# 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.

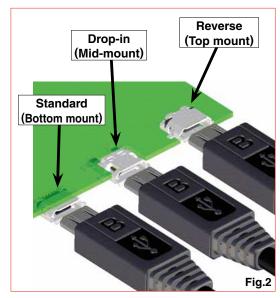
#### 4. Smooth mating and unmating

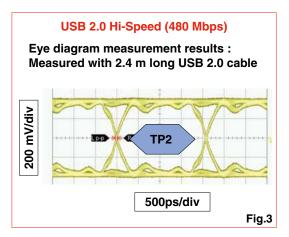
A smooth mating and unmating operation results in less wear and a longer product life. The unique Hirose active latch mechanism produces a reliable and durable connector.

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 Vo		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	Cor		nditions
Contact resistance		30mΩ max.	100mA		
2. Withstanding voltage		No flashover or insulation breakdown	hover 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.		a. 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.

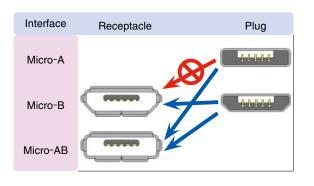
Please select from the product numbers listed in this catalog when placing orders.

### Receptacles

#### Plugs

$$\frac{ZX}{0} \frac{40}{0} - \frac{B}{0} - \frac{5}{6} \frac{S}{0} \frac{*}{0} - \frac{UNIT}{0}$$

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



	ή
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) D	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
Serial No.	
8Shell termination style -Blank	SMT
Receptacles 8	Through hole (solder tab length: 0.8mm)
Occupance of the second secon	Assembly (Insulator/contact/lock)
	Cover (Note 1)

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

## **■**Configurations

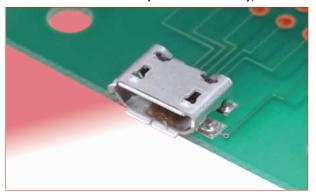
	Mating side configuration	Туј		Part No.	3D Image	Page
		Oha a da ad	SMT	ZX62-B-5PA(33)		4
		Standard -	SMT + DIP	ZX62D-B-5PA8(30)		4
S	Micro-B	Reverse	SMT	ZX62R-B-5P(30)		5
tacles		Drop-in	SMT	ZX62M-B-5P(30)		5
e c e p		Observational	SMT	ZX62-AB-5PA(31)		6
<u>ac</u>		Standard	SMT + DIP	ZX62D-AB-5P8(30)		6
	Micro-AB		SMT	ZX62R-AB-5P(30)		7
		Reverse	SMT + DIP	ZX62RD-AB-5P8(30)		7
		Direct wire	soldering	Assembly	S A	9 and 10
	Minus D	PCB wire (straight, the	_	Assembly (insulator/contacts/lock) : ZX20-B-5S-UNIT(30) Cover : ZX20-B-SLDC		11
Plugs	Micro-B	PCB wire (SM	_	Assembly (insulator/contacts/lock) : ZX64-B-5S-UNIT(31) Cover-top : ZX64-B-SLDA Cover- bottom : ZX64-SLDB		12 and 13
		PCB wire (SM		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
adles	Minus	SM +		ZX80-B-5S(30)	With lock	16
Crac	Micro-B	DI		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.

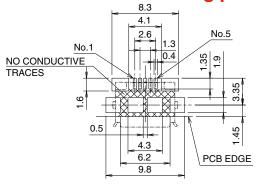
Note: 3 The color of the insulators body in the Assembly (insulator/contacts/lock) shown in the 3D Image column above is blue for clarity. Refer to the Materials (Page 2) for correct colors.

