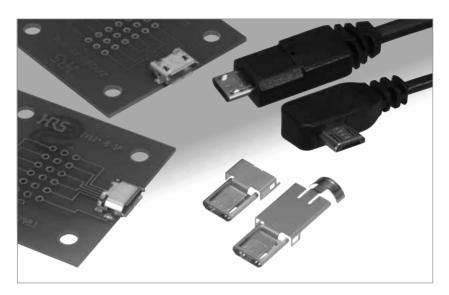
Micro-USB connectors meeting requirements of USB 2.0 Standard

ZX Series





■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

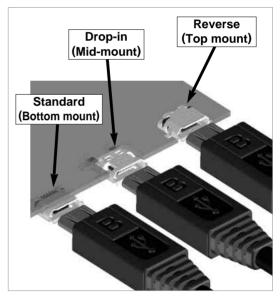
Two interface configurations: Micro-B and Micro-AB in standard, mid-mount and reverse mounting styles. SMT and through-hole (shell) PC board terminations

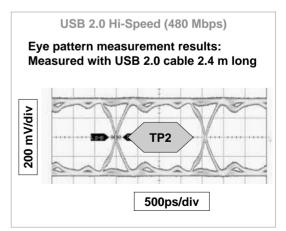
3. Plug styles

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





■Specifications

		1 A (per contact) or	Voltage rating	30 V AC
Ratings	Current rating	1.8 A (contacts No. 1 and 5) and	Operating temperature range	-30°C to +85 °C (Note1)
		0.5 A (contacts No. 2, 3, and 4)	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 m Ω max.	10,000 cycles
5. Total insertion/removal force	Insertion force: 35 N max., Removal force: 8 N min.	Mated with corresponding connector

Note1: Includes temperature rise caused by current flow.

Note2: Information contained in this catalog represents general requirements for this Series. Contact us for the drawings and specifications for a specific part number shown.

■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

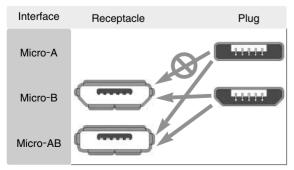
Receptacles

$$\frac{ZX}{0} \frac{62}{0} \frac{RD}{0} - \frac{B}{0} - \frac{5}{0} \frac{P}{0} \frac{*}{0} \frac{8}{0}$$

●Plugs

$$\frac{ZX}{Q} \frac{40}{Q} - \frac{B}{Q} - \frac{SLDA}{Q}$$

■Product Styles Table



Series name		ZX
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
Board mounting style	Blank	Standard (Bottom mount)
(Receptacles)	D	Standard (Bottom mount) through hole
	R	Reverse (Top mount)
	RD	Reverse (Top mount) through hole
	М	Drop-in (Mid-mount)
Mating side configuration	Α	Micro-A
	В	Micro-B
	AB	Micro-AB
Number of contacts		5
Contact type	Р	Receptacle- Male
	S	Plug – Female
Serial No.		
Shell termination style –	Blank	SMT
Receptacles	8	Through hole (solder tab length: 0.8mm)
Components-plugs	UNIT	Assembly (Insulator/contact/lock)
	SLD*	Cover (Note 1)

