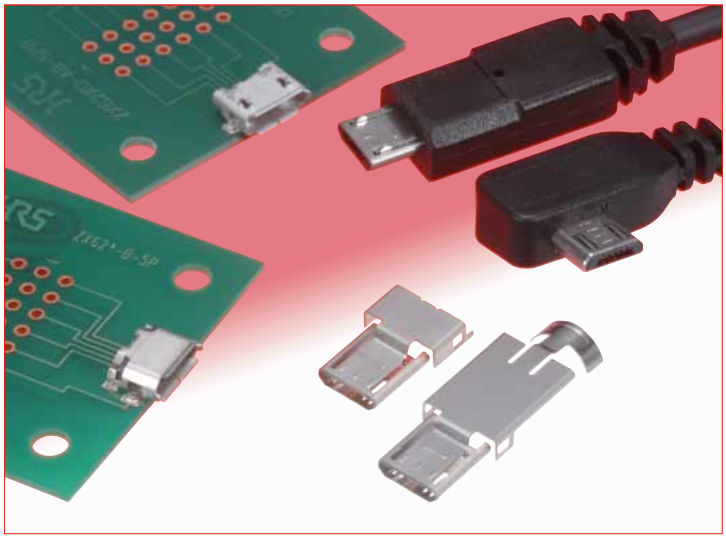
Micro-USB connectors meeting USB 2.0 Standard

ZX Series



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

Fig.1

■Overview

Extremely small highly reliable 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 styles, allowing their use in various applications.

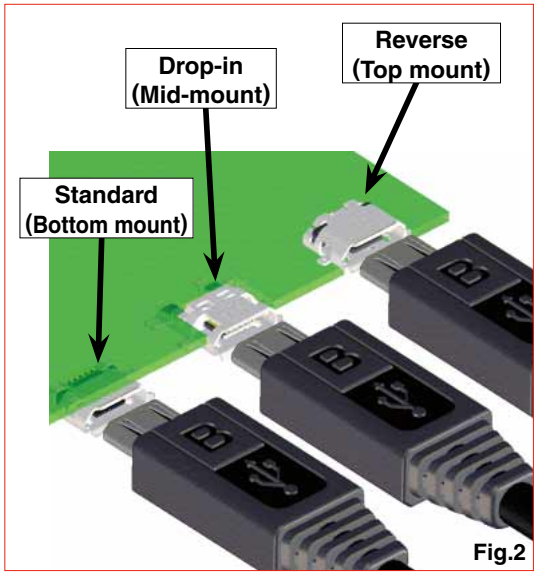


Fig.2

■Features

1. Size reduction

Compared with the standard Mini-USB 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-A and Micro-B, with direct wire or PCB wire soldering.
Several plug styles can be used for data transmission, earphone or charging applications.

4. Smooth mating and unmating

A smooth mating and unmating operation results in less wear and a longer product life. The unique Hirose active latch mechanism produces a reliable and durable connector.
Even after repeated use, the user will experience a smooth click sensation when mating the connectors.
Note : The statement above only applies when using both plug and receptacles made by Hirose Electric.

5. Hirose was the first company to obtain a Micro-USB certification (TID number).

USB 2.0 Hi-Speed (480 Mbps)

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

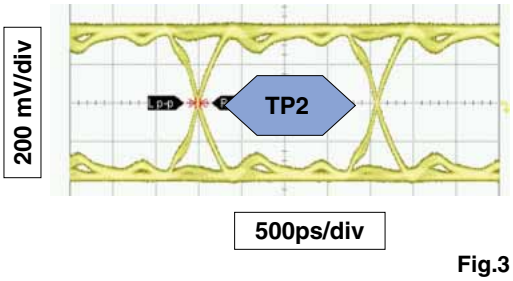


Fig.3

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■Product Specifications

Ratings	Current rating	1A (per contact) or 1.8A (contacts No. 1 and 5) and 0.5A (contacts No. 2, 3, and 4)	Voltage rating	30V AC
			Operating temperature range	-30°C to +85°C (Note1)
			Storage temperature range	-30°C to +60°C

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

●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	LCP	Micro-B: Black, Micro-AB: Gray	UL94V-0
Contacts	Copper alloy	Selective gold plated	————
Shell	Stainless steel	Tin alloy plating	————

■Product Number Structure

Refer to the chart below when determining the product specifications from the product number.
Please select from the product numbers listed in this catalog when placing orders.

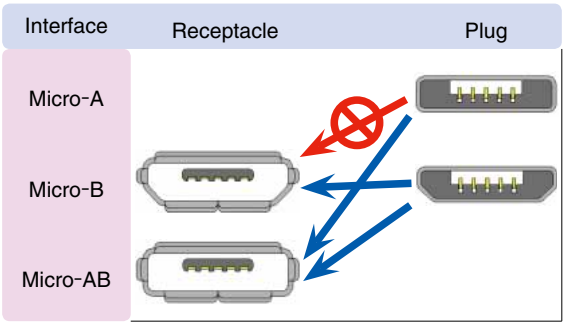
●Receptacles

ZX ❶ 62 ❷ RD ❸ - B ❹ - 5 ❺ P ❻ ✻ ❼ 8 ❽

●Plugs

ZX ❶ 40 ❷ - B ❹ - 5 ❺ S ❻ ✻ ❼ - UNIT ❾

ZX ❶ 40 ❷ - B ❹ - SLDA ❾



❶Series name		ZX
❷Termination 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
❸Board mounting style (Receptacles)	Blank	Standard (Bottom mount)
	D	Standard (Bottom mount) through hole
	R	Reverse (Top mount)
	RD	Reverse (Top mount) through hole
	M	Drop-in (Mid-mount)
❹Mating side configuration	A	Micro-A
	B	Micro-B
	AB	Micro-AB
❺Number of contacts		5
❻Contact type	P	Receptacle- Male
	S	Plug – Female
❼Serial No.		
❽Shell termination style –Receptacles	Blank	SMT
	8	Through hole (solder tab length: 0.8mm)
❾Components-plugs	UNIT	Assembly (Insulator/contact/lock) Cover (Note 1)

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

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■Configurations

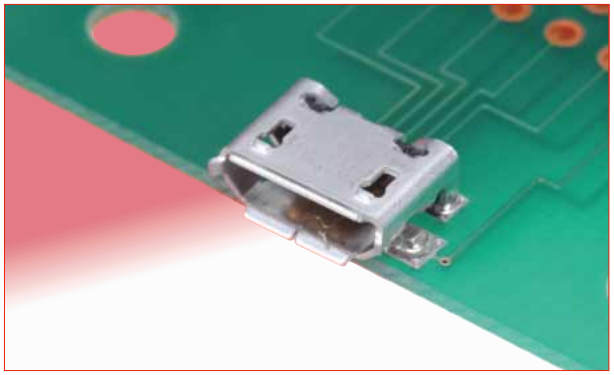
	Mating side configuration	Type		Part No.	3D Image	Page
Receptacles	Micro-B	Standard	SMT	ZX62-B-5PA(33)		4
			SMT + DIP	ZX62D-B-5PA8(30)		4
		Reverse	SMT	ZX62R-B-5P(30)		5
		Drop-in	SMT	ZX62M-B-5P(30)		5
	Micro-AB	Standard	SMT	ZX62-AB-5PA(31)		6
			SMT + DIP	ZX62D-AB-5P8(30)		6
		Reverse	SMT	ZX62R-AB-5P(30)		7
			SMT + DIP	ZX62RD-AB-5P8(30)		7
Plugs	Micro-B	Direct wire soldering		Assembly (insulator/contacts/lock) : ZX40-B-5S-UNIT(31) Cover-top : ZX40-B-SLDA Cover-bottom : ZX40-SLDB		9 and 10
		PCB wire soldering (straight, through hole)		Assembly (insulator/contacts/lock) : ZX20-B-5S-UNIT(30) Cover : ZX20-B-SLDC		11
		PCB wire soldering (SMT)		Assembly (insulator/contacts/lock) : ZX64-B-5S-UNIT(31) Cover-top : ZX64-B-SLDA Cover- bottom : ZX64-SLDB		12 and 13
		PCB wire soldering (SMT)		Assembly (insulator/contacts/lock) : ZX64-B-5S-UNIT(31) Cover : ZX64-B-SLDC		12 and 13
	Micro-A	Direct wire soldering		Assembly (insulator/contacts/lock) : ZX40-A-5S-UNIT(30) Cover-top : ZX40-A-SLDA Cover- bottom : ZX40-SLDB		14 and 15
Cradles	Micro-B	SMT + DIP		ZX80-B-5S(30)	With lock 	16
				ZX80-B-5SA(30)	Without lock 	16

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.

