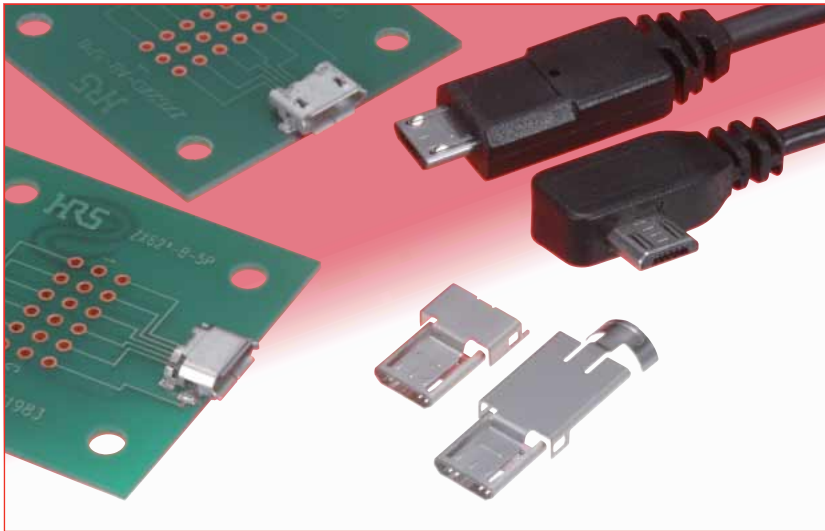


Micro-USB connectors meeting requirements of USB 2.0 Standard

ZX Series



Note: Contact us to ascertain whether a TID number has been acquired for an individual product.

Overview

Extremely small high reliability connectors complying with physical, electrical and environmental requirements of Micro-USB standard (USB 2.0).

Receptacles and plugs are available in a wide variety of mounting and termination configurations, permitting their use in various applications.

Features

1. Size reduction

Compared with the standard Mini-B connectors, the size of ZX connectors is reduced by approximately 60% while still allowing a high-speed data transfer of 480 Mbps, specified in USB 2.0.

2. Receptacle styles

Two interface configurations: Micro-B and Micro-AB in standard, mid-mount and reverse mounting styles.
SMT and through-hole (shell) PC board terminations

3. Plug styles

Corresponding to the receptacle styles, two interface configurations: Micro-B and Micro-A, with direct wire or PCB wire soldering.
Several plug styles can be used for data transmission, earphone or charging applications.

4. High durability

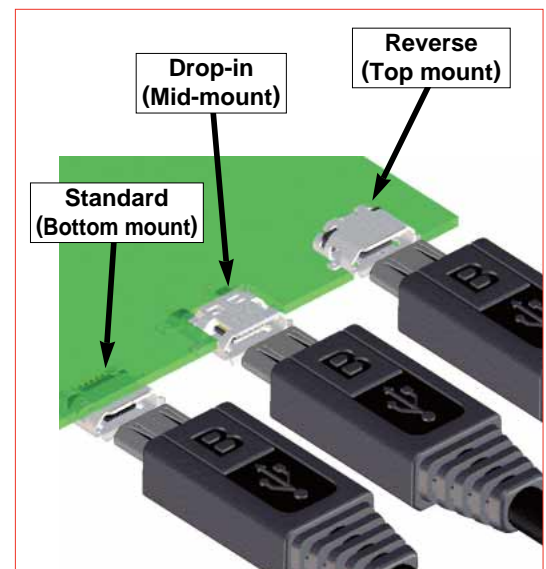
Unique contact and lock configuration assures high durability while maintaining easy insertion / disconnection. Fully mated condition (when mated with corresponding HRS connector) is confirmed by a definite tactile sensation

5. RoHS compliant

All components and materials comply with the requirements of EU directive 20/95/EC

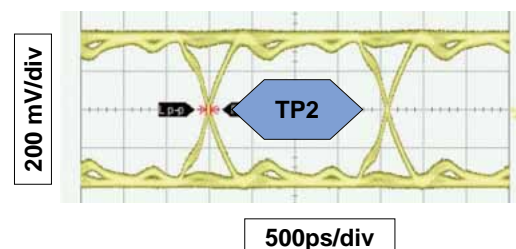
Applications

Mobile phones, PDA, portable music players, digital cameras, digital camcorders and other applications requiring high reliability Micro-B interface connectors.



USB 2.0 Hi-Speed (480 Mbps)

Eye pattern measurement results:
Measured with USB 2.0 cable 2.4 m long



ZX Series ● micro-USB connectors meeting requirements of USB 2.0 Standard

■ Specifications

Ratings	Current rating	1 A (per contact) or 1.8 A (contacts No. 1 and 5) and 0.5 A (contacts No. 2, 3, and 4)	Voltage rating	30 V AC
			Operating temperature range	-30°C to +85 °C
			Storage temperature range	-30 °C to +85°C

Item	Specification	Conditions
1. Contact resistance	30 mΩ max.	100 mA
2. Withstanding voltage	No flashover or insulation breakdown	100 V AC / 1 minute
3. Capacitance	2 pF max.	Between adjacent contacts at 1,000 Hz (AC voltage)
4. Durability	Contact resistance: Rise from initial value of 10 mΩ max.	10,000 cycles
5. Total insertion/removal force	Insertion force: 35 N max., Removal force: 8 N min.	Mated with corresponding connector

■ Materials

● Receptacles

Part	Material	Finish	Remarks
Insulator	LCP	Micro-B: Black, Micro-AB: Gray	UL94V-0
Contacts	Copper alloy	Selective gold plated	————
Shell	Stainless steel	Tin alloy plating	————

● Plugs

Part	Material	Finish	Remarks
Insulator	Synthetic resin	Micro-A: White, Micro-B: Black	UL94V-0
Contacts	Copper alloy	Selective gold plated	————
Lock spring	Stainless steel	————	————
Shell	Stainless steel	Nickel plated or unfinished	————

■ Ordering information

● Receptacles

ZX 62 RD - B - 5 P * 8

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

● Plugs

ZX 40 - B - 5 S * - UNIT

① ② ④ ⑤ ⑥ ⑦ ⑨

ZX 40 - B - SLDA

① ② ④ ⑨

① Series name		ZX
② Termination style		10's: Right-angle PCB wire, SMT 20's: Straight, PCB wire 40's: Direct wire 60's: Right-angle, PCB wire 80's: Cradle SMT
③ Board mounting style (Receptacles)	Blank D R RD M	Standard (Bottom mount) Standard (Bottom mount) through hole Reverse (Top mount) Reverse (Top mount) through hole Drop-in (Mid-mount)
④ Mating side configuration	A B AB	Micro-A Micro-B Micro-AB
⑤ Number of contacts		5
⑥ Contact type	P S	Receptacle- Male Plug – Female
⑦ Serial No.		
⑧ Shell termination style – Receptacles	Blank 8	SMT Through hole (solder tab length: 0.8mm)
⑨ Components-plugs	UNIT SLD*	Assembly (Insulator/contact/lock) Cover (Note 1)

Note 1: Classifiers such as A, B, and C are entered for *.

■ Product Styles Table

Interface	Receptacle	Plug
Micro-A		
Micro-B		
Micro-AB		

Note: A red 'X' is shown over the Micro-A plug and receptacle pair, indicating it is not supported.

■ Configurations

	Mating side configuration	Application	Mounting, termination styles/wire attachment	Part Number	3D Image	Page	
R e c e p t a c l e s	Micro-B	Standard	SMT	ZX62-B-5PA		4	
			SMT + DIP	ZX62D-B-5P8		4	
		Reverse	SMT	ZX62R-B-5P		5	
		Drop-in	SMT	ZX62M-B-5P		5	
	Micro-AB	Standard	SMT	ZX62-AB-5PA		6	
			SMT + DIP	ZX62D-AB-5P8		6	
		Reverse	SMT	ZX62R-AB-5P		7	
			SMT + DIP	ZX62RD-AB-5P8		7	
	P l u g s	Micro-B	Data	Direct wire soldering	Assembly (insulator/contacts/lock) :ZX40-B-5S-UNIT(12) Cover-top :ZX40-B-SLDA Cover-bottom :ZX40-SLDB		9 and 10
				PCB wire soldering (right angle, through hole)	Assembly (insulator/contacts/lock) :ZX10-B-5S-UNIT(12) Cover-top :ZX10-B-SLDA Cover-bottom :ZX10-SLDB(3.3)		11 and 12
Earphone			PCB wire soldering (straight, through hole)	Assembly (insulator/contacts/lock) :ZX20-B-5S-UNIT(12) Cover :ZX20-B-SLDC		13	
Charging			PCB wire soldering (SMT)	Assembly (insulator/contacts/lock) :ZX64-B-5S-UNIT(14) Cover-top :ZX64-B-SLDA Cover-bottom :ZX64-SLDB		14 and 15	
Charging Earphone			PCB wire soldering (SMT)	Assembly (insulator/contacts/lock) :ZX64-B-5S-UNIT(14) Cover :ZX64-B-SLDC		14 and 16	
Micro-A		Data	Direct wire soldering	Assembly (insulator/contacts/lock) :ZX40-A-5S-UNIT Cover-top :ZX40-A-SLDA Cover-bottom :ZX40-SLDB		17 and 18	
C r a d l e s	Micro-B	Cradle	SMT + DIP	ZX80-B-5S	With lock	19	
			ZX80-B-5SA	Without lock	19		

Note: 1. Part numbers in the Plugs section of the above table list the Assembly (insulator/contacts/locks) and the corresponding Shields/Covers.