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

■Configurations

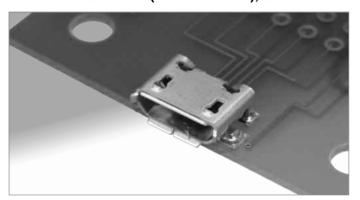
	Mating side configuration	Application	Mounting, termination styles/wire attachment	Part Number	3D Image	Page
	Standard		SMT	ZX62-B-5PA(11)		4
	Micro-B	Standard	SMT + DIP	ZX62D-B-5PA8		4
S	WIICIO B	Reverse	SMT	ZX62R-B-5P		5
tacles		Drop-in	SMT	ZX62M-B-5P(02)	The state of	5
Recep		Ctondord	SMT	ZX62-AB-5PA(11)		6
	Micro-AB	Standard	SMT + DIP	ZX62D-AB-5P8		6
	MICTO-AB	Dayarra	SMT	ZX62R-AB-5P		7
	Reverse	neverse	SMT + DIP	ZX62RD-AB-5P8		7
		Date	Direct wire soldering	Assembly (insulator/contacts/lock):ZX40-B-5S-UNIT(12) Cover-top :ZX40-B-SLDA Cover-bottom :ZX40-SLDB	S A	9 and 10
		Data	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
s b n	Micro-B	Earphone	PCB wire soldering (straight, through hole)	Assembly (insulator/contacts/lock) :ZX20-B-5S-UNIT(12) Cover :ZX20-B-SLDC		13
٦		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
d l e s	Micro-B	Cradle	SMT +	ZX80-B-5S	With lock	19
Cra	IVIIC(U-B	Craule	DIP	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.

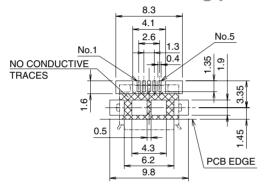
Note: 3. The color of the insulators body in the Assembly (insulator/contacts/lock) shown in the 3D Image column above is blue for clarity. Refer to the Materials (Page 2) for correct colors.

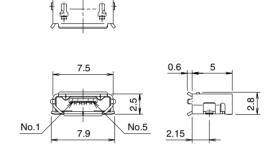
●Micro B - Standard (Bottom mount), Shell SMT



Part Number	CL No.	Packaging
ZX62-B-5PA(11)	242-0033-8-11	3,500 pieces per reel

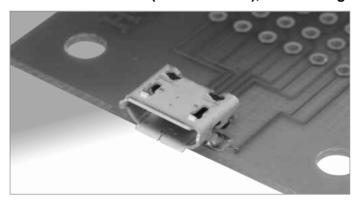
■Recommended PCB mounting pattern





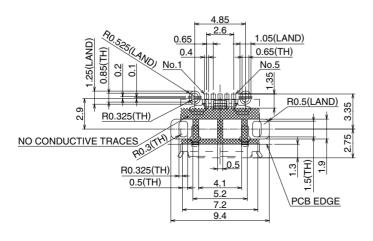
Micro B - Standard (Bottom mount), Shell through hole

All dimensions: mm

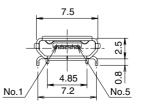


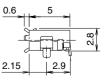
Part Number	CL No.	Packaging
ZX62D-B-5PA8	242-0056-3	2,000 pieces per reel

■Recommended PCB mounting pattern

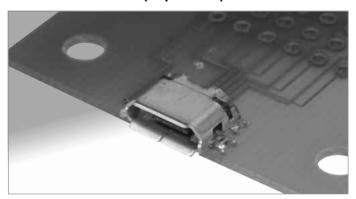






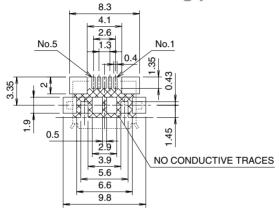


●Micro B - Reverse (Top mount) Shell SMT

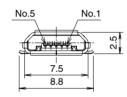


Part Number	CL No.	Packaging
ZX62R-B-5P	242-0028-8	2,000 pieces per reel

■Recommended PCB mounting pattern

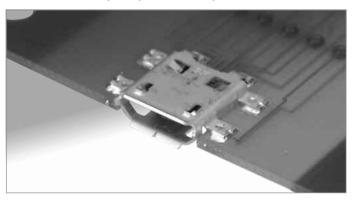




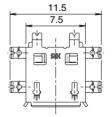




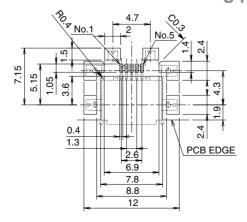
●Micro B - Drop-in (Mid-mount), Shell SMT