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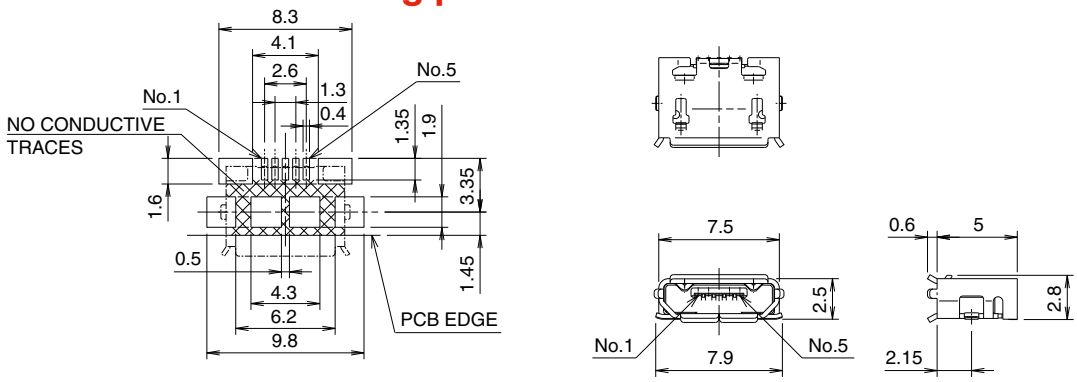
■Receptacles

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



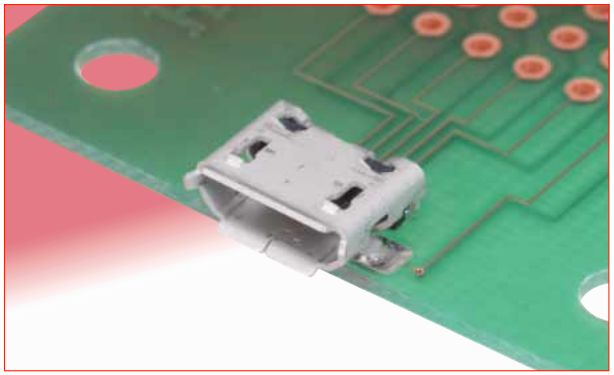
Part No.	HRS No.	Packaging
ZX62-B-5PA(33)	242-0033-8 33	3,500pcs/reel

◆Recommended PCB mounting pattern



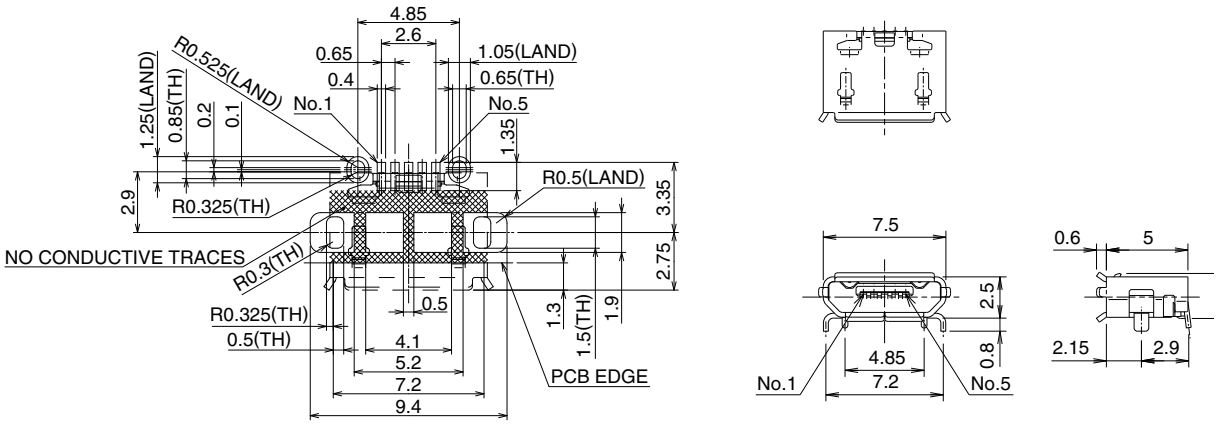
All dimensions : mm

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



Part No.	HRS No.	Packaging
ZX62D-B-5PA8(30)	242-0056-3 30	2,000pcs/reel

◆Recommended PCB mounting pattern

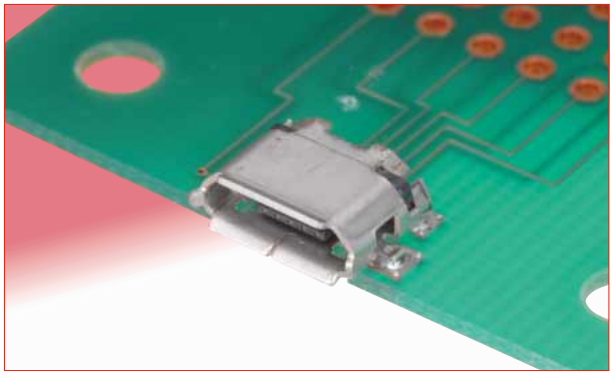


All dimensions : mm

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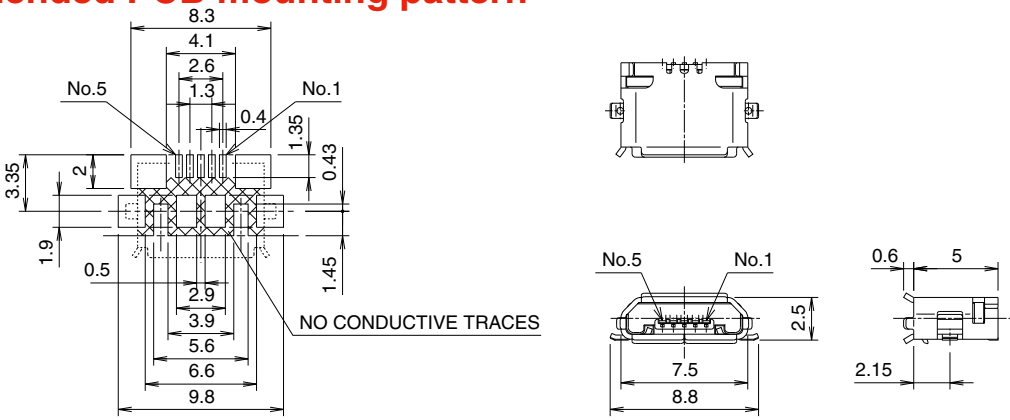
■Receptacles

●Micro B - Reverse (Top mount) Shell SMT



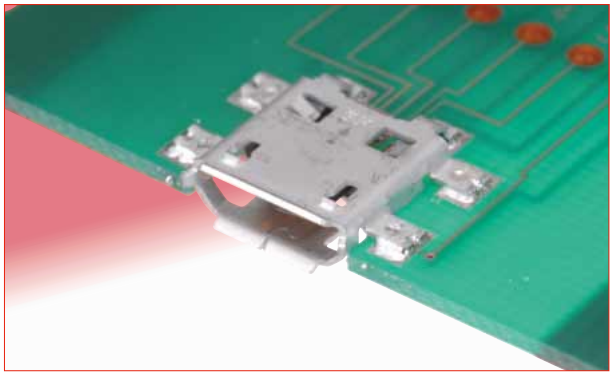
Part No.	HRS No.	Packaging
ZX62R-B-5P(30)	242-0028-8 30	2,000pcs/reel