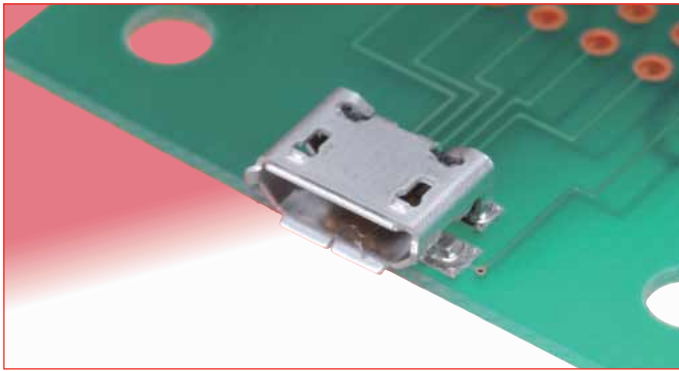
Note: 2. Optional Printed Circuit boards for the Plugs are shown for reference only. Not supplied with applicable connectors.

Note: 3. The color of the insulators body in the Assembly (insulator/contacts/lock) shown in the 3D Image column above is blue for clarity. Refer to the Materials (Page 2) for correct colors.

ZX Series Micro-USB connectors meeting requirements of USB 2.0 Standard

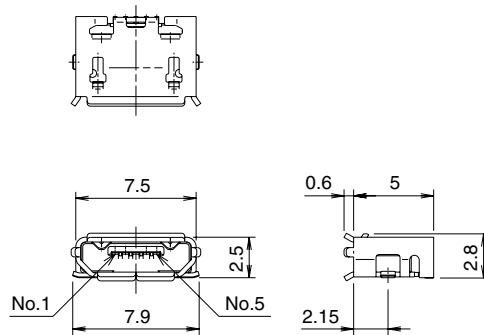
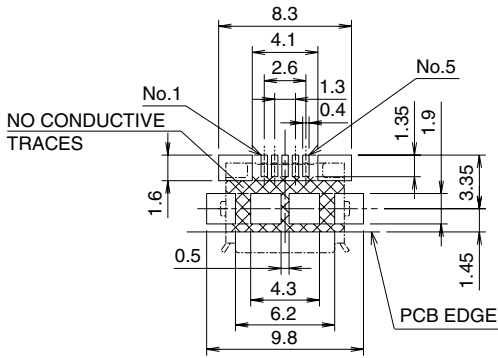
Receptacles

Micro B - Standard (Bottom mount), Shell SMT



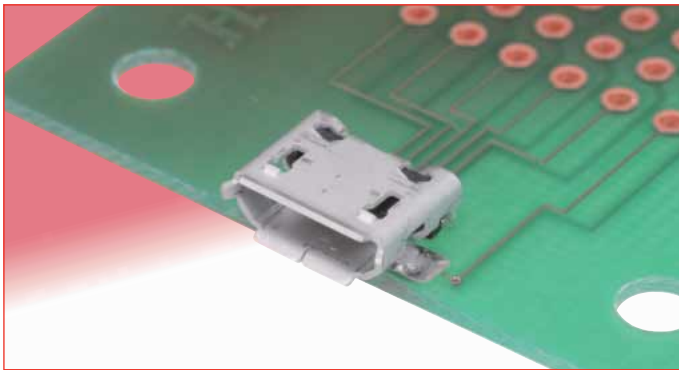
Part Number	CL No.	Packaging	RoHS
ZX62-B-5PA	242-0033-8	2,000 pieces per reel	YES

Recommended PCB mounting pattern



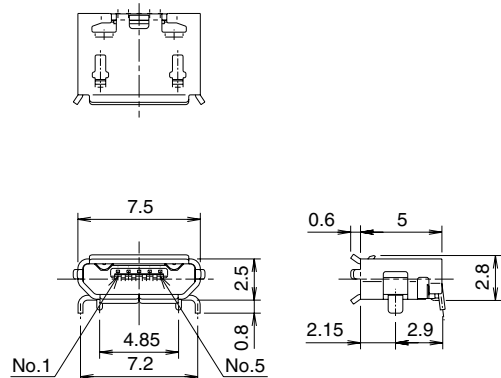
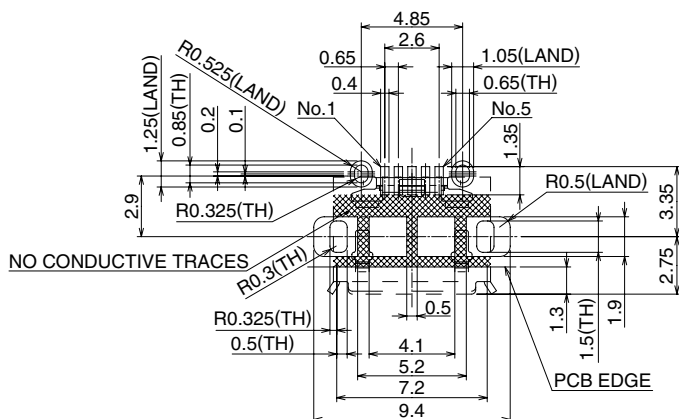
Micro B - Standard (Bottom mount), Shell through hole

All dimensions: mm



Part Number	CL No.	Packaging	RoHS
ZX62D-B-5P8	242-0034-0	2,000 pieces per reel	YES

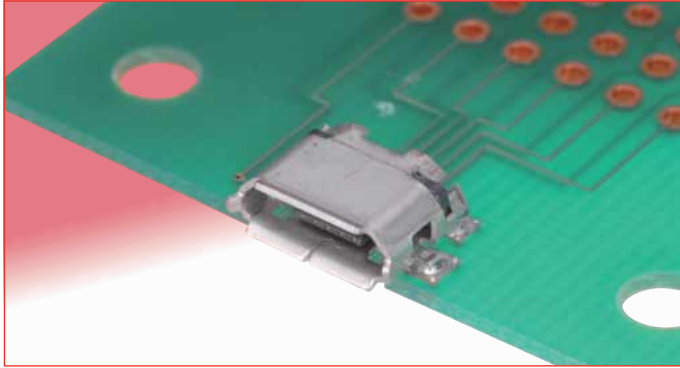
Recommended PCB mounting pattern



All dimensions: mm

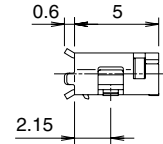
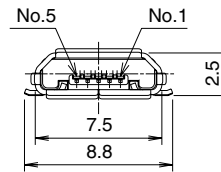
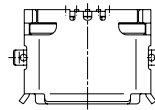
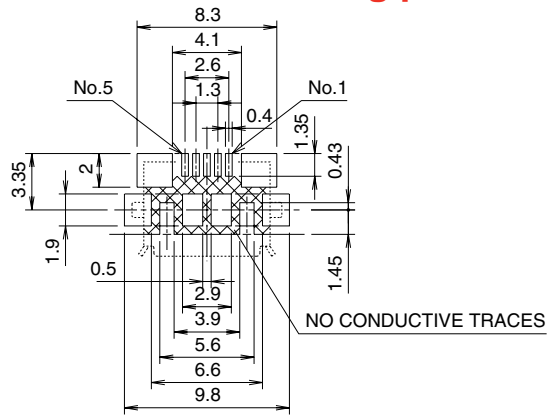
Receptacles

Micro B - Reverse (Top mount) Shell SMT



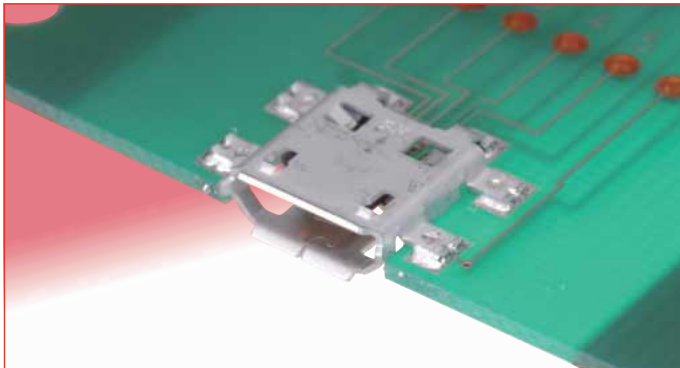
Part Number	CL No.	Packaging	RoHS
ZX62R-B-5P	242-0028-8	2,000 pieces per reel	YES

Recommended PCB mounting pattern

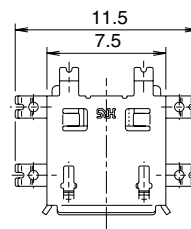


Micro B - Drop-in (Mid-mount), Shell SMT

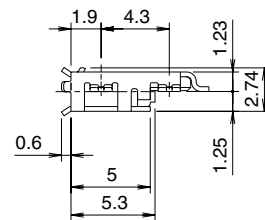
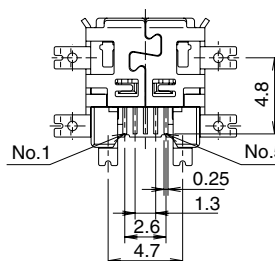
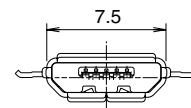
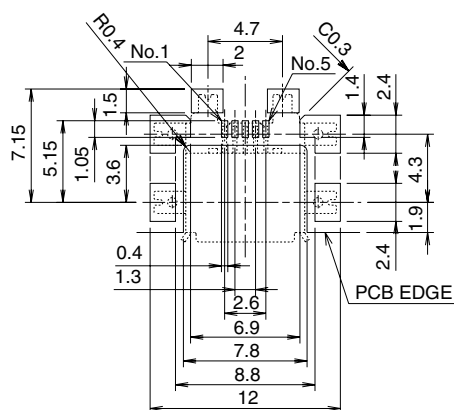
All dimensions: mm