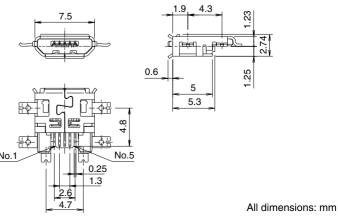


Part Number	CL No.	Packaging
ZX62M-B-5P(02)	242-0024-7-02	2,000 pieces per reel

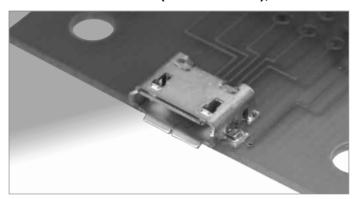


■Recommended PCB mounting pattern



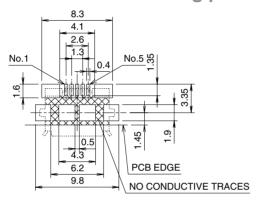


•Micro AB - Standard (Bottom mount), Shell SMT

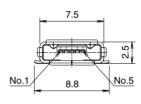


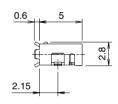
Part Number	CL No.	Packaging
ZX62-AB-5PA(11)	242-0045-7-11	3,500 pieces per reel

■Recommended PCB mounting pattern



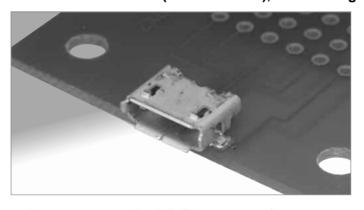






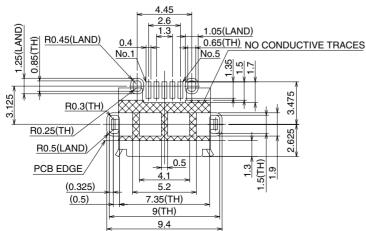
•Micro AB - Standard (Bottom mount), Shell through hole

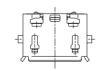
All dimensions: mm

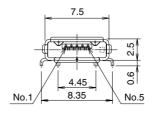


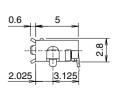
Part Number	CL No.	Packaging
ZX62D-AB-5P8	242-0027-5	2,000 pieces per reel

■Recommended PCB mounting pattern

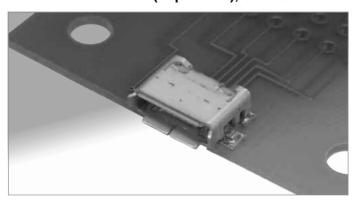






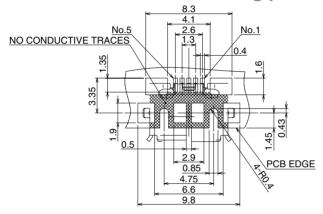


●Micro AB - Reverse (Top mount), Shell SMT

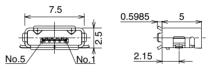


Part Number	CL No.	Packaging
ZX62R-AB-5P	242-0035-3	2,000 pieces per reel

■Recommended PCB mounting pattern

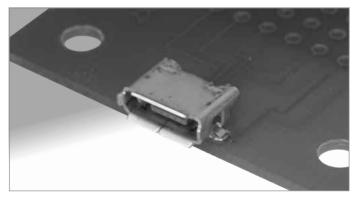






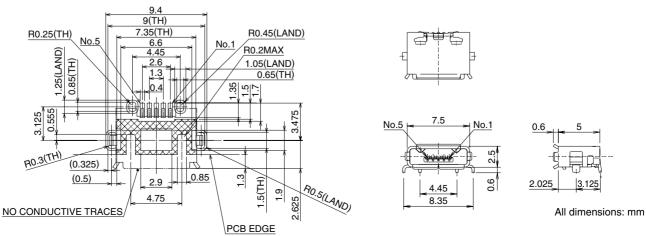
●Micro AB - Reverse (Top mount), Shell through hole