◆Recommended PCB mounting pattern



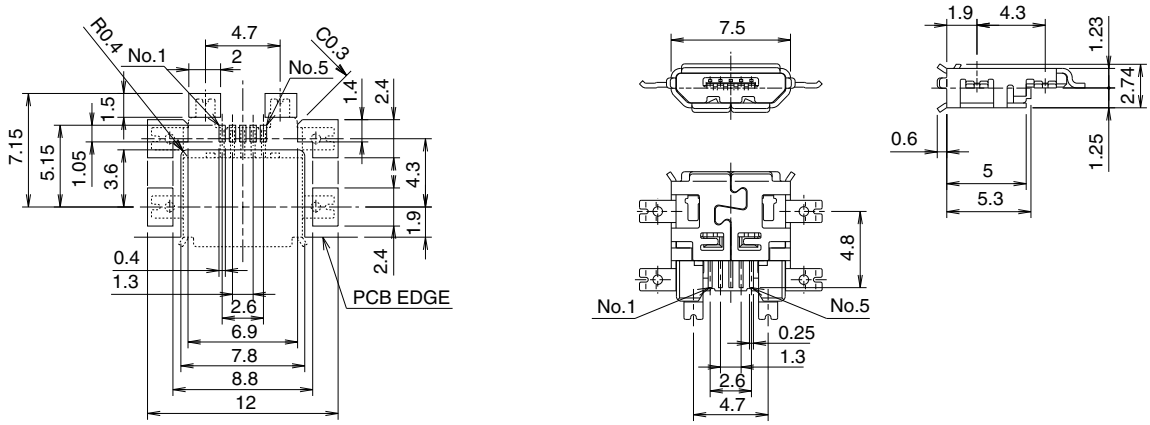
All dimensions : mm

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



Part No.	HRS No.	Packaging
ZX62M-B-5P(30)	242-0024-7 30	1,500pcs/reel

◆Recommended PCB mounting pattern

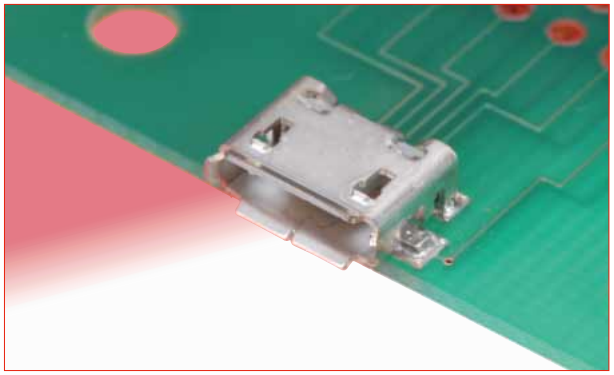


All dimensions : mm

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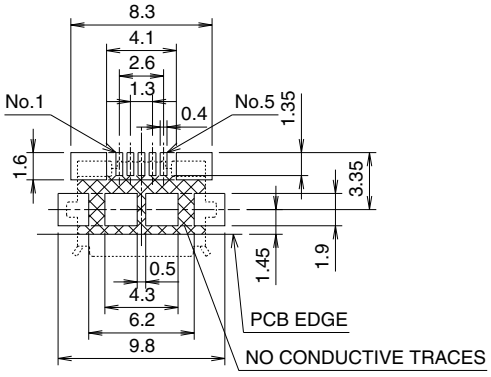
■Receptacles

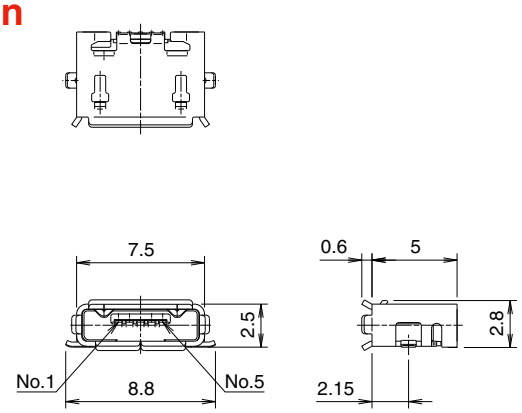
●Micro AB - Standard (Bottom mount), Shell SMT



Part No.	HRS No.	Packaging
ZX62-AB-5PA(31)	242-0045-7 31	3,500pcs/reel

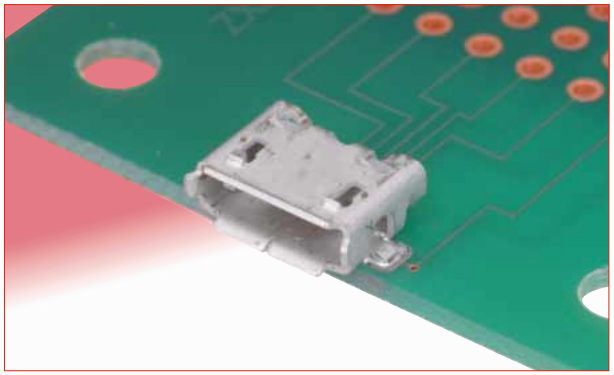
◆Recommended PCB mounting pattern





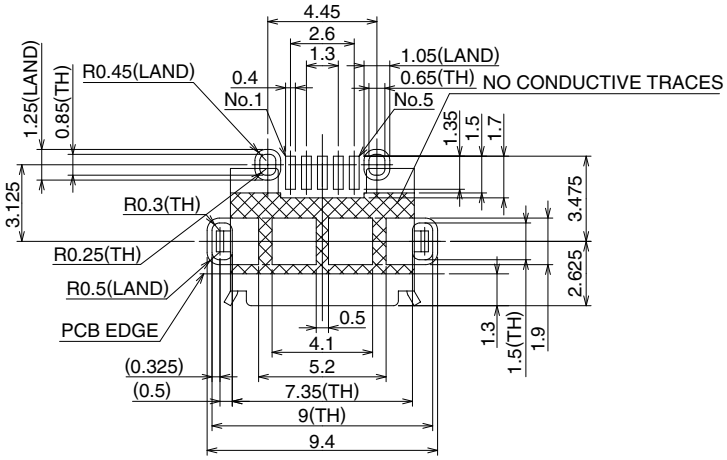
All dimensions : mm

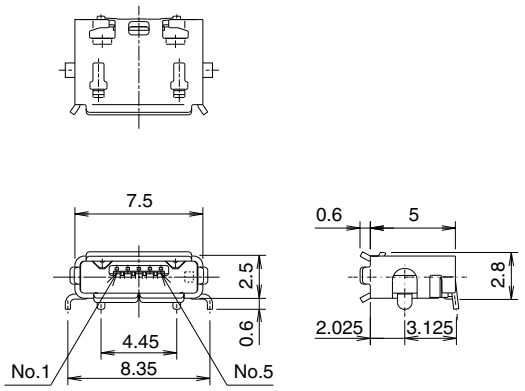
●Micro AB - Standard (Bottom mount), Shell through hole



Part No.	HRS No.	Packaging
ZX62D-AB-5P8(30)	242-0027-5 30	2,000pcs/reel

◆Recommended PCB mounting pattern



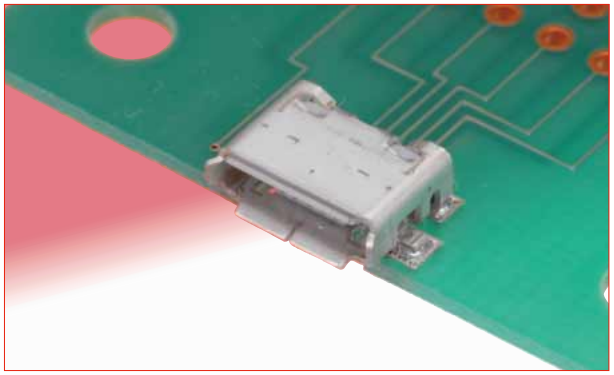


All dimensions : mm

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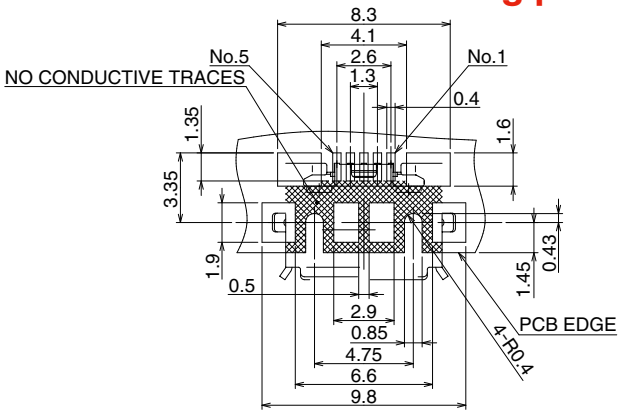
■Receptacles

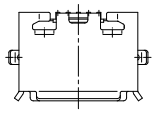
●Micro AB - Reverse (Top mount), Shell SMT

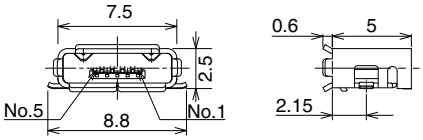


Part No.	HRS No.	Packaging
ZX62R-AB-5P(30)	242-0035-3 30	2,000pcs/reel

◆Recommended PCB mounting pattern

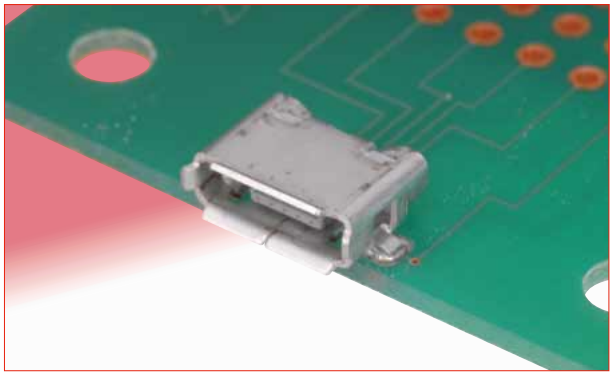






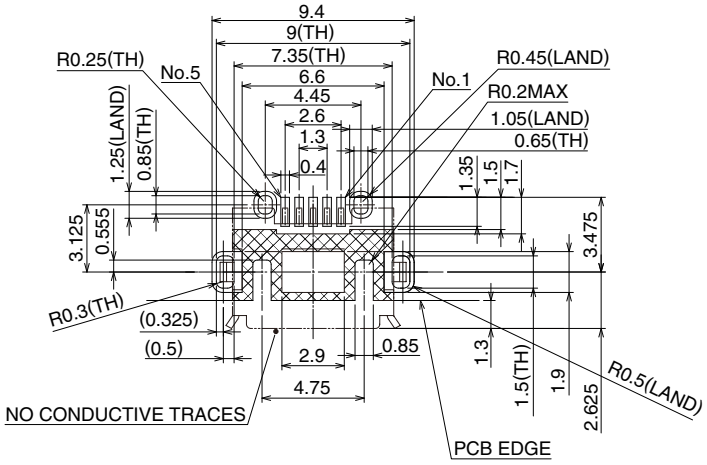
All dimensions : mm

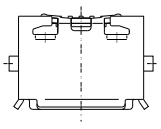
●Micro AB - Reverse (Top mount), Shell through hole