Part Number	CL No.	Packaging	RoHS
ZX62M-B-5P	242-0024-7	2,000 pieces per reel	YES



Recommended PCB mounting pattern

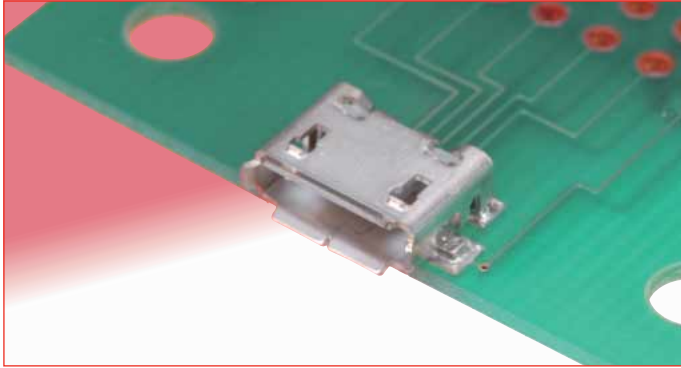


All dimensions: mm

ZX Series ● Micro-USB connectors meeting requirements of USB 2.0 Standard

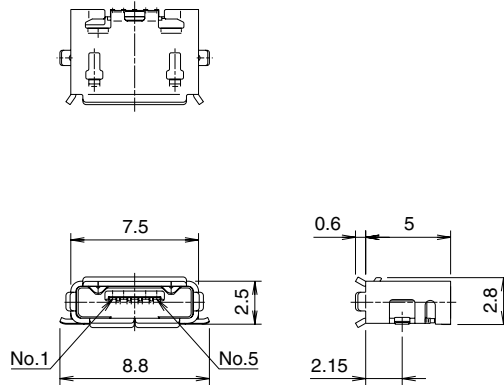
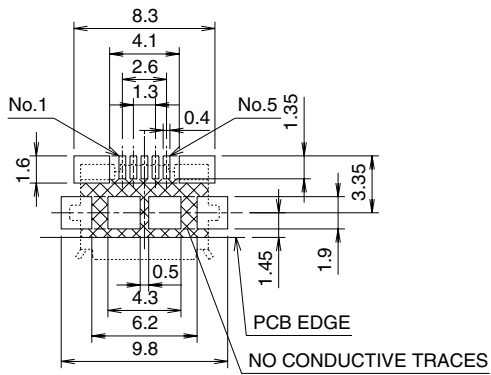
■ **Receptacles**

● **Micro AB - Standard (Bottom mount), Shell SMT**



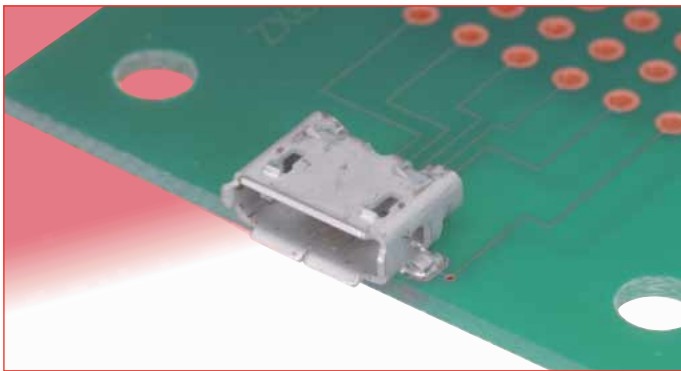
Part Number	CL No.	Packaging	RoHS
ZX62-AB-5PA	242-0045-7	2,000 pieces per reel	YES

◆ **Recommended PCB mounting pattern**



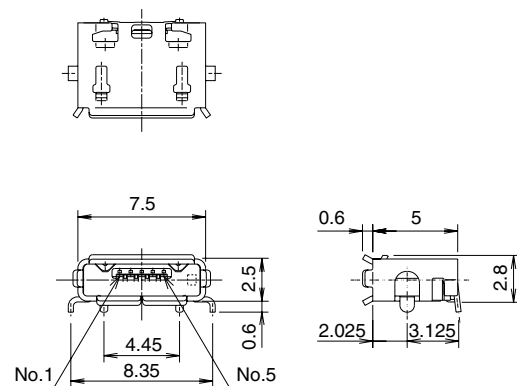
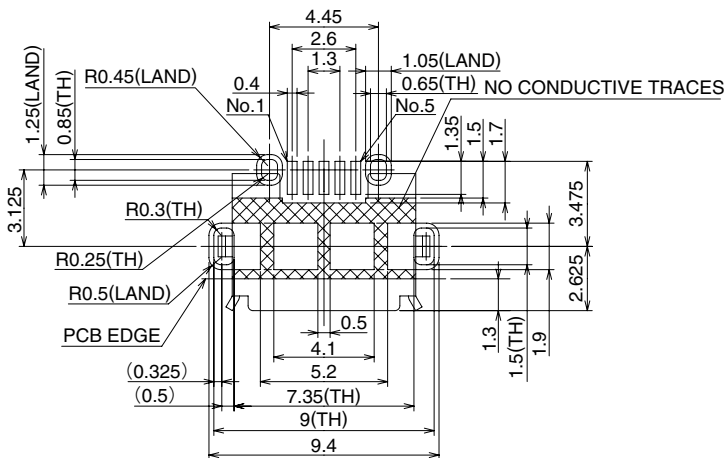
● **Micro AB - Standard (Bottom mount), Shell through hole**

All dimensions: mm



Part Number	CL No.	Packaging	RoHS
ZX62D-AB-5P8	242-0027-5	2,000 pieces per reel	YES

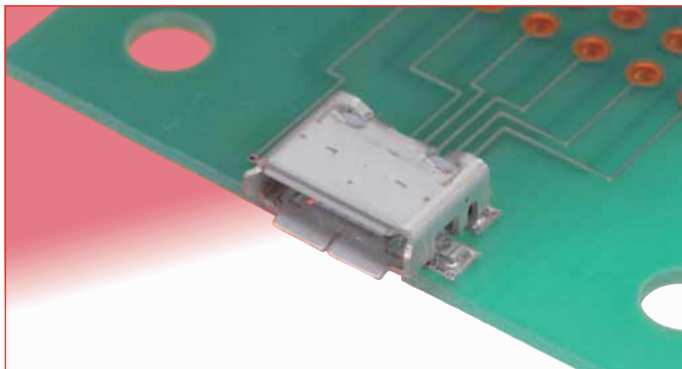
◆ **Recommended PCB mounting pattern**



All dimensions: mm

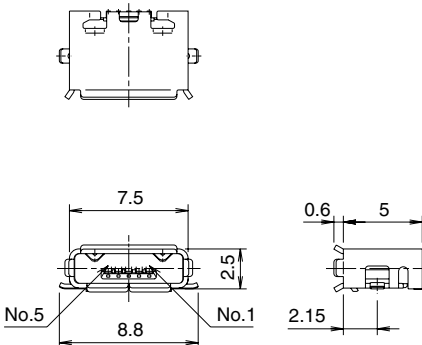
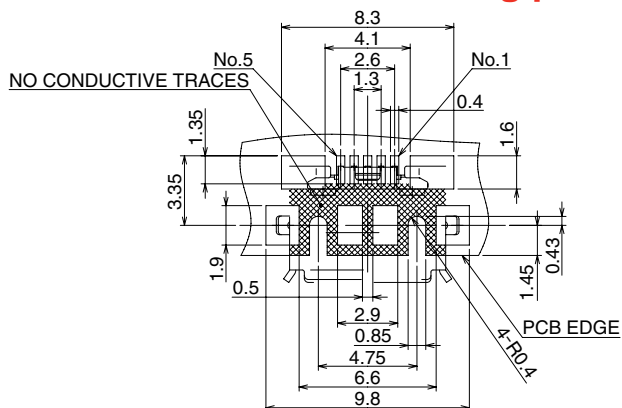
Receptacles

Micro AB - Reverse (Top mount), Shell SMT



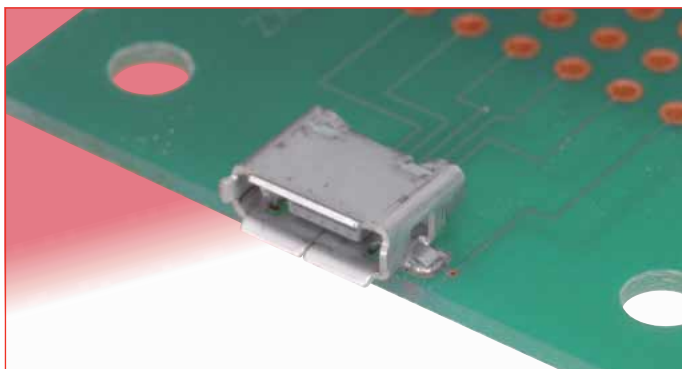
Part Number	CL No.	Packaging	RoHS
ZX62R-AB-5P	242-0035-3	2,000 pieces per reel	YES