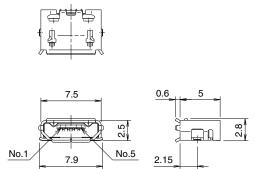
## •Micro B - Standard (Bottom mount), Shell SMT



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

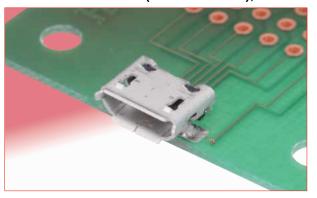
# **●**Recommended PCB mounting pattern





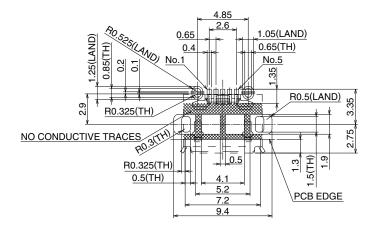
All dimensions: mm

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

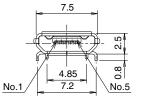


Part No.	HRS No.	Packaging
ZX62D-B-5PA8(30)	242-0056-3 30	2,000pcs/reel

## 

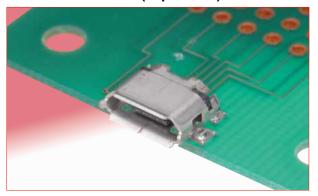






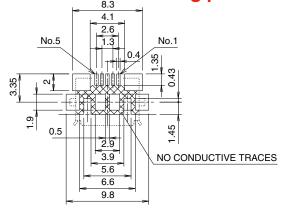


## Micro B - Reverse (Top mount) Shell SMT

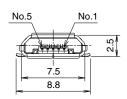


Part No.	HRS No.	Packaging
ZX62R-B-5P(30)	242-0028-8 30	2,000pcs/reel

# **♠** Recommended PCB mounting pattern



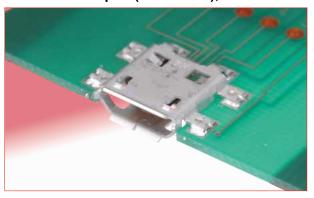




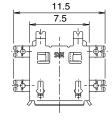


All dimensions: mm

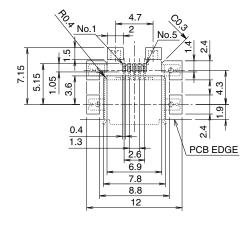
### •Micro B - Drop-in (Mid-mount), Shell SMT

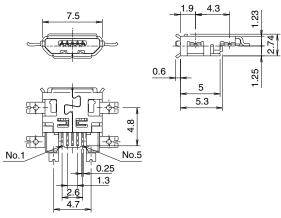


Part No.	HRS No.	Packaging
ZX62M-B-5P(30)	242-0024-7 30	1,500pcs/reel

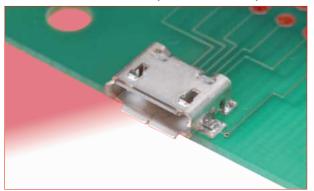


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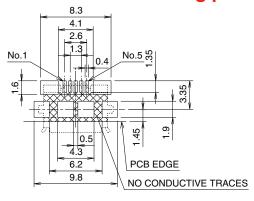


## •Micro AB - Standard (Bottom mount), Shell SMT

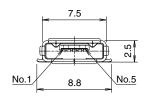


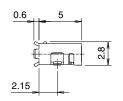
Part No.	HRS No.	Packaging
ZX62-AB-5PA(31)	242-0045-7 31	3,500pcs/reel

## 



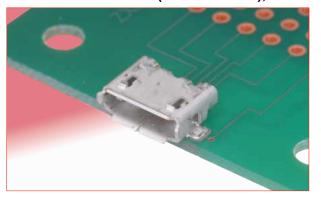






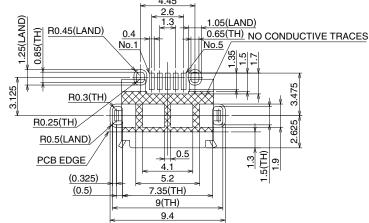
All dimensions : mm

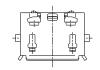
### •Micro AB - Standard (Bottom mount), Shell through hole

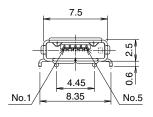


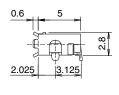
Part No.	HRS No.	Packaging
ZX62D-AB-5P8(30)	242-0027-5 30	2,000pcs/reel