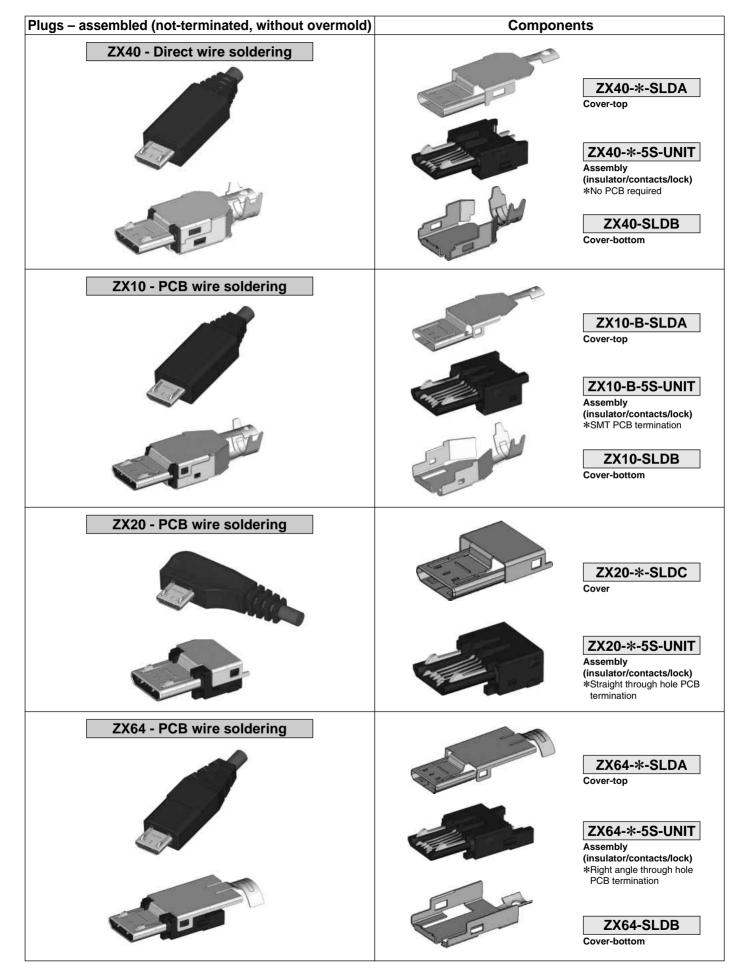
All dimensions: mm



ZX62RD-AB-5P8 242-	0025-0 2,000 pieces per reel

■Recommended PCB mounting pattern



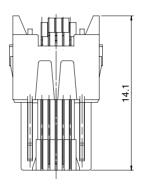


●Micro B - Assembly (insulator/contacts/lock) - Direct wire soldering

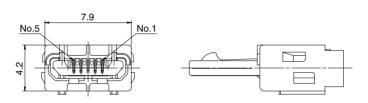


Part Number	CL No.
ZX40-B-5S-UNIT(12)	242-0002-4-12

Contact HRS for Cable Termination Procedure Manual.





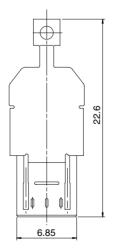


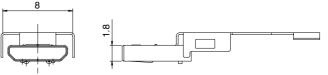
All dimensions: mm

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



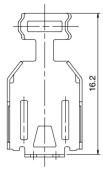
Part Number	CL No.	Packaging
ZX40-B-SLDA	242-0003-7	4,000 pieces per reel



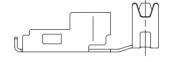


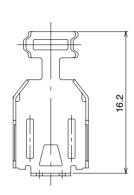
●Micro A, Micro B - Component, Cover-bottom - Direct wire soldering



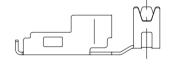












ZX40-SLDB(3.3)

All dimensions: mm

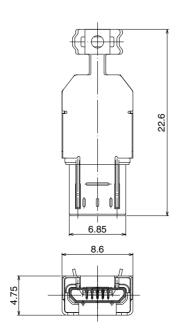
ZX40-SLDB

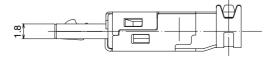
 Part Number
 CL No.
 Packaging
 Cable dia.