Recommended PCB mounting pattern



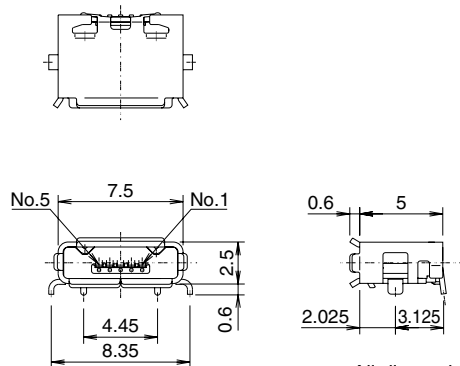
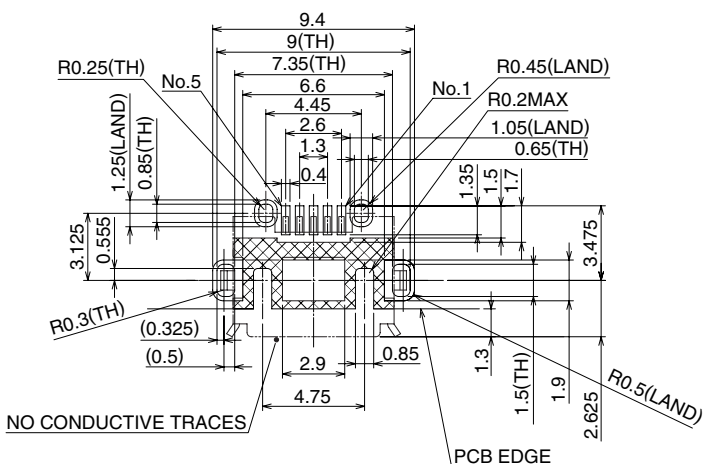
All dimensions: mm

Micro AB - Reverse (Top mount), Shell through hole




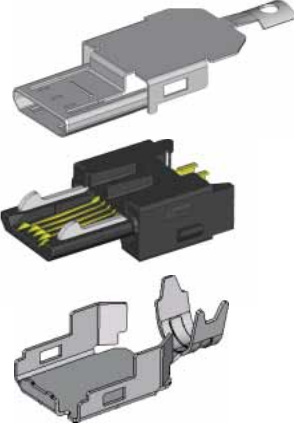

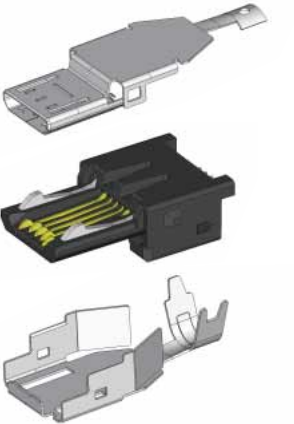

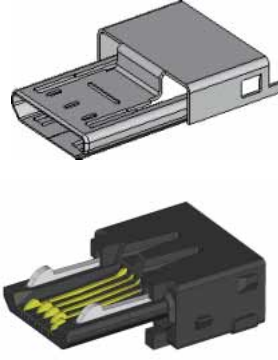

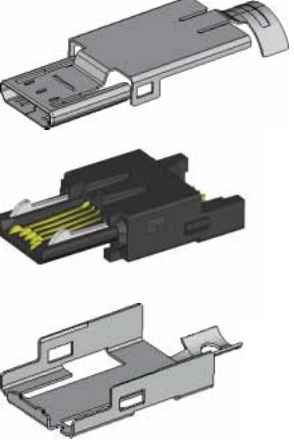
Part Number	CL No.	Packaging	RoHS
ZX62RD-AB-5P8	242-0025-0	2,000 pieces per reel	YES

Recommended PCB mounting pattern



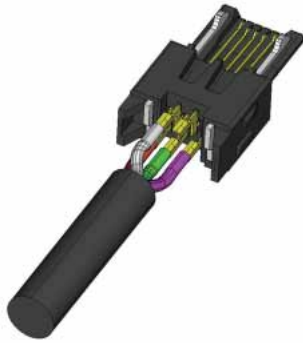
All dimensions: mm

ZX Series Micro-USB connectors meeting requirements of USB 2.0 Standard

Plugs – assembled (not-terminated, without overmold)	Components
<p data-bbox="240 170 690 201">ZX40 - Direct wire soldering</p> 	 <p data-bbox="1226 241 1458 300">ZX40-*-SLDA Cover-top</p> <p data-bbox="1226 367 1458 472">ZX40-*-5S-UNIT Assembly (insulator/contacts/lock) *No PCB required</p> <p data-bbox="1226 510 1458 569">ZX40-SLDB Cover-bottom</p>
<p data-bbox="240 636 690 667">ZX10 - PCB wire soldering</p> 	 <p data-bbox="1226 709 1458 768">ZX10-B-SLDA Cover-top</p> <p data-bbox="1226 835 1458 940">ZX10-B-5S-UNIT Assembly (insulator/contacts/lock) *SMT PCB termination</p> <p data-bbox="1226 978 1458 1037">ZX10-SLDB Cover-bottom</p>
<p data-bbox="240 1102 690 1134">ZX20 - PCB wire soldering</p> 	 <p data-bbox="1226 1199 1458 1260">ZX20-*-SLDC Cover</p> <p data-bbox="1226 1350 1458 1472">ZX20-*-5S-UNIT Assembly (insulator/contacts/lock) *Straight through hole PCB termination</p>
<p data-bbox="240 1509 690 1541">ZX64 - PCB wire soldering</p> 	 <p data-bbox="1226 1581 1458 1642">ZX64-*-SLDA Cover-top</p> <p data-bbox="1226 1711 1458 1841">ZX64-*-5S-UNIT Assembly (insulator/contacts/lock) *Right angle through hole PCB termination</p> <p data-bbox="1226 1900 1458 1961">ZX64-SLDB Cover-bottom</p>

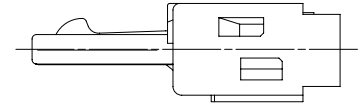
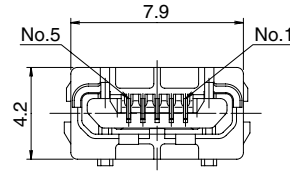
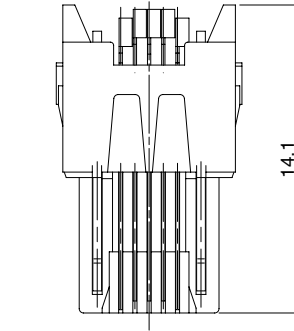
Plugs

● Micro B - Assembly (insulator/contacts/lock) – Direct wire soldering



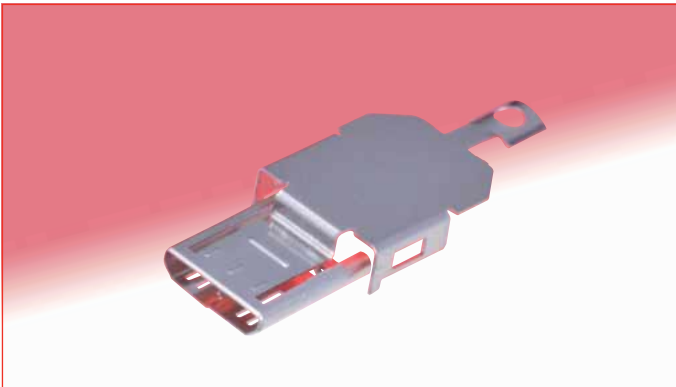
Part Number	CL No.	RoHS
ZX40-B-5S-UNIT(12)	242-0002-4-12	YES

Contact HRS for Cable Termination Procedure Manual.

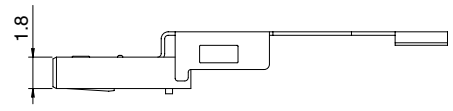
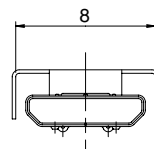
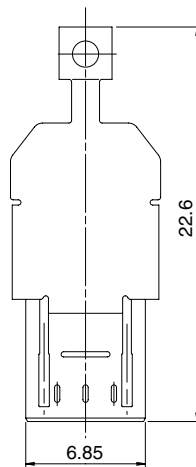


All dimensions: mm

● Micro B - Component, Cover-top - Direct wire soldering



Part Number	CL No.	Packaging	RoHS
ZX40-B-SLDA	242-0003-7	4,000 pieces per reel	YES

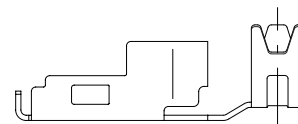
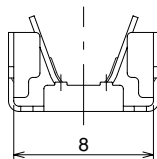
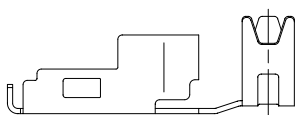
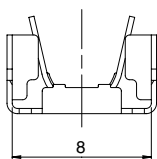
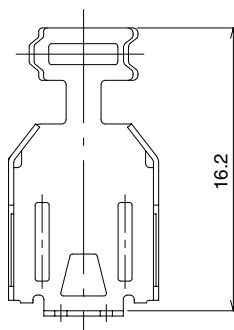
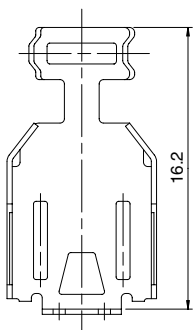
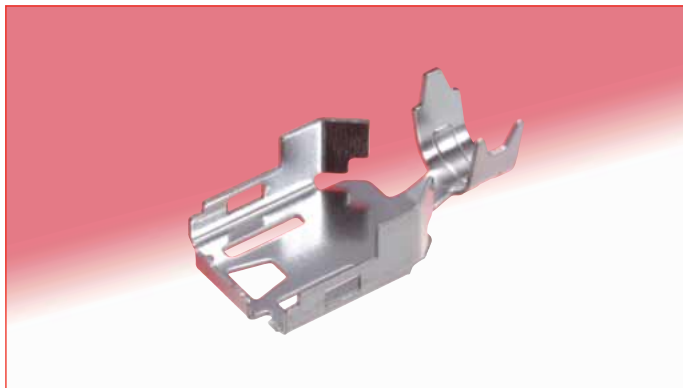


