part No.	CL No.		
UX60A-MB-5ST	240-0003-4		

Note: Embossed tape reel packaging(1,000 pieces/reel)

Order by the number of reels.



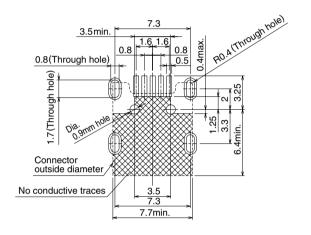


■Receptacles

Metal Shield Dip Type With Positioning Post



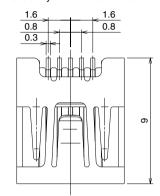
● Recommended Board Mounting Pattern

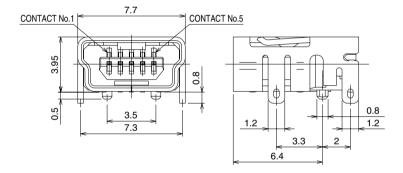


Part No.	CL No.	
UX60-MB-5S8	240-0002-1	

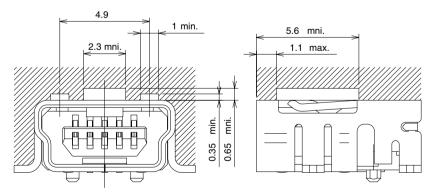
Note: Embossed tape reel packaging(1,000 pieces/reel)

Order by the number of reels.

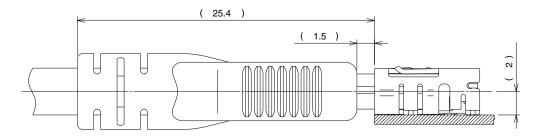




When considering the placement of the receptacle assembly areas indicated should be free of any materials or components which may interfere with the free movement of the ground contact.



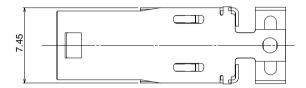
● Drawing of Mated Assembly - Shown for Reference



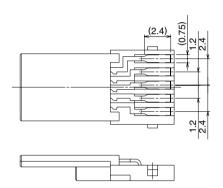
■Plugs

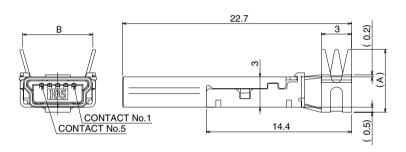


Assembly Components (non-terminated, without overmold)



●Connector Unit





Part No.	CL No.	Dimension A	Dimension B	Applicable Cable (Note)
UX40-MB-5P	240-0004-7	6.2	6.95	φ3.5~4.0
UX40A-MB-5P	240-0005-0	7.85	7.85	φ4.1~4.6

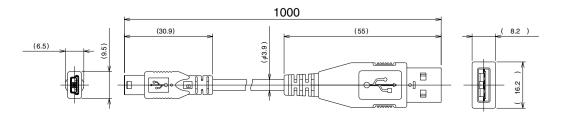
Note: Recommended cable diameters. Actual diameters may vary due to manufacturing process variations.

Contact Hirose for recommendations when using cables with different diameters than the recommended.

■Plug Harnesses

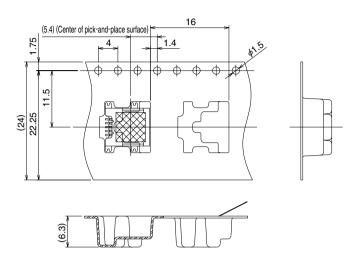


	Part No.	CL No.	
I	UX40-MB-5PA-1000-2003	240-2003-5	



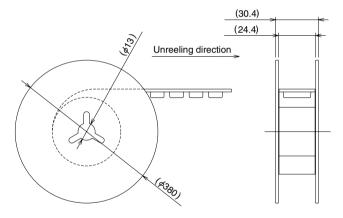
●Embossed Carrier Tape Dimensions

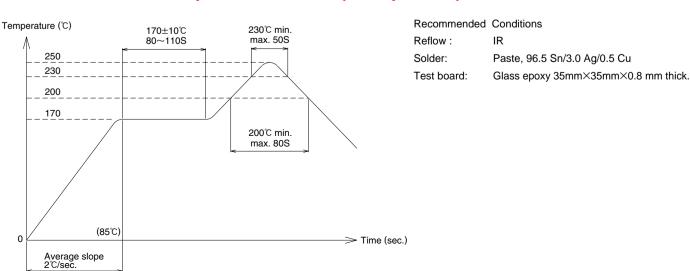
Unreeling direction



Note: Embossed tape reel packaging(1,000 pieces/reel) Order by the number of reels.

Reel Dimensions





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