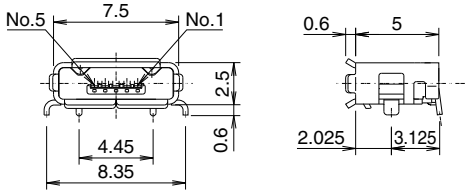


Part No.	HRS No.	Packaging
ZX62RD-AB-5P8(30)	242-0025-0 30	2,000pcs/reel

◆Recommended PCB mounting pattern

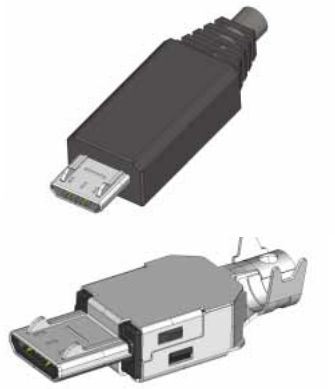
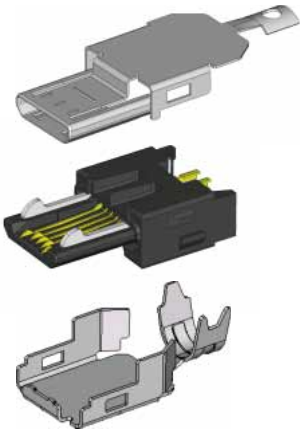
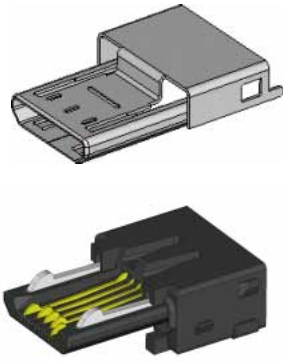
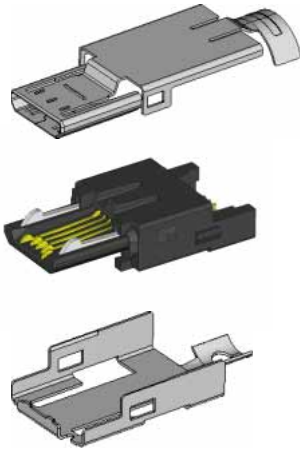






All dimensions : mm

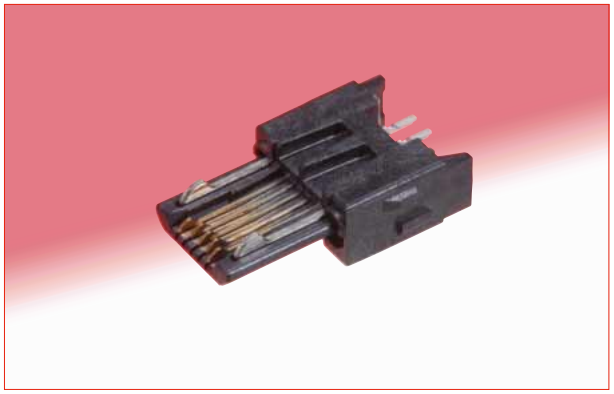
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Plugs – assembled (not-terminated, without overmold)	Components
ZX40 - Direct wire soldering 	 **ZX40-∗-SLDA** **Cover-top** **ZX40-∗-5S-UNIT** **Assembly (insulator/ contacts/lock)** ∗No PCB required **ZX40-SLDB** **Cover-bottom**
ZX20 - PCB wire soldering 	 **ZX20-∗-SLDC** **Cover** **ZX20-∗-5S-UNIT** **Assembly (insulator/contacts/lock)** ∗Vertical through hole PCB termination
ZX64 - PCB wire soldering 	 **ZX64-∗-SLDA** **Cover-top** **ZX64-∗-5S-UNIT** **Assembly (insulator/ contacts/lock)** ∗Right angle through hole PCB termination **ZX64-SLDB** **Cover-bottom**

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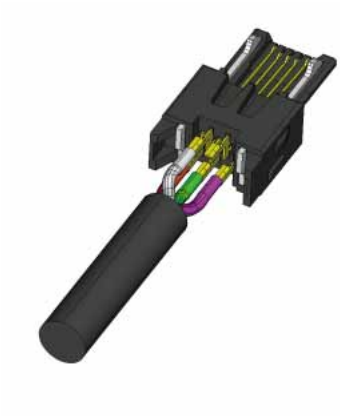
■Plugs

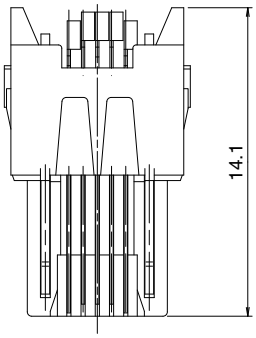
●Micro B - Assembly (insulator/contacts/lock) – Direct wire soldering

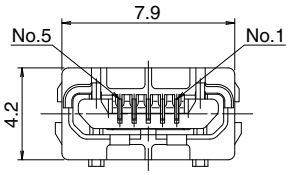


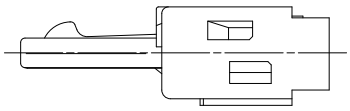
Part No.	HRS No.	Packaging
ZX40-B-5S-UNIT(31)	242-0002-4 31	1 piece

Contact HRS for Cable Termination Procedure Manual.



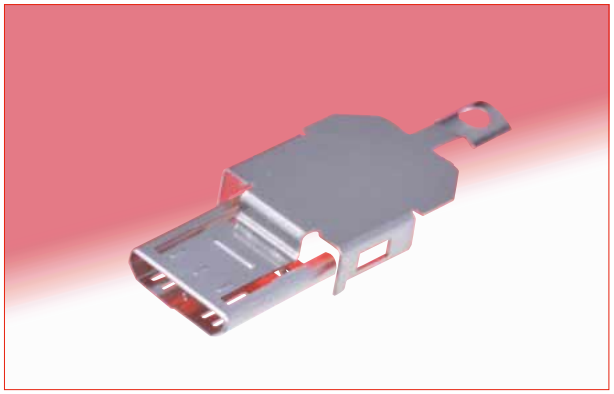




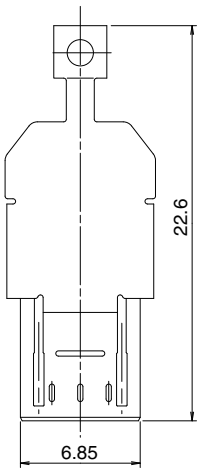


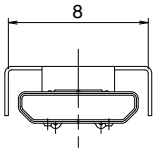
All dimensions : mm

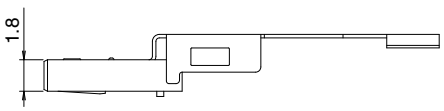
●Micro B - Component, Cover-top - Direct wire soldering