All dimensions: mm

ZX Series Micro-USB connectors meeting requirements of USB 2.0 Standard

■ Plugs

● Micro A, Micro B - Component, Cover-bottom - Direct wire soldering



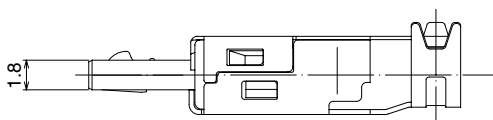
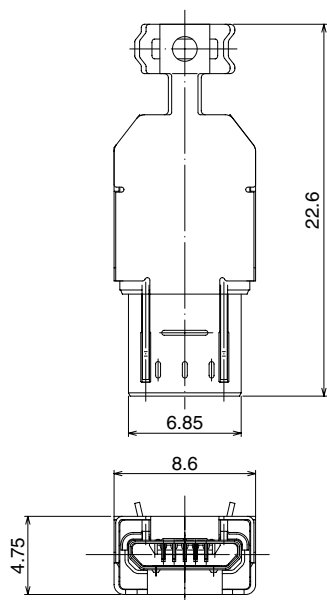
All dimensions: mm

ZX40-SLDB

ZX40-SLDB(3.3)

Part Number	CL No.	Packaging	Cable dia.	RoHS
ZX40-SLDB	242-0004-0	4,000 pieces per reel	φ3.8	YES
ZX40-SLDB(3.3)	242-0023-4		φ3.3	

● Assembled



All dimensions: mm

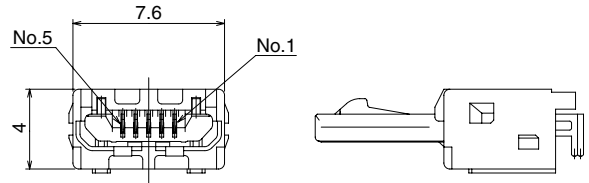
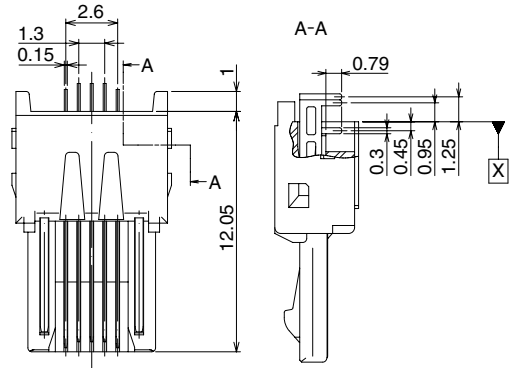
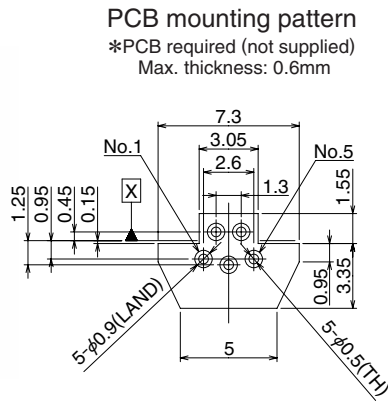
Plugs

Micro B - Assembly (insulator/contacts/lock) - Right angle through hole PCB wire soldering (non-direct)



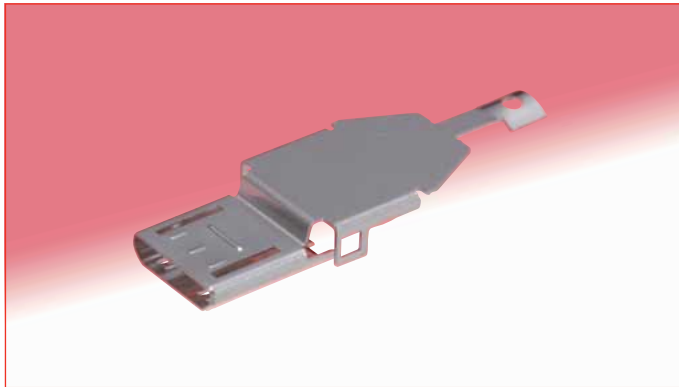
Part Number	CL No.	Packaging	RoHS
ZX10-B-5S-UNIT(12)	242-0030-0-12	1,500 pieces per reel	YES

Contact HRS for Cable Termination Procedure Manual.

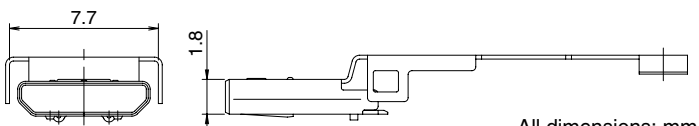
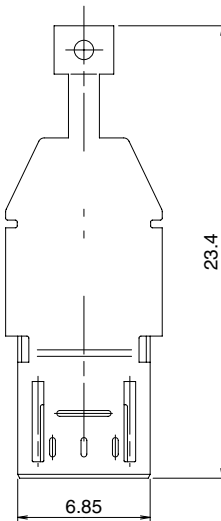


Micro B - Component, Cover-top - Right angle through hole

All dimensions: mm



Part Number	CL No.	Packaging	RoHS
ZX10-B-SLDA	242-0031-2	4,500 pieces per reel	YES

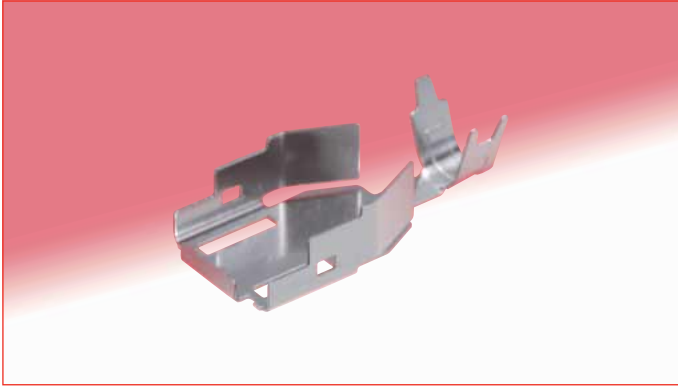


All dimensions: mm

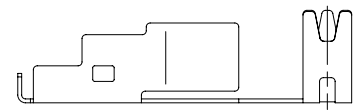
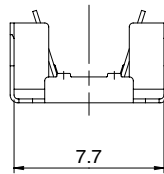
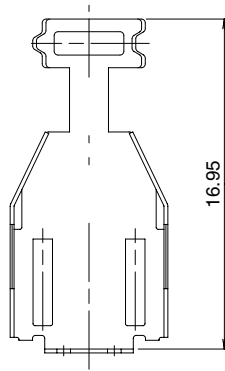
ZX Series Micro-USB connectors meeting requirements of USB 2.0 Standard

■ Plugs

● Micro B - Component, Cover-bottom – Right angle through hole

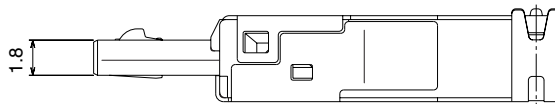
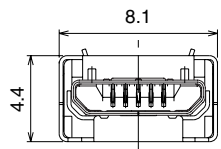
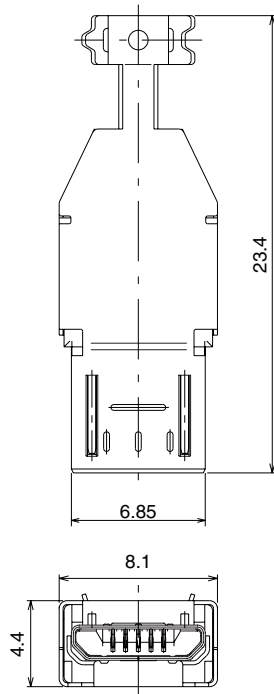


Part Number	CL No.	Packaging	RoHS
ZX10-SLDB(3.3)	242-0032-5	4,500 pieces per reel	YES



All dimensions: mm

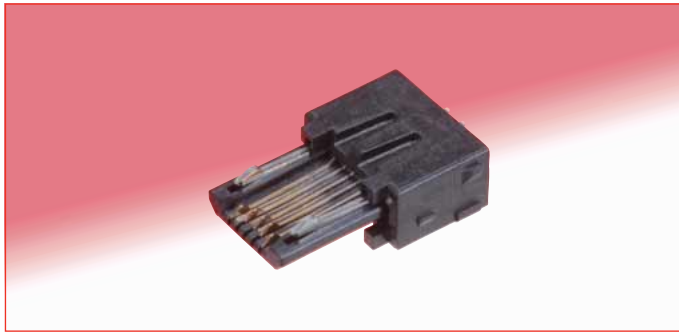
● Assembled



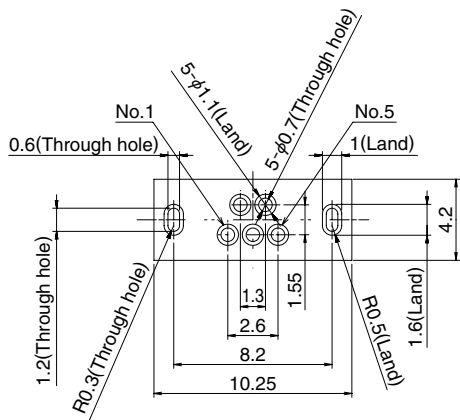
All dimensions: mm

Plugs

Micro B - Assembly (insulator/contacts/lock) - Straight through hole PCB wire soldering (non-direct)