 ZX40-SLDB
 242-0004-0
 4,000 pieces per reel
 φ3.8

 ZX40-SLDB(3.3)
 242-0023-4
 φ3.3

• Assembled



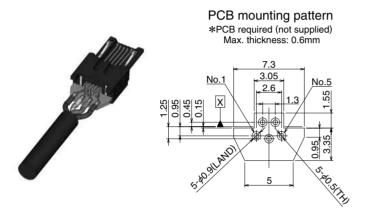


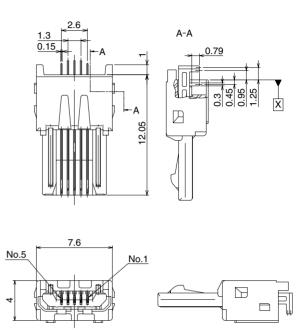
●Micro B - Assembly (insulator/contacts/lock) - Right angle through hole PCB wire soldering (non-direct)



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

Contact HRS for Cable Termination Procedure Manual.



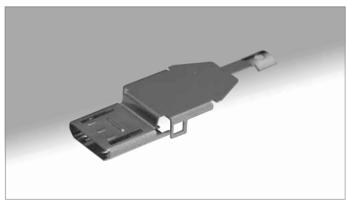


●Micro B - Component, Cover-top - Right angle through hole

All dimensions: mm

Packaging

4,500 pieces per reel



6.85	23.4	
7.7	8.	All dimensions: mm

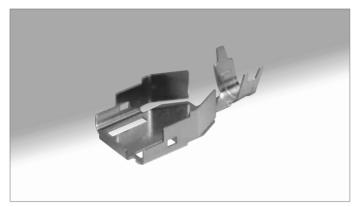
CL No.

242-0031-2

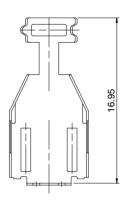
Part Number

ZX10-B-SLDA

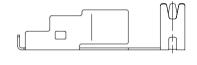
●Micro B - Component, Cover-bottom – Right angle through hole



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

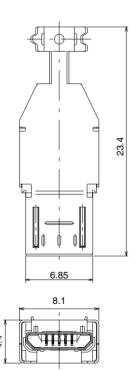






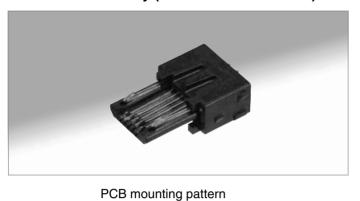
All dimensions: mm

•Assembled





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



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

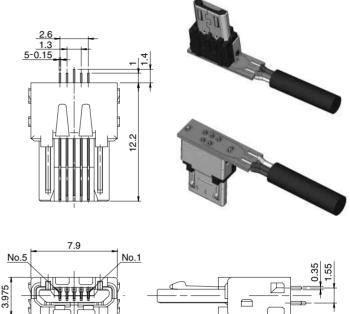
No.1

0.6(Through hole)

1.2(Through hole)

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

Contact HRS for Cable Termination Procedure Manual.