## 

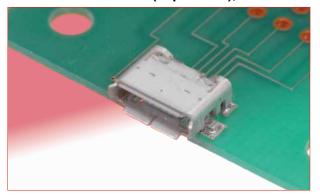




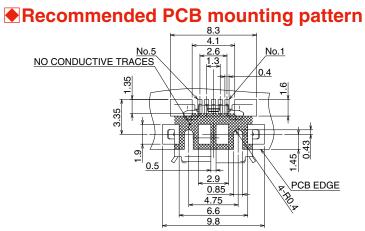




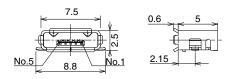
## ●Micro AB - Reverse (Top mount), Shell SMT



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

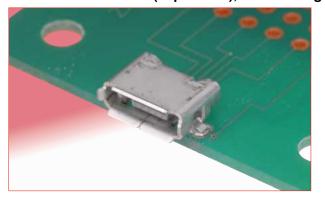






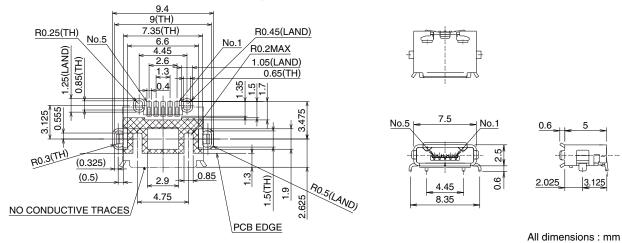
All dimensions : mm

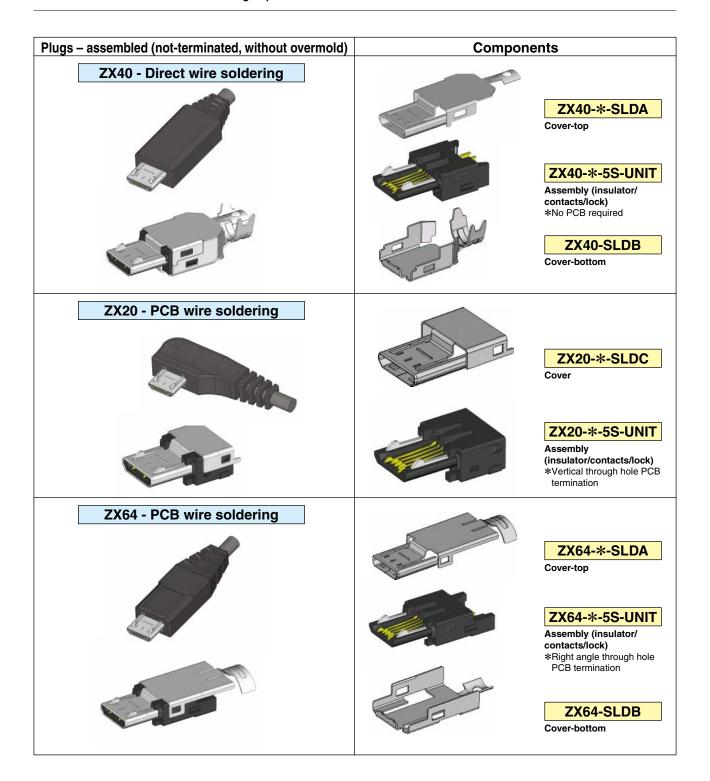
### ●Micro AB - Reverse (Top mount), Shell through hole



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

## Recommended PCB mounting pattern



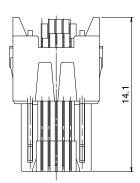


## ●Micro B - Assembly (insulator/contacts/lock) – Direct wire soldering

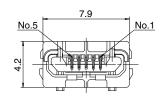


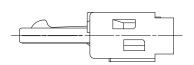
Part No.	HRS No.	Packaging
ZX40-B-5S-UNIT(3	31) 242-0002-4 31	1 piece

Contact HRS for Cable Termination Procedure Manual.