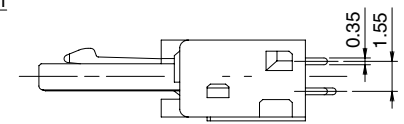
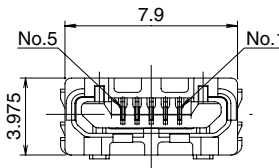
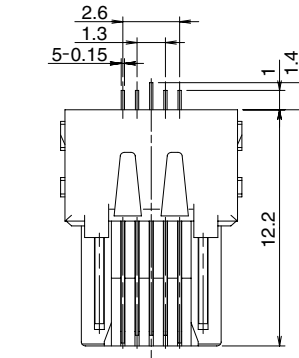


PCB mounting pattern
 *PCB required (not supplied)
 Max. thickness: 0.6mm



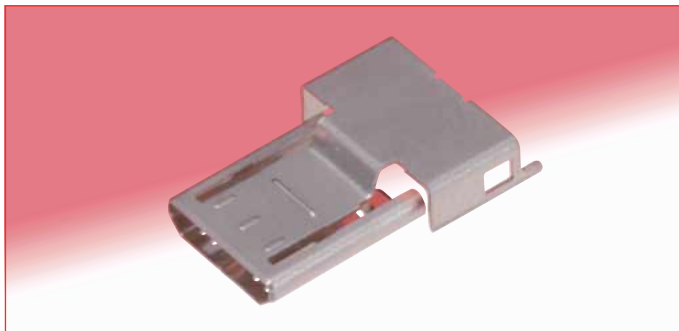
Part Number	CL No.	RoHS
ZX20-B-5S-UNIT(12)	242-0012-8-12	YES

Contact HRS for Cable Termination Procedure Manual.

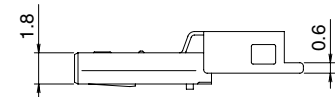
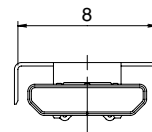
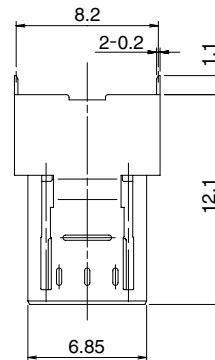


All dimensions: mm

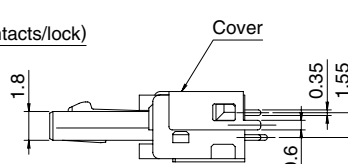
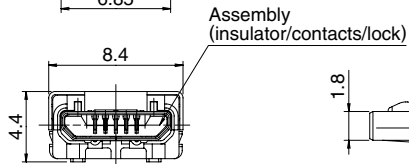
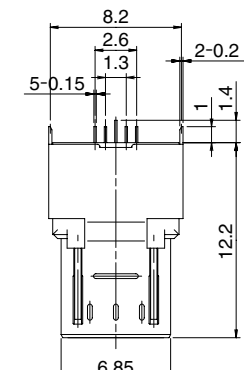
Micro B - Component, Cover - Straight, through hole



Part Number	CL No.	Packaging	RoHS
ZX20-B-SLDC	242-0022-1	4,000 pieces per reel	YES



Assembled

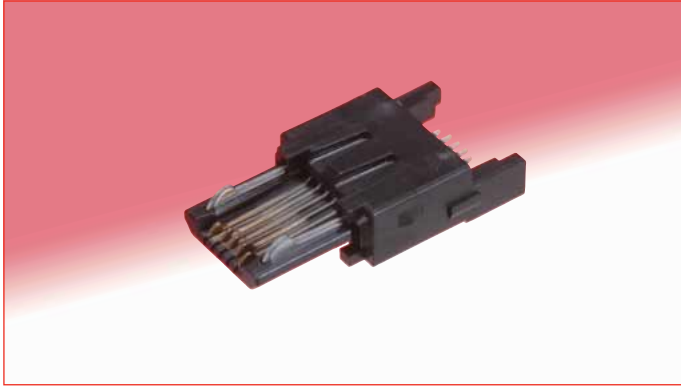


All dimensions: mm

ZX Series Micro-USB connectors meeting requirements of USB 2.0 Standard

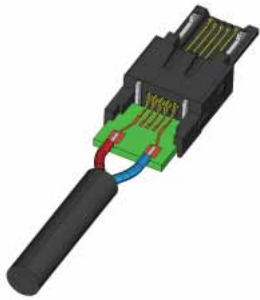
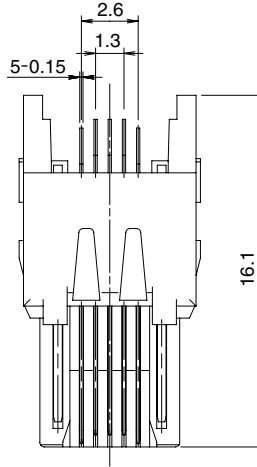
■ Plugs

● Micro B - Assembly (insulator/contacts/lock) - Right angle SMT

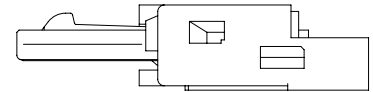
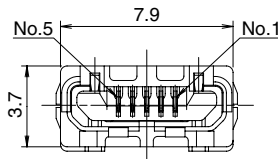
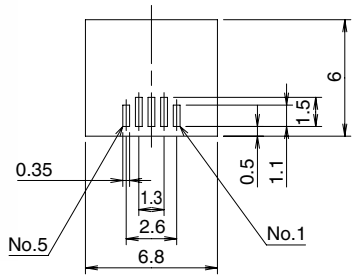


Part Number	CL No.	RoHS
ZX64-B-5S-UNIT(14)	242-0009-0-14	YES

Contact HRS for Cable Termination Procedure Manual.

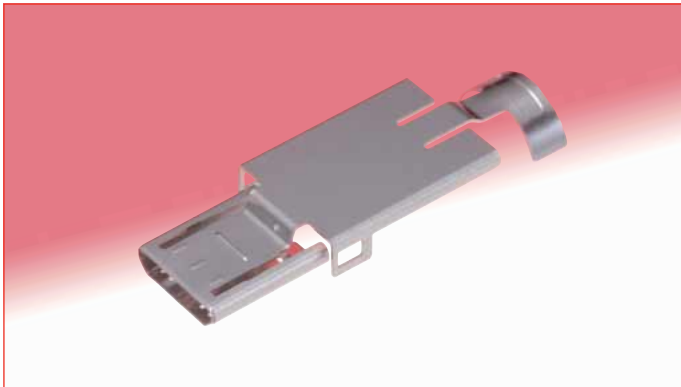


PCB mounting pattern
 *PCB required (not supplied)
 Max. thickness: 1.0mm

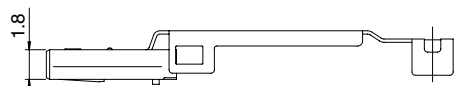
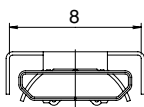
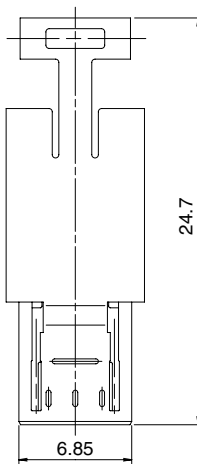


All dimensions: mm

● Micro B - Component, Cover-top – Right angle SMT



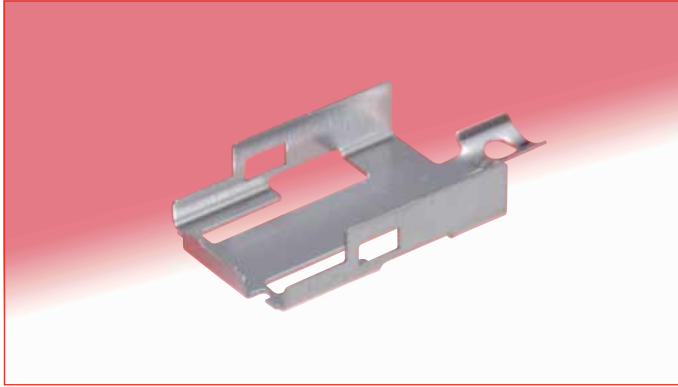
Part Number	CL No.	Packaging	RoHS
ZX64-B-SLDA	242-0013-0	4,000 pieces per reel	YES



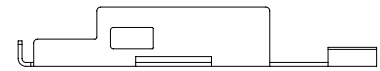
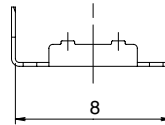
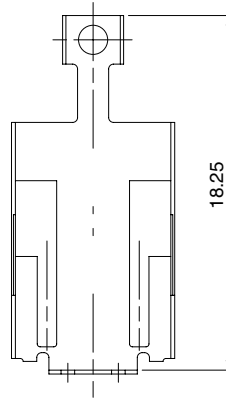
All dimensions: mm

Plugs

Micro B - Component, Cover-bottom - Right angle SMT

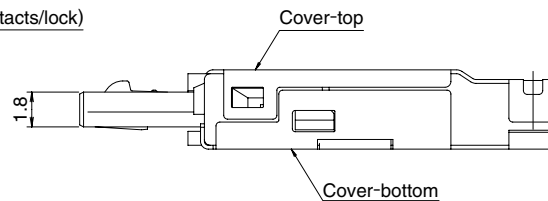
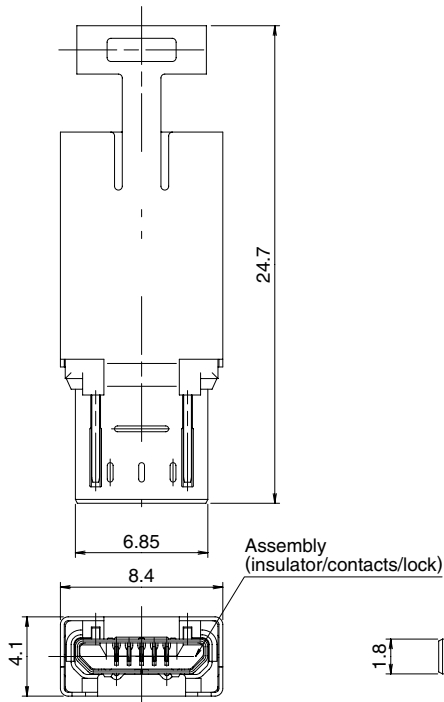