Part No.	HRS No.	Packaging
ZX40-B-SLDA	242-0003-7	4,000pcs/reel





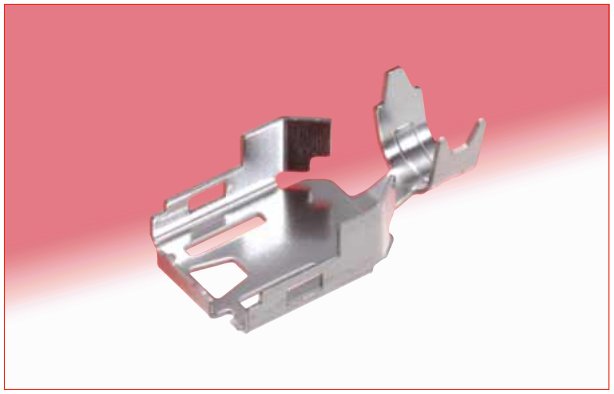


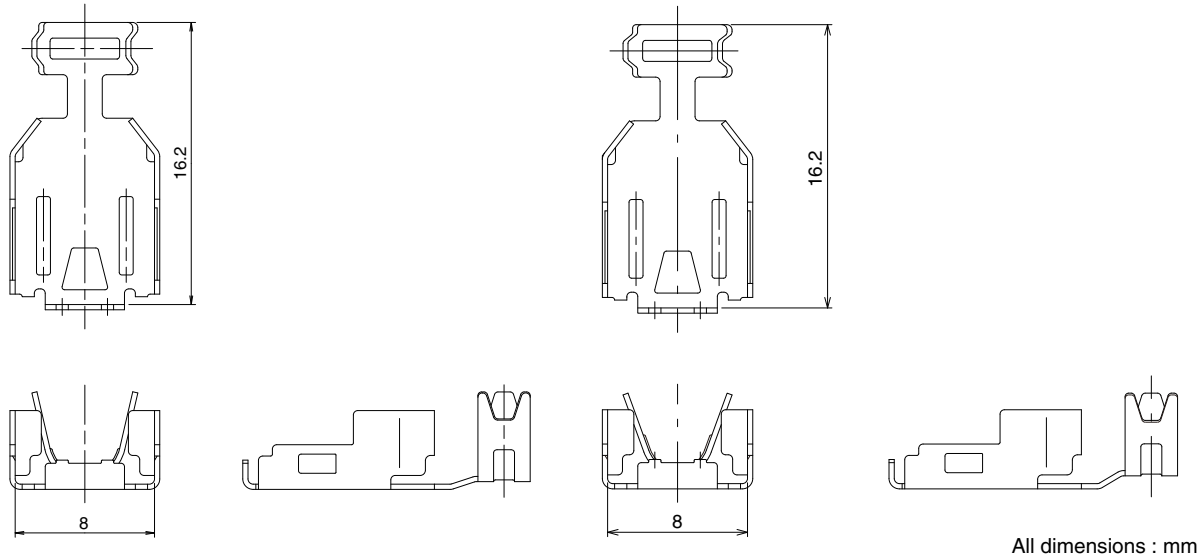
All dimensions : mm

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■Plugs

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



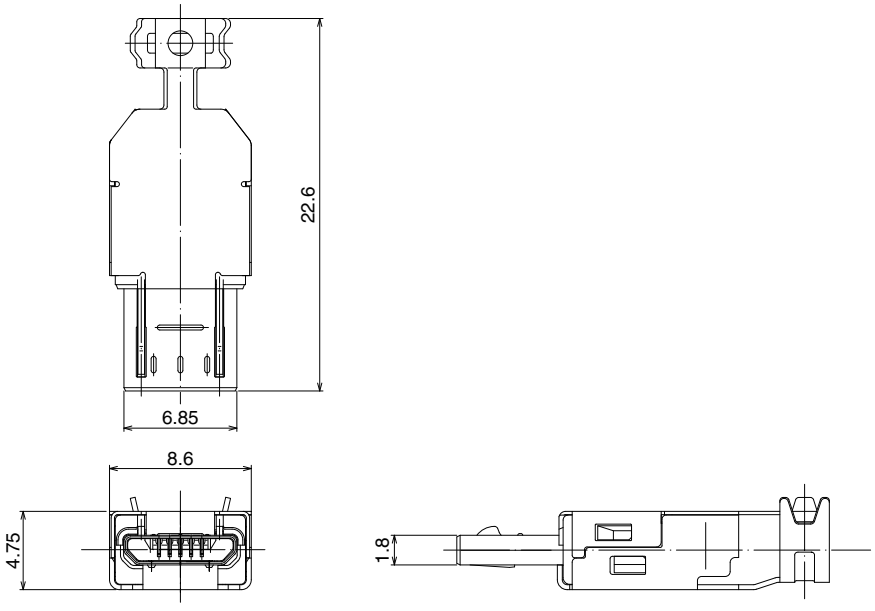


All dimensions : mm

ZX40-SLDB　　ZX40-SLDB(3.3)

Part No.	HRS No.	Packaging	Cable dia.
ZX40-SLDB	242-0004-0	4,000pcs/reel	ϕ3.8
ZX40-SLDB(3.3)	242-0023-4		ϕ3.3

●Assembled

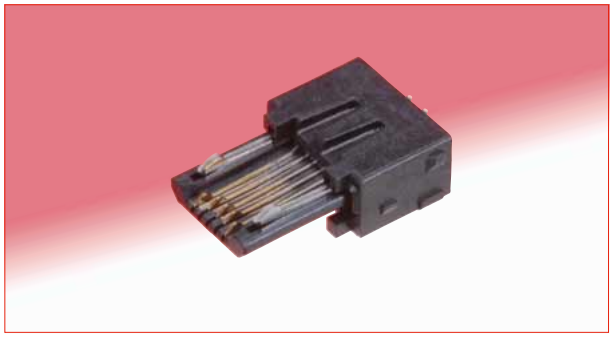


All dimensions : mm

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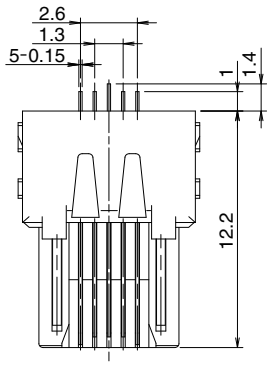
■Plugs

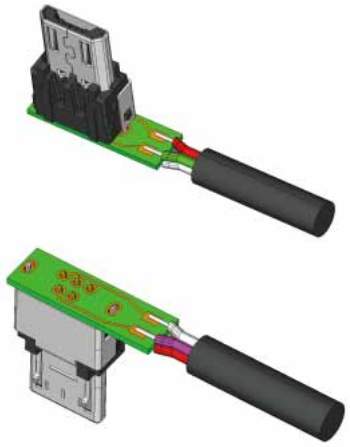
●Micro B - Assembly (insulator/contacts/lock) - Vertical through hole PCB wire soldering (non-direct)



Part No.	HRS No.	Packaging
ZX20-B-5S-UNIT(30)	242-0012-8 30	4,000pcs/pks

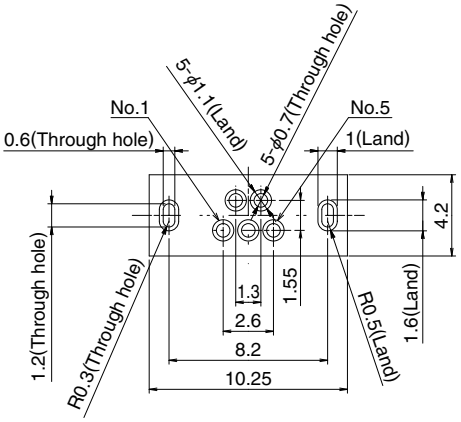
Contact HRS for Cable Termination Procedure Manual.

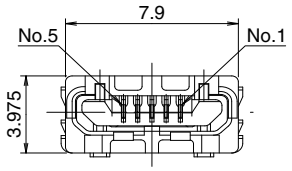


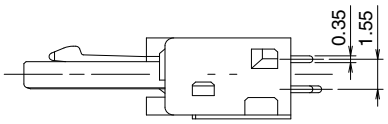


PCB mounting pattern

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

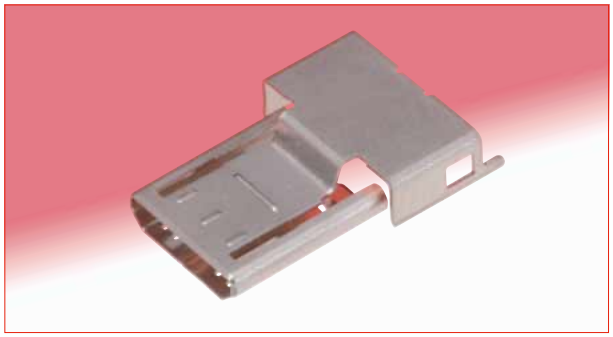




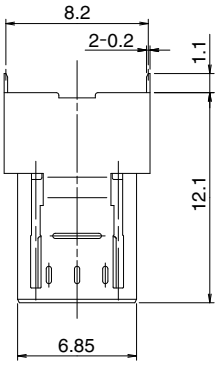


All dimensions : mm

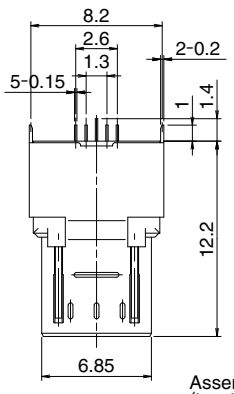
●Micro B - Component, Cover - through hole

