Micro-USB connectors meeting USB 2.0 Standard

ZX Series





■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.

■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.

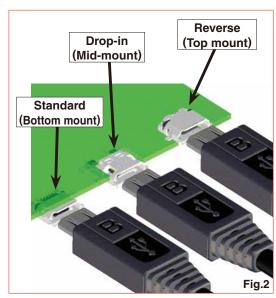
4. Smooth mating and unmating

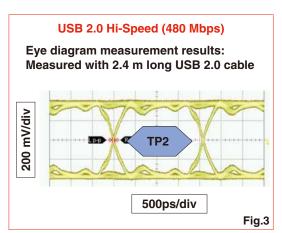
A smooth mating and unmating operation results in less wear and a longer product life. The unique Hirose active latch mechanism produces a reliable and durable connector.

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).





■Product Specifications

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

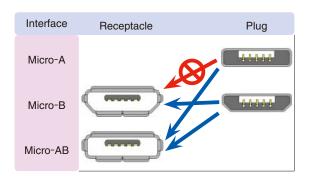
Receptacles

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

Plugs

$$\frac{ZX}{0} \frac{40}{2} - \frac{B}{0} - \frac{5}{0} \frac{S}{0} * - \frac{UNIT}{0}$$

$$\frac{ZX}{0} \frac{40}{2} - \frac{B}{0} - \frac{SLDA}{9}$$



1 Series name	ZX
2Termination 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
3Board mounting style Blank	Standard (Bottom mount)
(Receptacles)	Standard (Bottom mount) through hole
R	Reverse (Top mount)
RD	Reverse (Top mount) through hole
M	Drop-in (Mid-mount)
4 Mating side configuration A	Micro-A
В	Micro-B
AB	Micro-AB
5Number of contacts	5
6Contact type P	Receptacle- Male
S	Plug – Female
7Serial No.	
3Shell termination style -Blank	SMT
Receptacles 8	Through hole (solder tab length: 0.8mm)
Occupance of the second of the secon	Assembly (Insulator/contact/lock)
	Cover (Note 1)

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

■Configurations

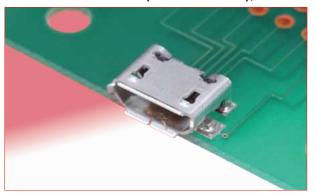
	Mating side configuration	Ту	ре	Part	No.	3D Ir	mage	Page
			SMT	ZX62-B-	5PA(33)			4
		Standard	SMT + DIP	ZX62D-B-	-5PA8(30)		152	4
	Micro-B	Reverse	SMT	ZX62R-E	3-5P(30)			5
tacles		Drop-in	SMT	ZX62M-I	3-5P(30)	1	- French	5
d e c e		Ota a da ad	SMT	ZX62-AB	-5PA(31)			6
Œ	Micro-AB	Standard	SMT + DIP	ZX62D-Ał	3-5P8(30)		TO THE REAL PROPERTY.	6
		Reverse	SMT	ZX62R-A	B-5P(30)			7
			SMT + DIP	ZX62RD-A	.B-5P8(30)		Par Par	7
		Direct wire	soldering	Assembly (insulator/contacts/lock) Cover-top Cover-bottom	: ZX40-B-5S-UNIT(31) : ZX40-B-SLDA : ZX40-SLDB	J		9 and 10
	Miero D	PCB wire (straight, th		Assembly (insulator/contacts/lock) Cover	: ZX20-B-5S-UNIT(30) : ZX20-B-SLDC	ST.		11
Plugs	PCB wire soldering (insulat Cover-	Assembly (insulator/contacts/lock) Cover-top Cover- bottom	: ZX64-B-5S-UNIT(31) : ZX64-B-SLDA : ZX64-SLDB	2	4	12 and 13		
		PCB wire (SM		Assembly (insulator/contacts/lock) Cover	: ZX64-B-5S-UNIT(31) : ZX64-B-SLDC			12 and 13
	Micro-A	Direct wire soldering		Assembly (insulator/contacts/lock) Cover-top Cover- bottom	: ZX40-A-5S-UNIT(30) : ZX40-A-SLDA : ZX40-SLDB			14 and 15
dles	Miore D	SM +		ZX80-B	-5S(30)	With lock		16
Cra	Micro-B	DI		ZX80-B-	-5SA(30)	Without lock	E	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.