Part Number	CL No.	Packaging	RoHS
ZX64-SLDB	242-0049-8	4,000 pieces per reel	YES



Assembled

All dimensions: mm



All dimensions: mm

ZX Series Micro-USB connectors meeting requirements of USB 2.0 Standard

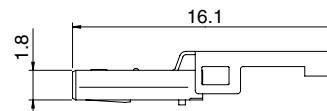
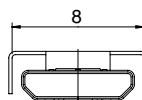
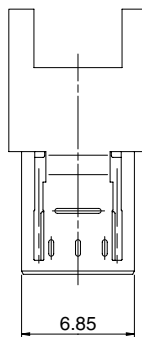
■ Plugs

● Micro B - Component, Shell/cover – Right angle SMT

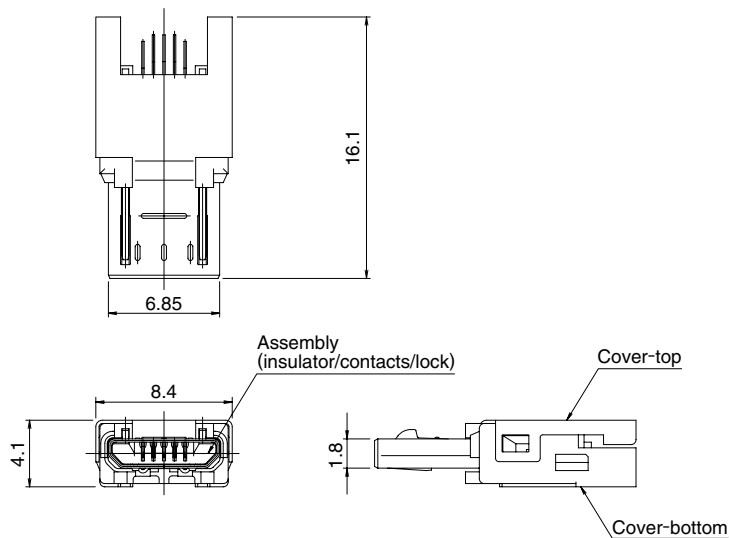


Shell/cover, without cable clamp
 This shell/cover does not require ZX64-SLDB.

Part Number	CL No.	Packaging	RoHS
ZX64-B-SLDC	242-0018-4	4,000 pieces per reel	YES



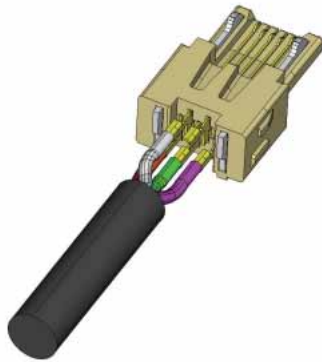
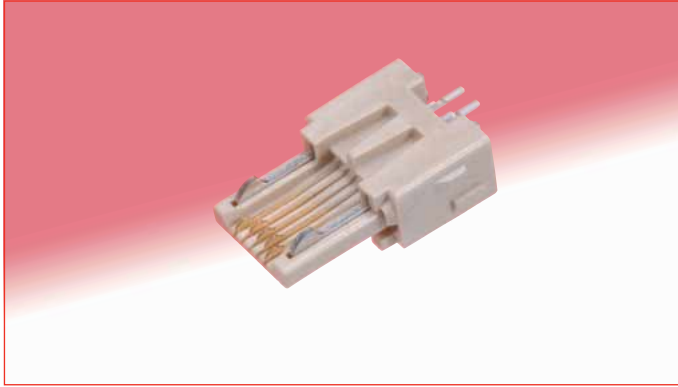
● Assembled



All dimensions: mm

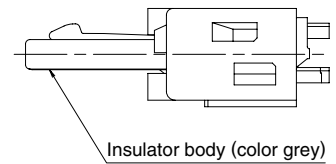
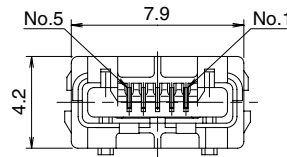
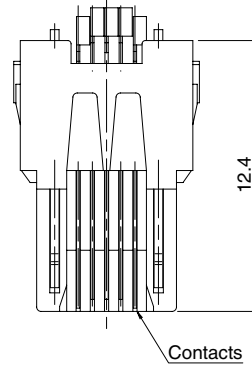
Plugs

Micro A - Assembly (insulator/contacts/lock) - Direct wire soldering



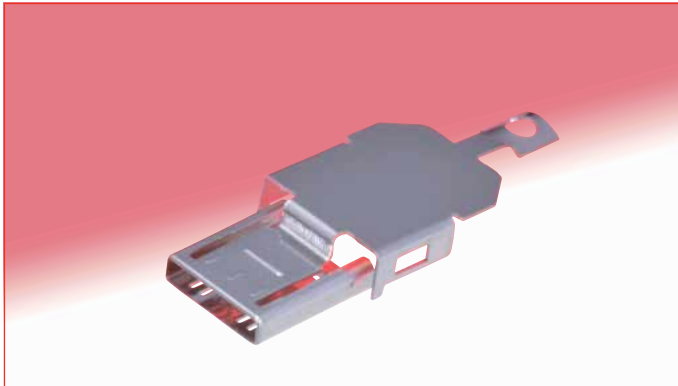
Part Number	CL No.	RoHS
ZX40-A-5S-UNIT	242-0010-2	YES

Contact HRS for Cable Termination Procedure Manual.

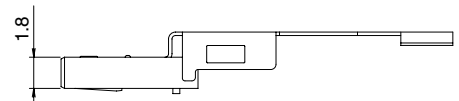
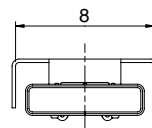
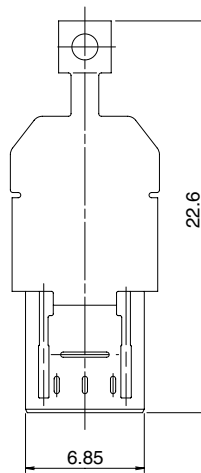


All dimensions: mm

Micro A - Component, Cover-top - Direct wire soldering



Part Number	CL No.	Packaging	RoHS
ZX40-A-SLDA	242-0011-5	4,000 pieces per reel	YES

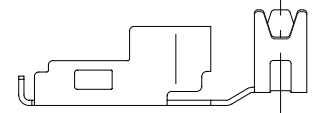
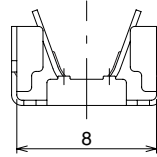
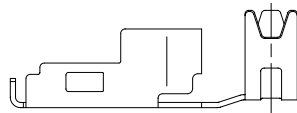
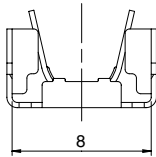
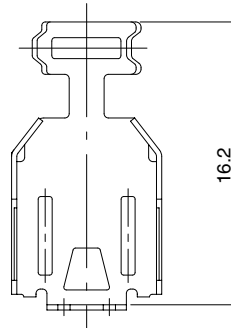
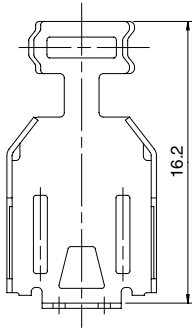
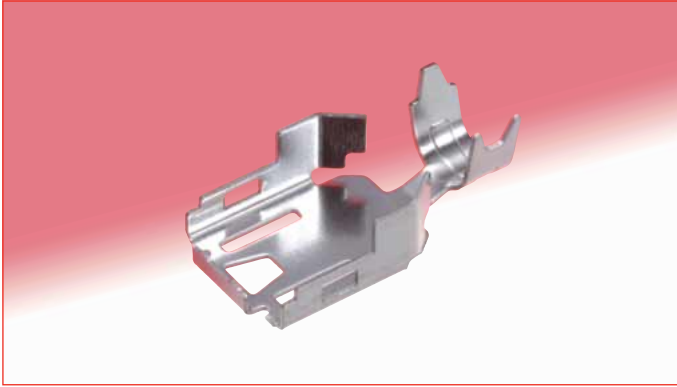


All dimensions: mm

ZX Series Micro-USB connectors meeting requirements of USB 2.0 Standard

■ Plugs

● Micro A, Micro B - Component, Cover-bottom - Direct wire soldering



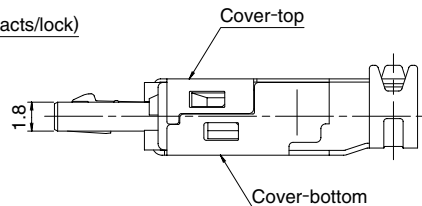
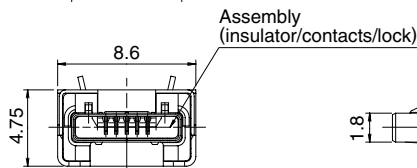
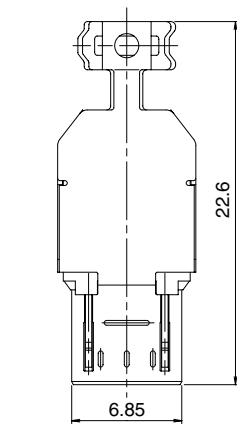
All dimensions: mm