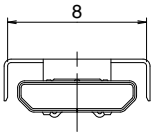


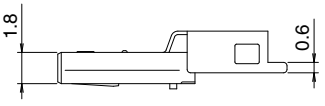
Part No.	HRS No.	Packaging
ZX20-B-SLDC	242-0022-1	4,000pcs/reel

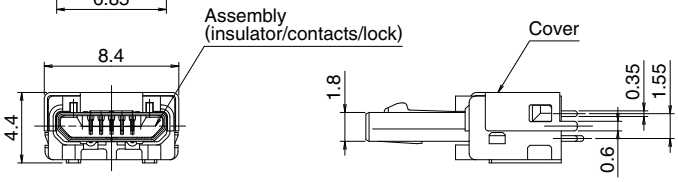


●Assembled







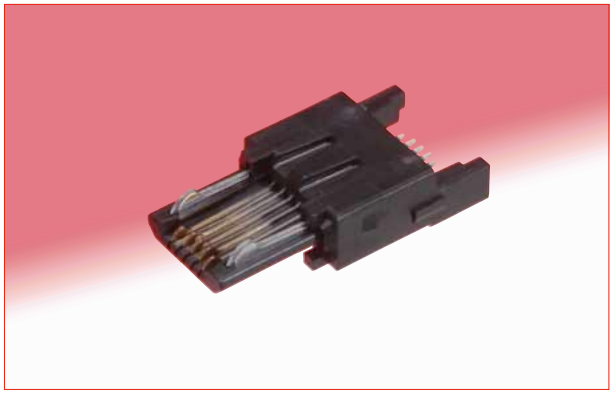


All dimensions : mm

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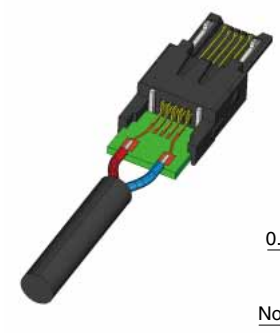
■Plugs

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

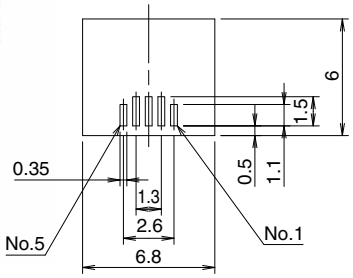


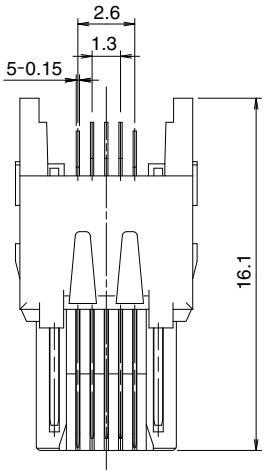
Part No.	HRS No.	Packaging
ZX64-B-5S-UNIT(31)	242-0009-3 31	1 piece

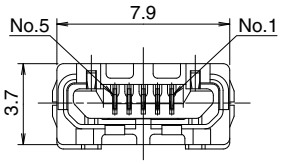
Contact HRS for Cable Termination Procedure Manual.

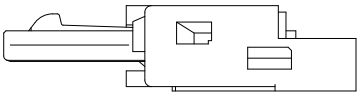


PCB mounting pattern
*PCB required (not supplied)
Max. thickness: 1.0mm



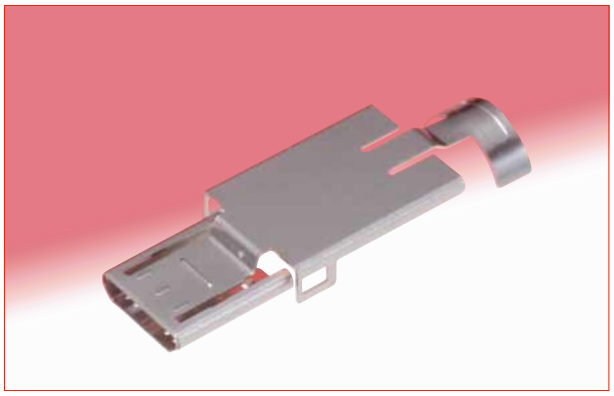




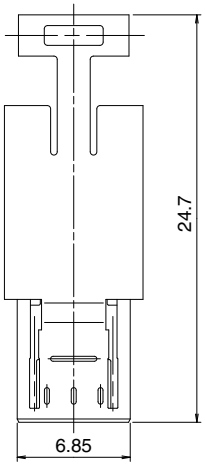


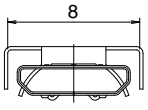
All dimensions : mm

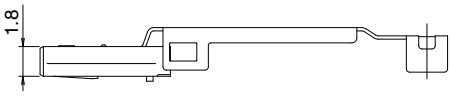
●Micro B - Component, Cover-top – Right angle SMT



Part No.	HRS No.	Packaging
ZX64-B-SLDA	242-0013-0	4,000pcs/reel





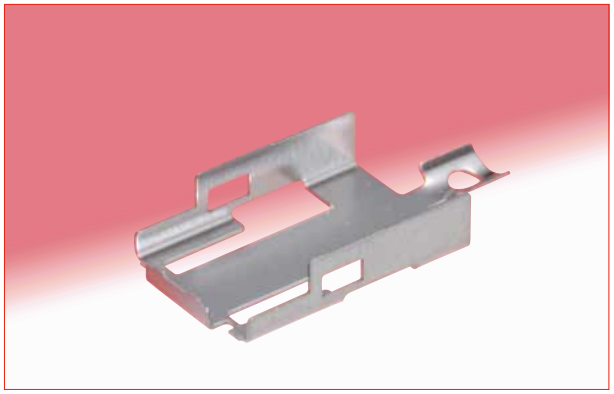


All dimensions : mm

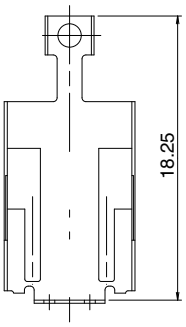
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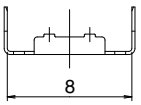
■Plugs

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



Part No.	HRS No.	Packaging
ZX64-SLDB	242-0049-8	4,000pcs/reel



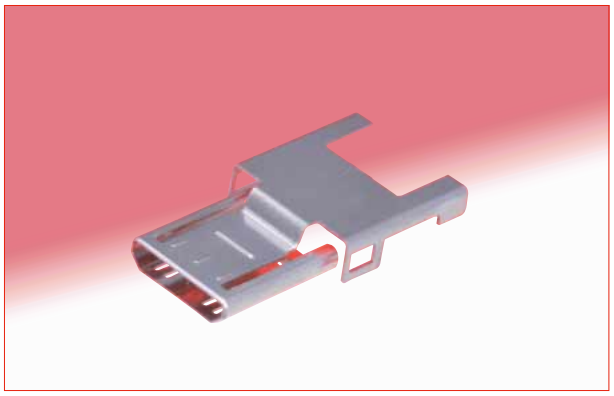




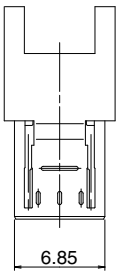
●Assembled

All dimensions : mm

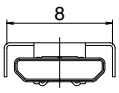
●Micro B - Component, Shell/cover – Right angle SMT

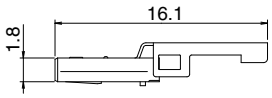


Part No.	HRS No.	Packaging
ZX64-B-SLDC	242-0018-4	4,000pcs/reel

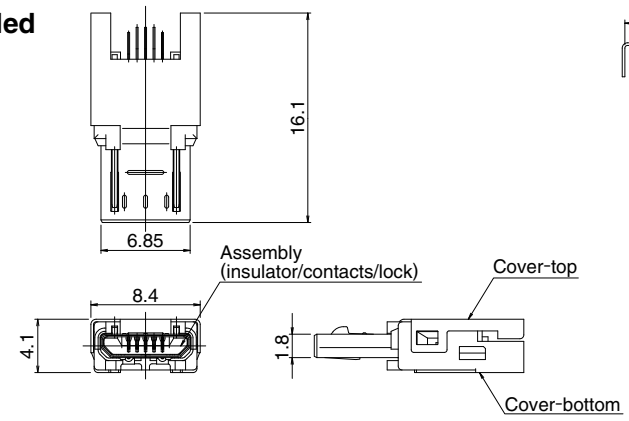


Shell/cover, without cable clamp
This shell/cover does not require ZX64-SLDB.