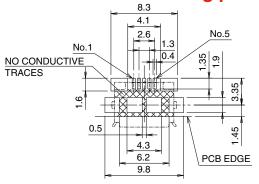
Note: 3 The color of the insulators body in the Assembly (insulator/contacts/lock) shown in the 3D Image column above is blue for clarity. Refer to the Materials (Page 2) for correct colors.

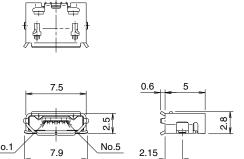
●Micro B - Standard (Bottom mount), Shell SMT



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

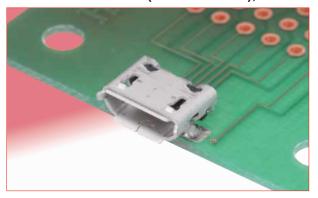
▶ Recommended PCB mounting pattern





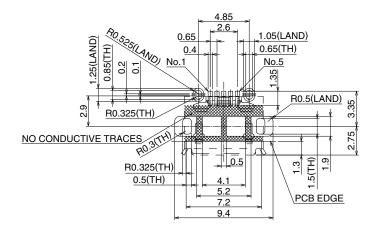
All dimensions: mm

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

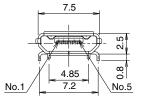


Part No.	HRS No.	Packaging
ZX62D-B-5PA8(30)	242-0056-3 30	2,000pcs/reel

◆ Recommended PCB mounting pattern

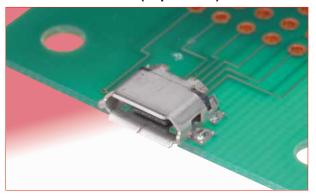






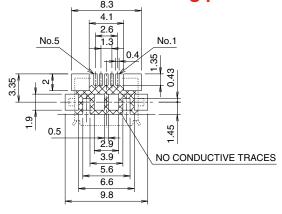


●Micro B - Reverse (Top mount) Shell SMT

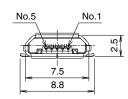


Part No.	HRS No.	Packaging
ZX62R-B-5P(30)	242-0028-8 30	2,000pcs/reel

♠ Recommended PCB mounting pattern



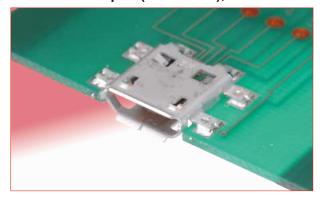




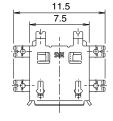


All dimensions : mm

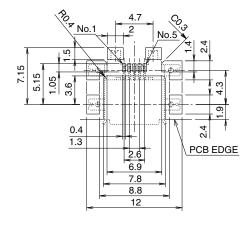
●Micro B - Drop-in (Mid-mount), Shell SMT

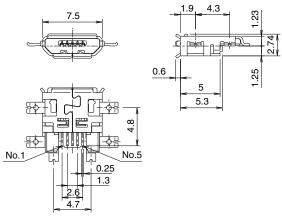


Part No.	HRS No.	Packaging	
ZX62M-B-5P(30) 242-0024-7 30	1,500pcs/reel	

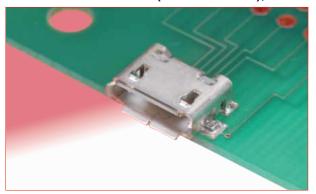


●Recommended PCB mounting pattern



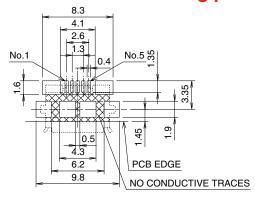


•Micro AB - Standard (Bottom mount), Shell SMT

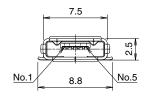


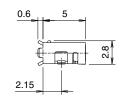
Part No.	HRS No.	Packaging
ZX62-AB-5PA(31)	242-0045-7 31	3,500pcs/reel