ZX40-SLDB

ZX40-SLDB(3.3)

Part Number	CL No.	Packaging	Cable dia.	RoHS
ZX40-SLDB	242-0004-0	4,000 pieces per reel	φ3.8	YES
ZX40-SLDB(3.3)	242-0023-4		φ3.3	

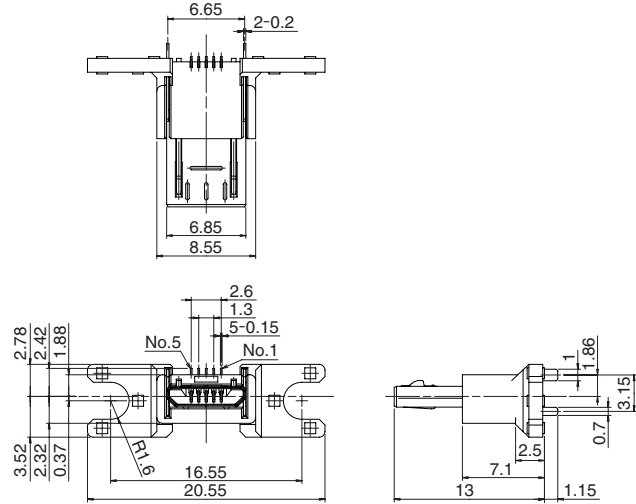
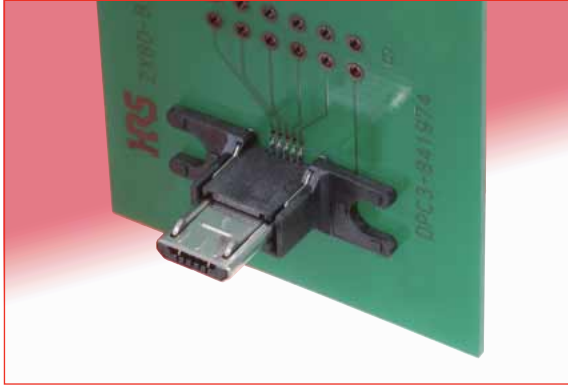
● Assembled



All dimensions: mm

■ Plug-Vertical, cradle mount, Shell through hole

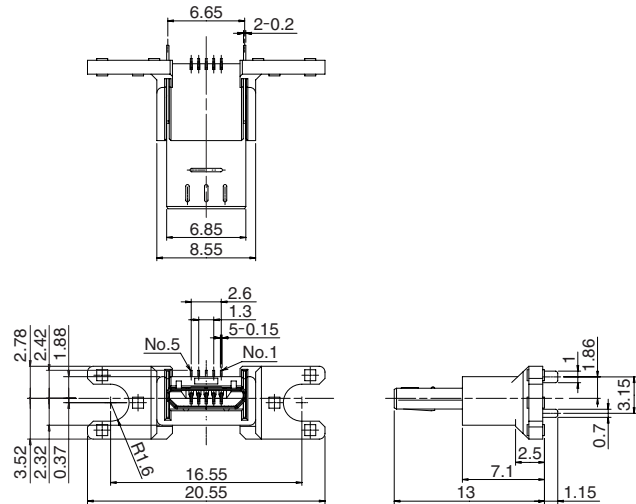
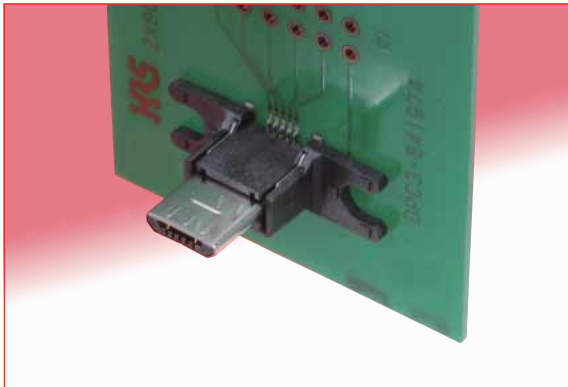
● Micro B, with lock



All dimensions: mm

Part Number	CL No.	Packaging	RoHS
ZX80-B-5S	242-0017-1	100 pieces	YES

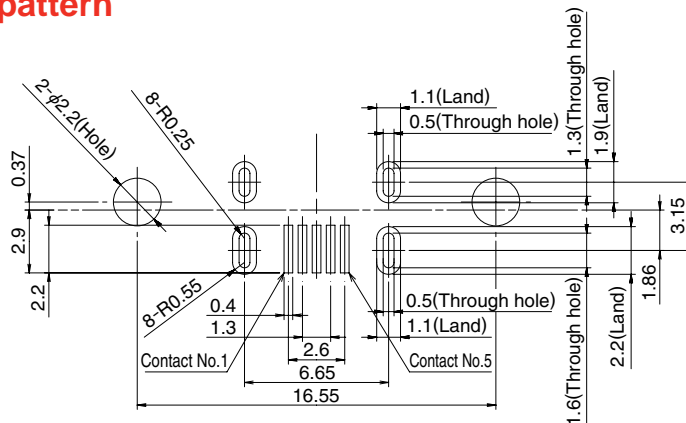
● Micro B, without lock



All dimensions: mm

Part Number	CL No.	Packaging	RoHS
ZX80-B-5SA	242-0019-7	100 pieces	YES

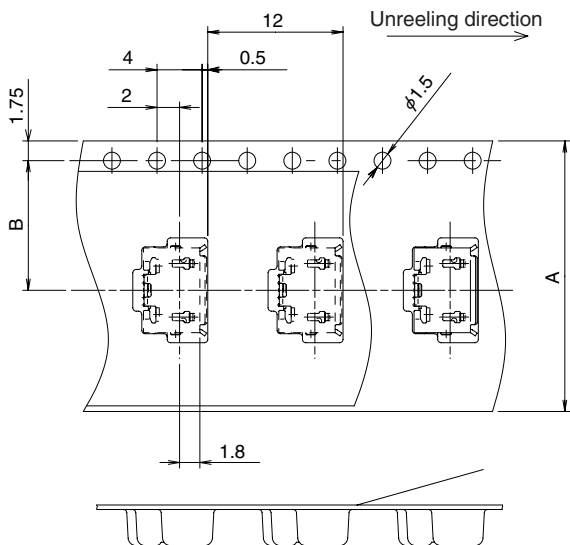
◆ PCB mounting pattern



All dimensions: mm

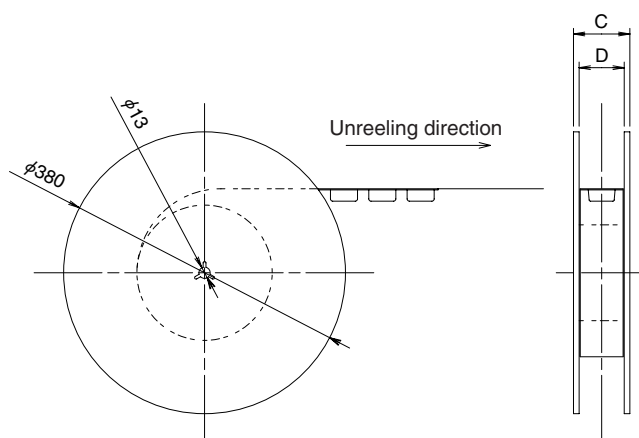
◆ Packaging Specifications

● Embossed carrier tape dimensions



Part Number	A dimension	B dimension
ZX62-B-5PA	24	11.5
ZX62-AB-5PA	24	11.5
ZX62M-B-5P	24	11.5
Other	16	7.5

● Reel Dimensions

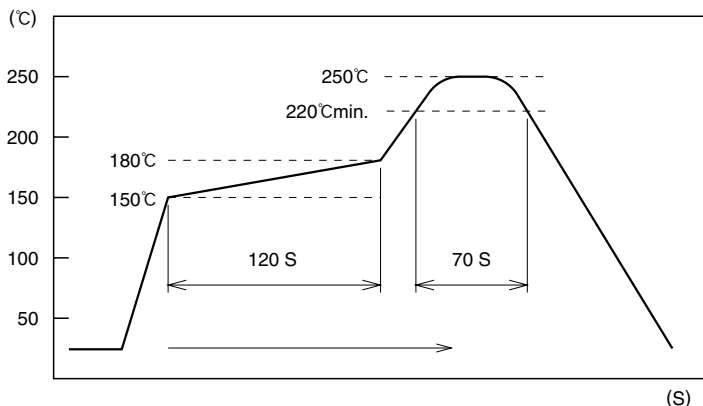


Part Number	C dimension	D dimension
ZX62-B-5PA	30.4	24.4
ZX62-AB-5PA	30.4	24.4
ZX62M-B-5P	30.4	24.4
Other	22.4	16.4

Note : Tape and reel packaging (2,000 pieces/reel).
 Order by number of reels.

◆ Recommended 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×35mm×0.8mm thick

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

Note 1: Up to 2 cycles of Reflow soldering are possible under the same conditions, provided that there is a return to normal temperature between the first and second cycle.

Note 2: The temperature profile indicates the board surface temperature at the point of contacts with the connector terminals.

◆ Precautions

1. Exercise care when handling the connectors. Do not subject them to excessive external forces when mating/un-mating.
2. Mate and un-mate as intended, holding by the overmolded body, in the correct direction. Do not un-mate by pulling on the cable.
3. Some tooling marks may be visible on the surfaces of receptacle (shell/cover). No form/fit or function is affected.
4. Appearance of the surface finishes on the receptacles may vary between production runs. No affect on form, fit or function.



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<http://www.hirose.com>

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