●Assembled

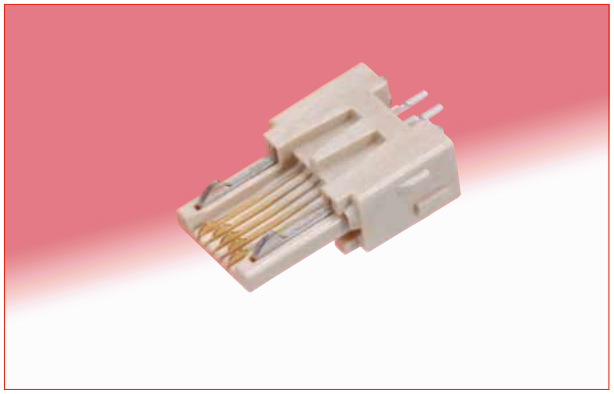


All dimensions : mm

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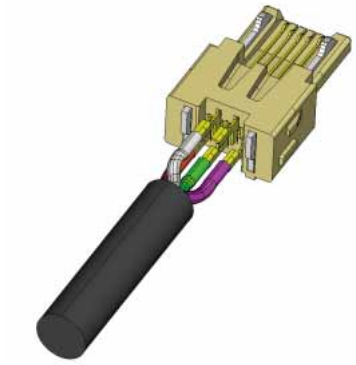
■Plugs

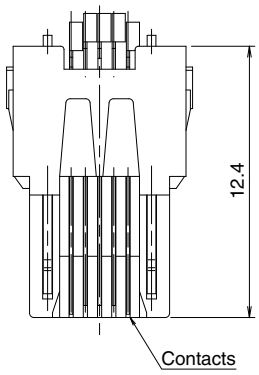
●Micro A - Assembly (insulator/contacts/lock) - Direct wire soldering

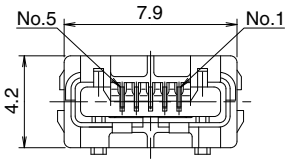


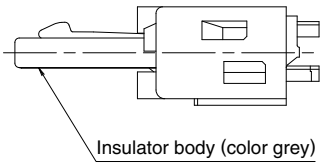
Part No.	HRS No.	Packaging
ZX40-A-5S-UNIT(30)	242-0010-2 30	1 piece

Contact HRS for Cable Termination Procedure Manual.



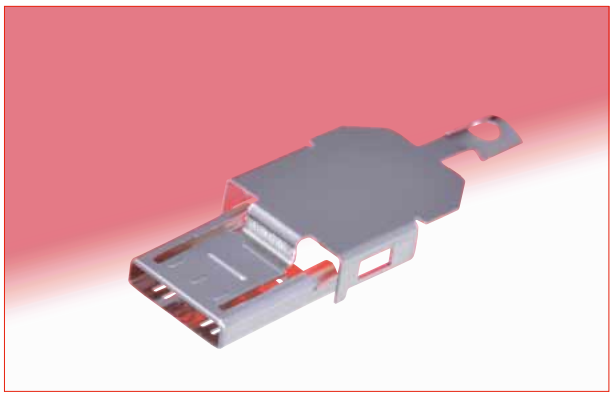




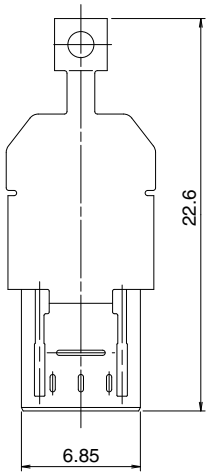


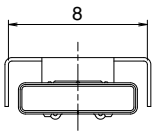
All dimensions : mm

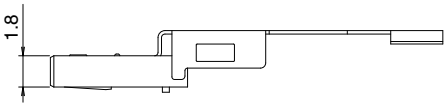
●Micro A - Component, Cover-top - Direct wire soldering



Part No.	HRS No.	Packaging
ZX40-A-SLDA	242-0011-5	4,000pcs/reel





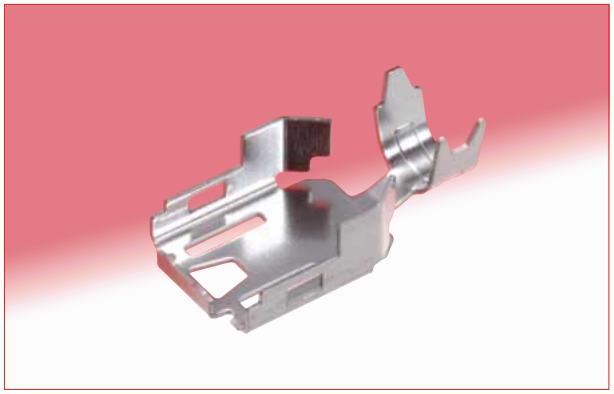


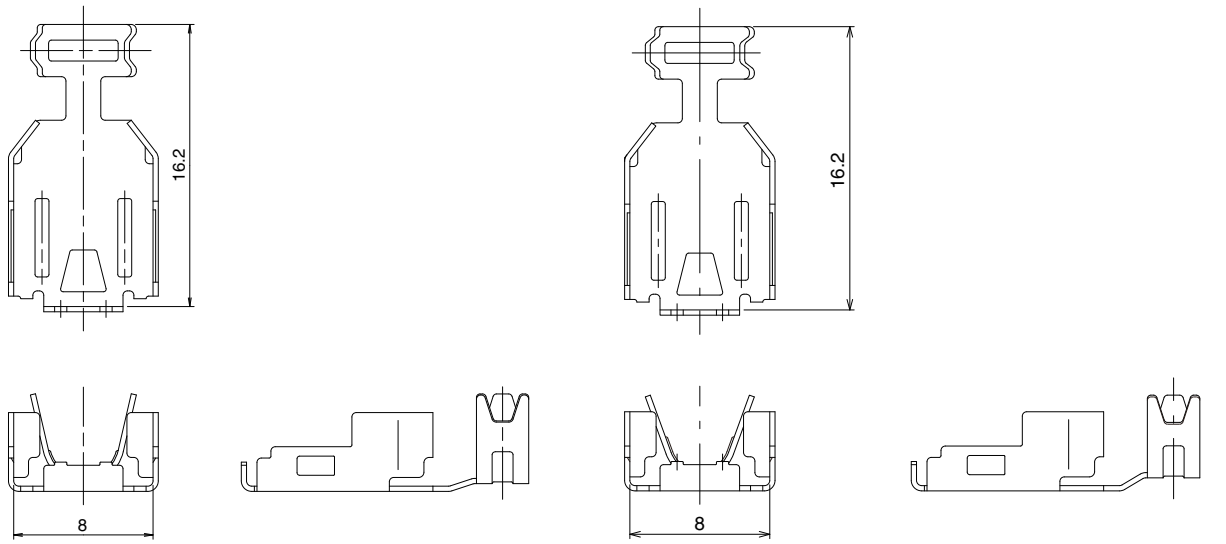
All dimensions : mm

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■Plugs

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



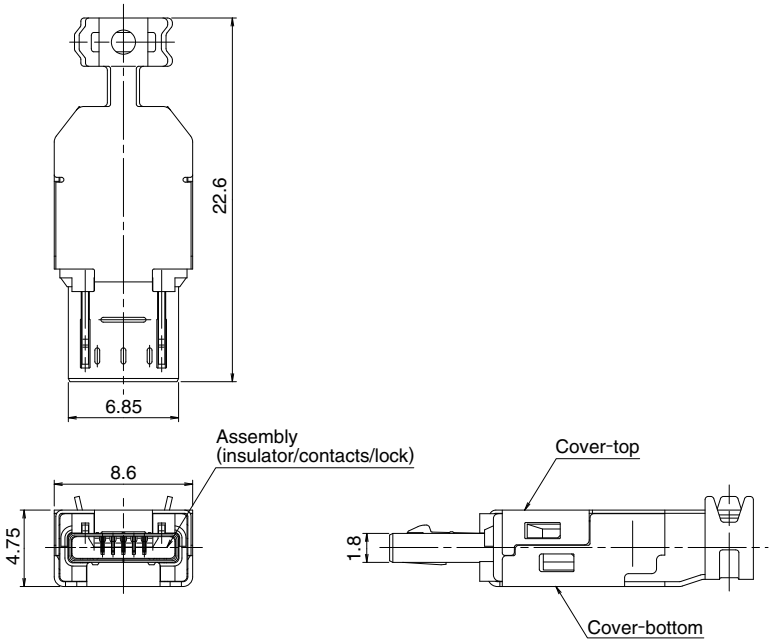


All dimensions : mm

ZX40-SLDB　　ZX40-SLDB(3.3)

Part No.	HRS No.	Packaging	Cable dia.
ZX40-SLDB	242-0004-0	4,000pcs/reel	ϕ3.8
ZX40-SLDB(3.3)	242-0023-4		ϕ3.3