2.6 8.2 10.25 No.5

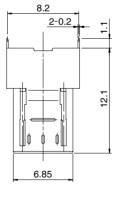
1(Land)

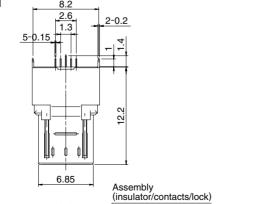
1.6(Land)



Part Number CL No. Packaging

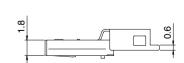
ZX20-B-SLDC 242-0022-1 4,000 pieces per reel







Cover



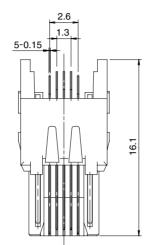
All dimensions: mm

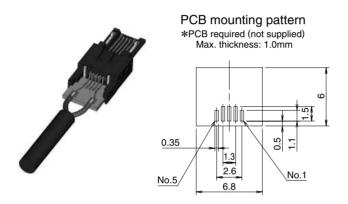
●Micro B - Assembly (insulator/contacts/lock) - Right angle SMT

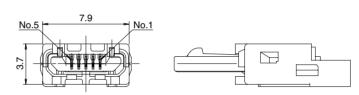


Part Number	CL No.
ZX64-B-5S-UNIT(14)	242-0009-0-14

Contact HRS for Cable Termination Procedure Manual.





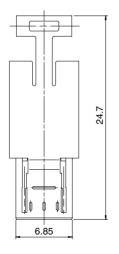


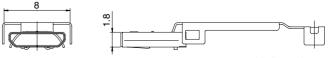
All dimensions: mm

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

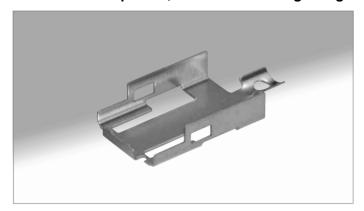


Part Number	CL No.	Packaging
ZX64-B-SLDA	242-0013-0	4,000 pieces per reel

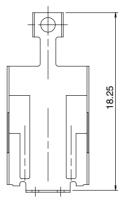




●Micro B - Component, Cover-bottom - Right angle SMT



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

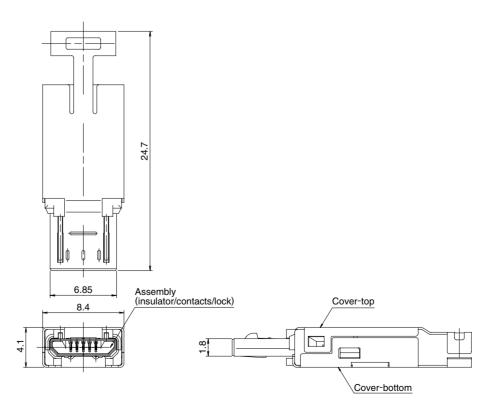






• Assembled

All dimensions: mm

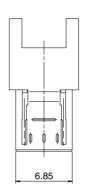


●Micro B - Component, Shell/cover - Right angle SMT

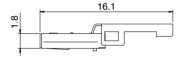


Shell/cover, without cable clamp This shell/cover does not require ZX64-SLDB.

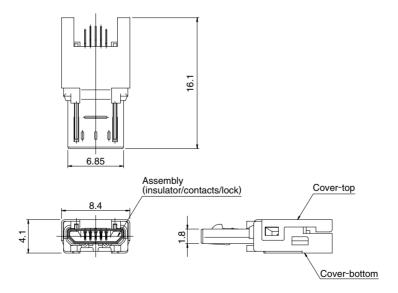
Part Number	CL No.	Packaging
ZX64-B-SLDC	242-0018-4	4,000 pieces per reel







• Assembled

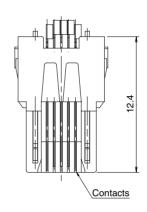


●Micro A - Assembly (insulator/contacts/lock) - Direct wire soldering

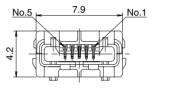


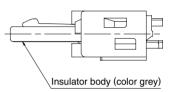
Part Number	CL No.
ZX40-A-5S-UNIT	242-0010-2

Contact HRS for Cable Termination Procedure Manual.