♠ Recommended PCB mounting pattern



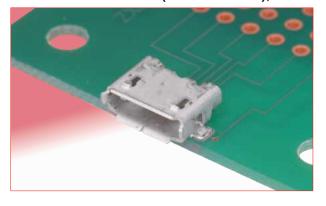






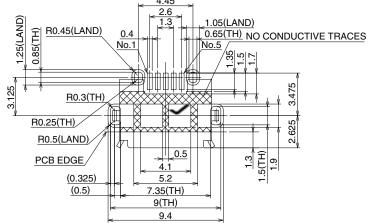
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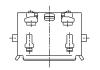
●Micro AB - Standard (Bottom mount), Shell through hole

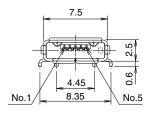


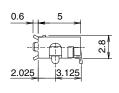
Part No.	HRS No.	Packaging
ZX62D-AB-5P8(30)	242-0027-5 30	2,000pcs/reel

♠ Recommended PCB mounting pattern

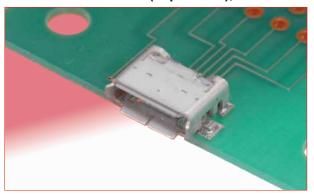




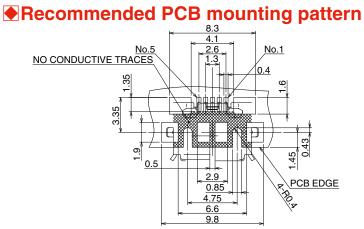




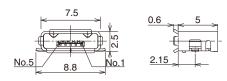
●Micro AB - Reverse (Top mount), Shell SMT



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

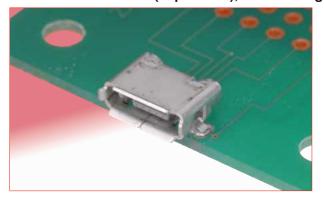






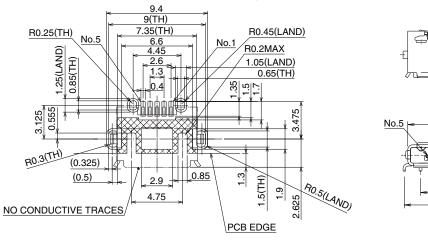
All dimensions : mm

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

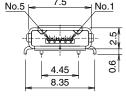


Part No.	HRS No.	Packaging
ZX62RD-AB-5P	8(30) 242-0025-0 30	2,000pcs/reel

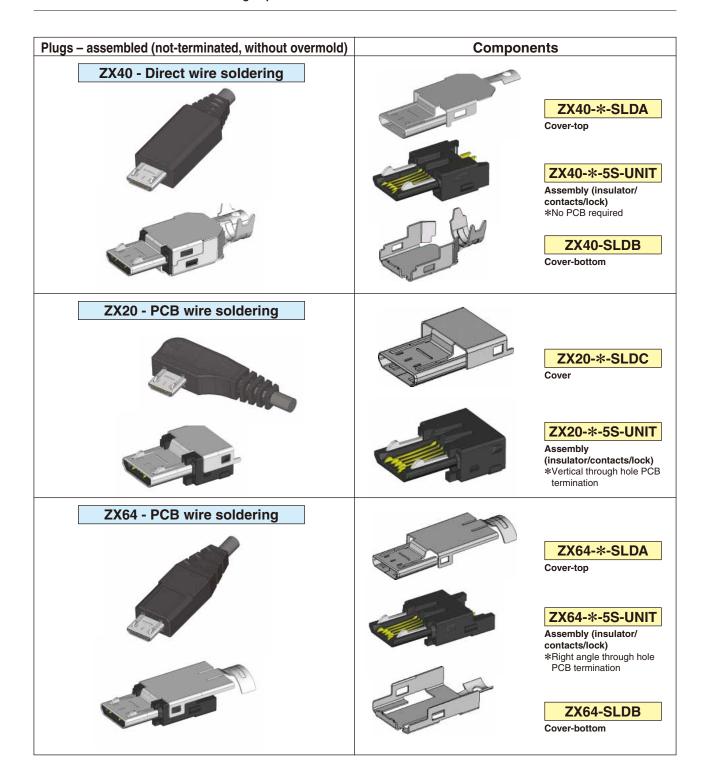
♠ Recommended PCB mounting pattern









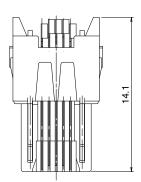


●Micro B - Assembly (insulator/contacts/lock) – Direct wire soldering

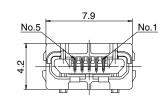


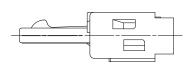
Part No.	HRS No.	Packaging
ZX40-B-5S-UNIT(31)	242-0002-4 31	4,000pcs/reel