●Assembled

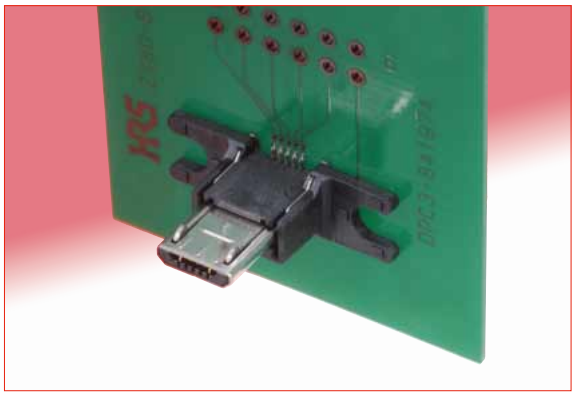


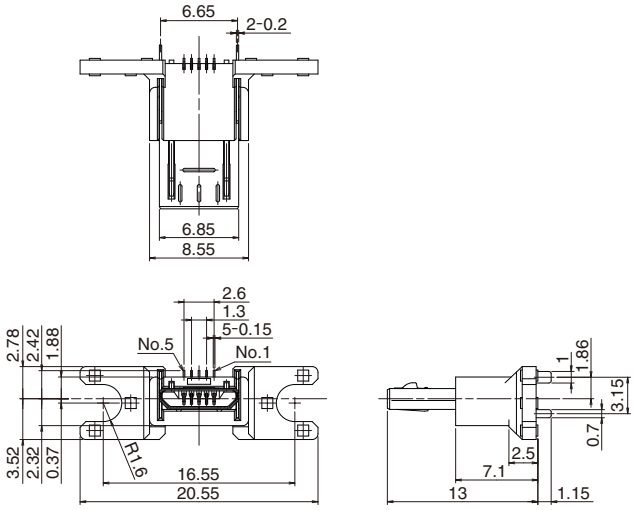
All dimensions : mm

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■Plug-Vertical, cradle mount, Shell through hole

●Micro B, with lock

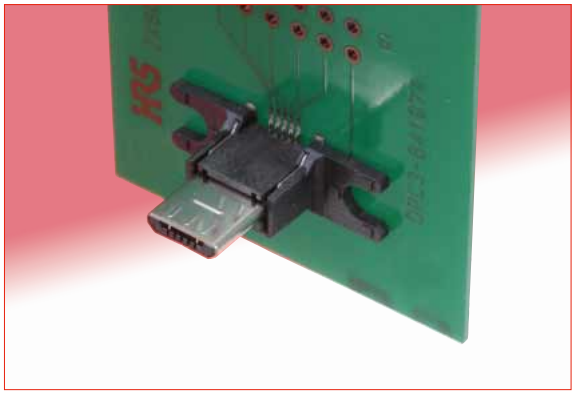


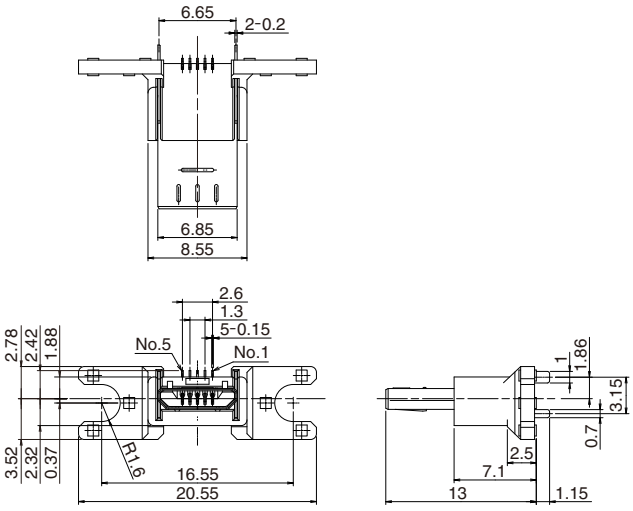


Part No.	HRS No.	Packaging
ZX80-B-5S(30)	242-0017-1 30	100pcs/pks

All dimensions : mm

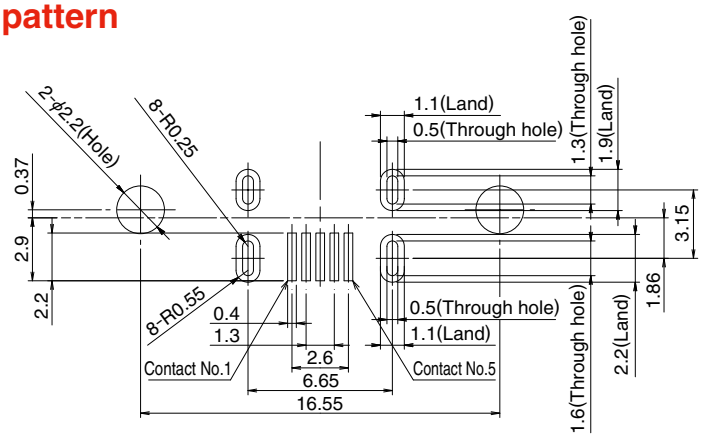
●Micro B, without lock





Part No.	HRS No.	Packaging
ZX80-B-5SA(30)	242-0019-7 30	100pcs/pks

◆PCB mounting pattern

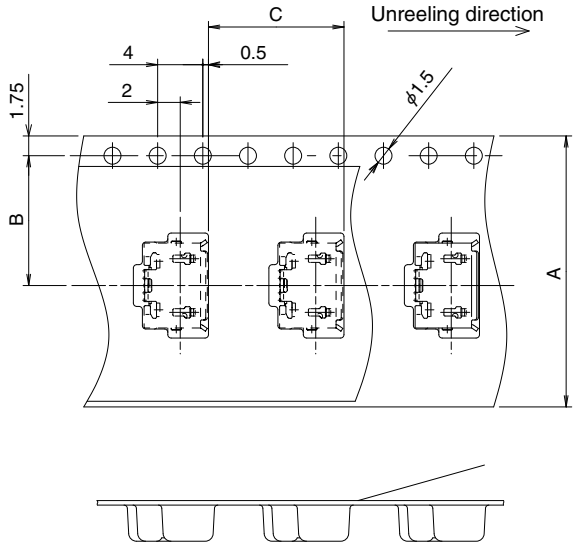


All dimensions : mm

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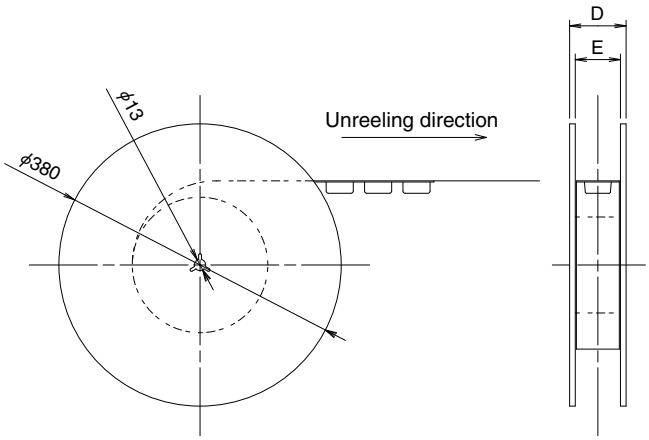
Packaging Specifications

●Embossed carrier tape dimensions



Part No.	A dimension	B dimension
ZX62-B-5PA(33)	24	11.5
ZX62-AB-5PA(31)	24	11.5
ZX62M-B-5P(30)	24	11.5
Other	16	7.5

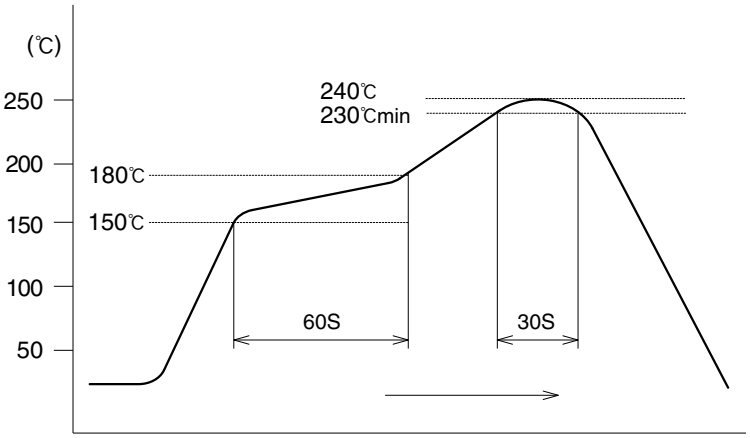
●Reel Dimensions



Part No.	D dimension	E dimension
ZX62-B-5PA(33)	30.4	24.4
ZX62-AB-5PA(31)	30.4	24.4
ZX62M-B-5P(30)	30.4	24.4
Other	22.4	16.4

Recommended Temperature Profile - Receptacles

●Using lead-free solder paste



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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