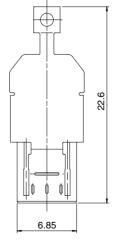


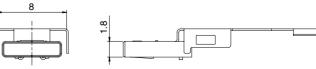
All dimensions: mm

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



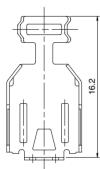
Part Number	CL No.	Packaging
ZX40-A-SLDA	242-0011-5	4,000 pieces per reel



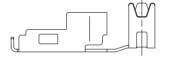


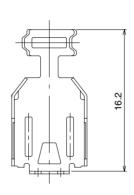
●Micro A, Micro B - Component, Cover-bottom - Direct wire soldering





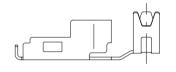








ZX40-SLDB(3.3)

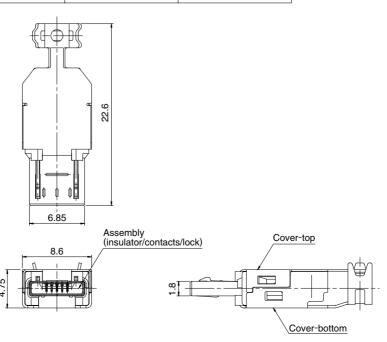


All dimensions: mm

ZX40-SLDB

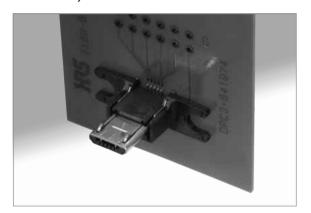
Part Number	CL No.	Packaging	Cable dia.
ZX40-SLDB	242-0004-0	4,000 pieces per reel	<i>φ</i> 3.8
ZX40-SLDB(3.3)	242-0023-4		φ3.3

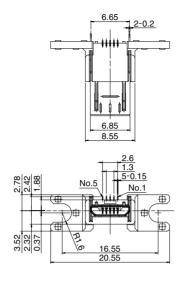
• Assembled

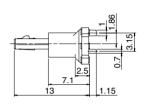


■Plug-Vertical, cradle mount, Shell through hole

●Micro B, with lock





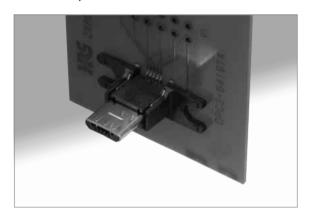


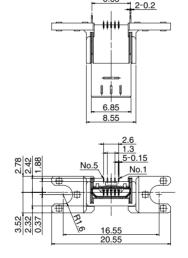
Packaging

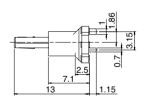
CL No. Part Number ZX80-B-5S 242-0017-1 100 pieces

All dimensions: mm

●Micro B, without lock





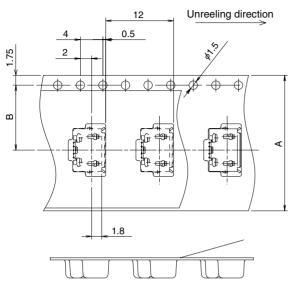


Part Number	CL No.	Packaging
ZX80-B-5SA	242-0019-7	100 pieces

■PCB mounting pattern 1.1(Land) 0.5(Through hole) 1.6(Through hole) 0.5(Through hole) 1.1(Land) Contact No.1 Contact No.5

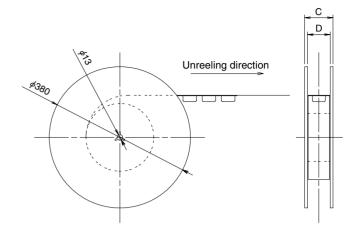
■Packaging Specifications

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

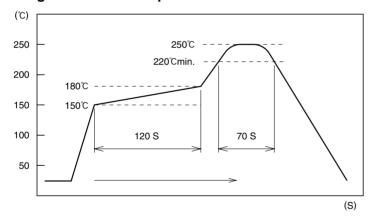


Part Number	C dimension	D dimension
ZX62-B-5PA	30.4	24.4
ZX62-AB-5PA	30.4	24.4
ZX62M-B-5P	30.4	24.4
Other	22.4	16.4

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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