Contact HRS for Cable Termination Procedure Manual.



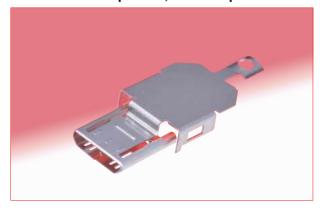




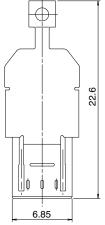


All dimensions : mm

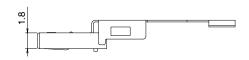
●Micro B - Component, Cover-top - Direct wire soldering



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

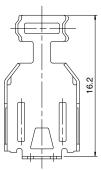


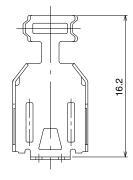




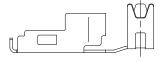
●Micro A, Micro B - Component, Cover-bottom - Direct wire soldering



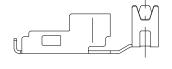












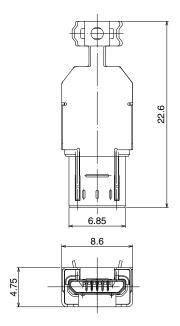
All dimensions : mm

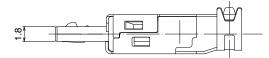
ZX40-SLDB

ZX40-SLDB(3.3)

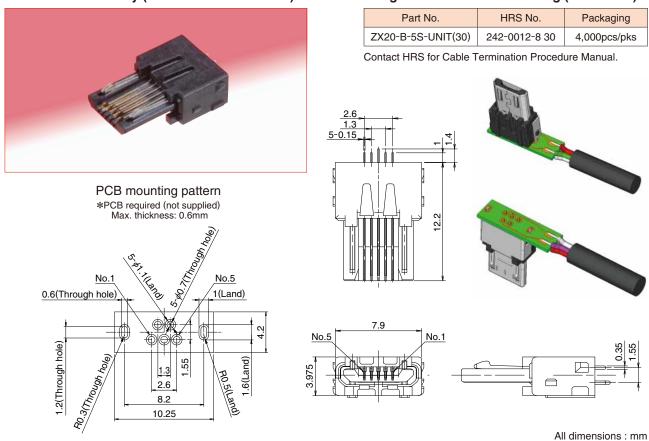
Part No.	HRS No.	Packaging	Cable dia.
ZX40-SLDB	242-0004-0	4.000/	φ3.8
ZX40-SLDB(3.3)	242-0023-4	4,000pcs/reel	φ3.3

Assembled

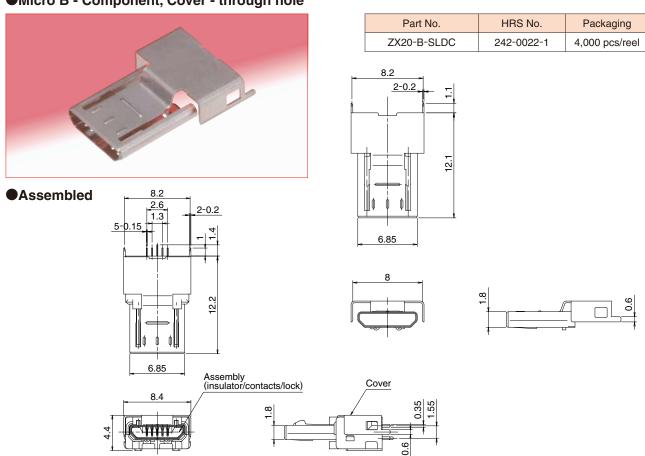




Micro B - Assembly (insulator/contacts/lock) - Vertical through hole PCB wire soldering (non-direct)



•Micro B - Component, Cover - through hole

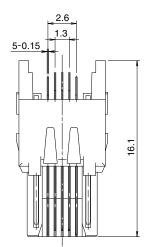


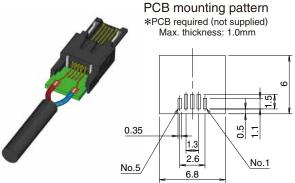
•Micro B - Assembly (insulator/contacts/lock) - Right angle SMT

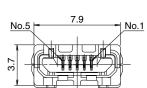


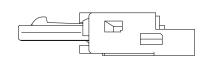
Part No.	HRS No.	Packaging
ZX64-B-5S-UNIT(31)	242-0009-3 31	1 piece

Contact HRS for Cable Termination Procedure Manual.







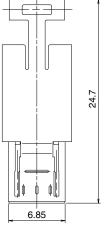


All dimensions : mm

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



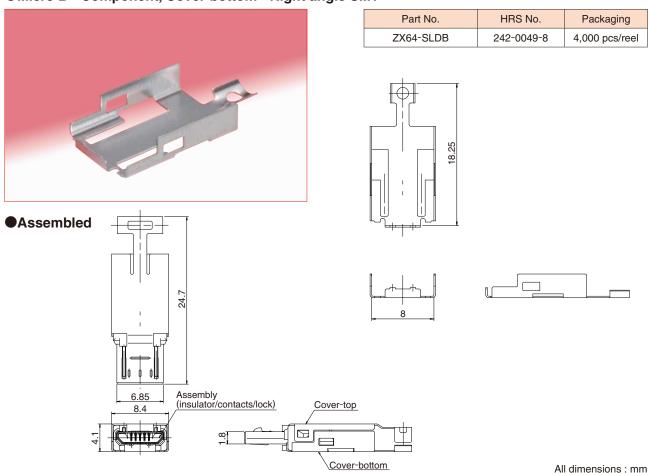
Part No.	HRS No.	Packaging
ZX64-B-SLDA	242-0013-0	4,000 pcs/reel



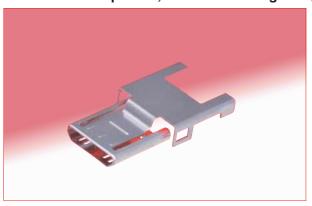




•Micro B - Component, Cover-bottom - Right angle SMT

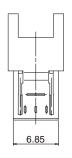


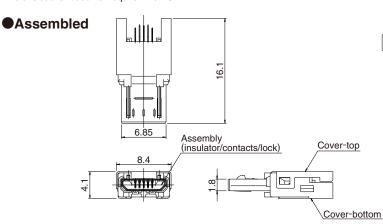
■Micro B - Component, Shell/cover – Right angle SMT

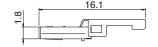


Shell/cover, without cable clamp
This shell/cover does not require ZX64-SLDB.

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





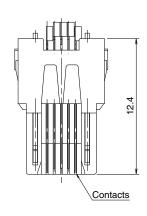


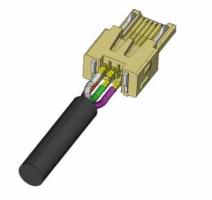
●Micro A - Assembly (insulator/contacts/lock) - Direct wire soldering

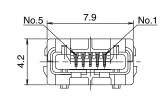


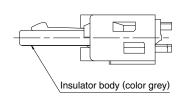
Part No.	HRS No.	Packaging
ZX40-A-5S-UNIT(30)	242-0010-2 30	1 piece

Contact HRS for Cable Termination Procedure Manual.



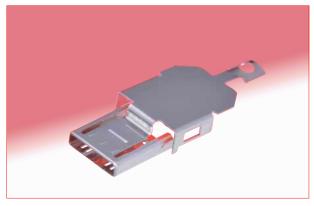




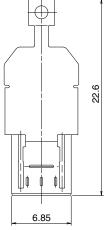


All dimensions : mm

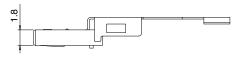
●Micro A - Component, Cover-top - Direct wire soldering



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

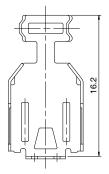


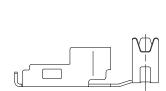


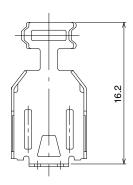


●Micro A, Micro B - Component, Cover-bottom - Direct wire soldering

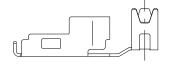










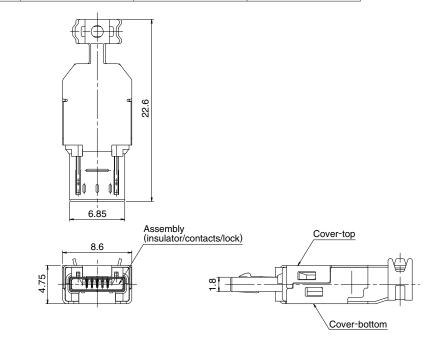


All dimensions : mm ZX40-SLDB(3.3)

ZX40-SLDB

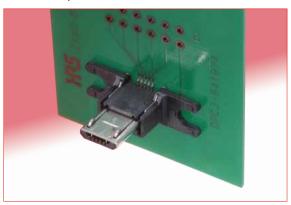
Part No.	HRS No.	Packaging	Cable dia.
ZX40-SLDB	242-0004-0	4.000, /	φ3.8
ZX40-SLDB(3.3)	242-0023-4	4,000pcs/reel	φ3.3

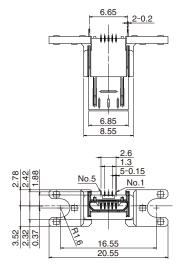
Assembled

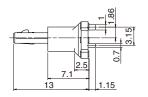


■Plug-Vertical, cradle mount, Shell through hole

●Micro B, with lock



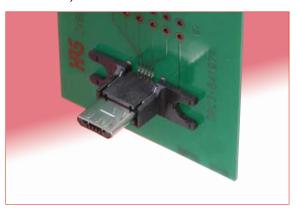


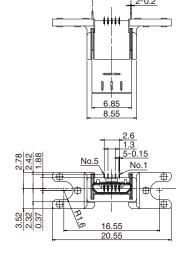


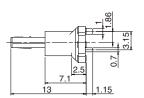
Part No. HRS No. Packaging ZX80-B-5S(30) 242-0017-1 30 100pcs/pks

All dimensions : mm

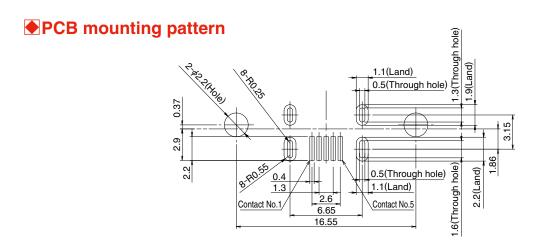
●Micro B, without lock





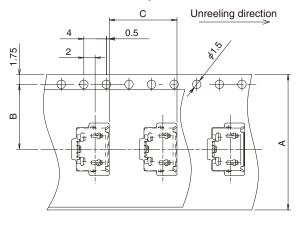


Part No.	HRS No.	Packaging	
ZX80-B-5SA(30)	242-0019-7 30	100 pcs/pks	



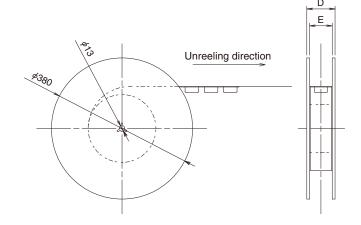
● Packaging Specifications

Embossed carrier tape dimensions



Part No.	A dimension	B dimension
ZX62-B-5PA(33)	24	11.5
ZX62-AB-5PA(31)	24	11.5
7Y62M-R-5P(30)	2/	11.5

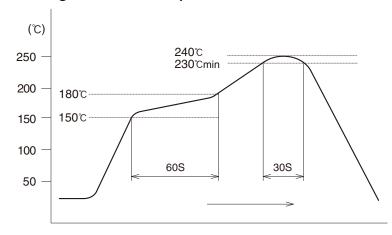
Reel Dimensions



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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