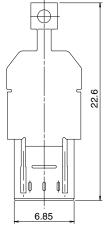


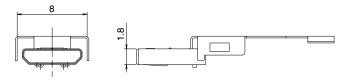
All dimensions : mm

## •Micro B - Component, Cover-top - Direct wire soldering



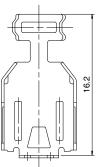
Part No.	HRS No.	Packaging
ZX40-B-SLDA	242-0003-7	4,000pcs/reel

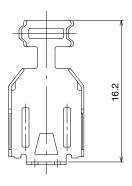




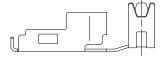
## ●Micro A, Micro B - Component, Cover-bottom - Direct wire soldering



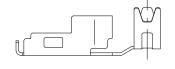












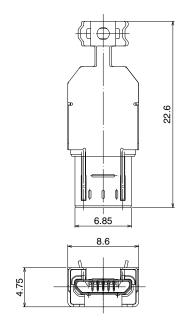
All dimensions : mm

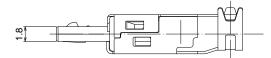
ZX40-SLDB

ZX40-SLDB(3.3)

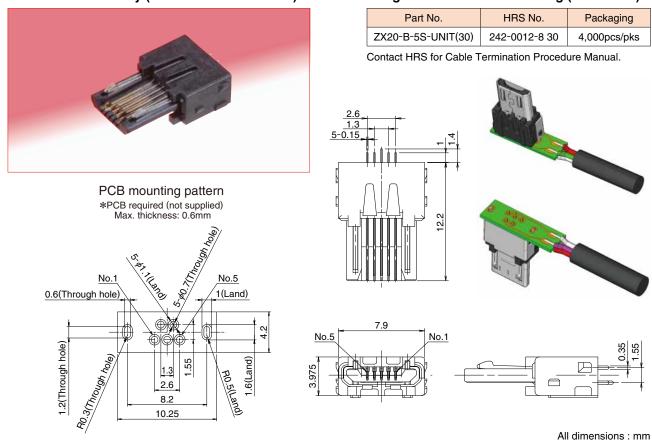
Part No.	HRS No.	Packaging	Cable dia.
ZX40-SLDB	242-0004-0	4.000 noo/rool	φ3.8
ZX40-SLDB(3.3)	242-0023-4	4,000pcs/reel	φ3.3

### Assembled

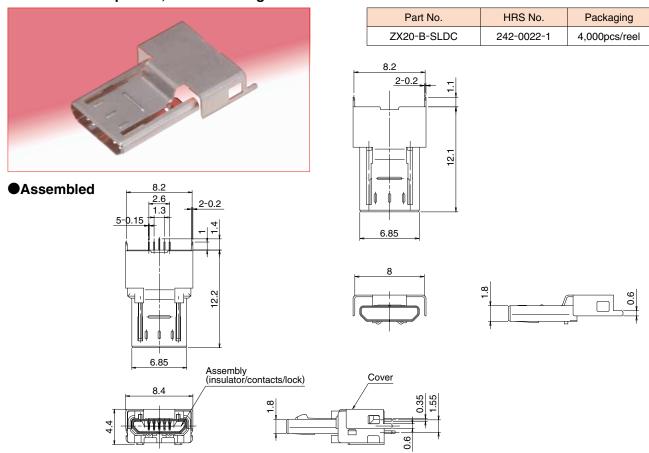




### Micro B - Assembly (insulator/contacts/lock) - Vertical through hole PCB wire soldering (non-direct)



### • Micro B - Component, Cover - through hole

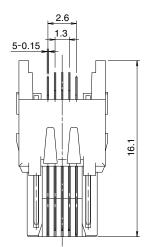


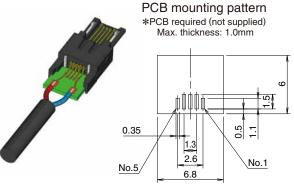
## •Micro B - Assembly (insulator/contacts/lock) - Right angle SMT

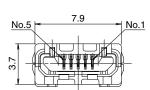


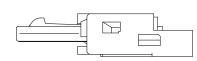
Part No.	HRS No.	Packaging
ZX64-B-5S-UNIT(31)	242-0009-3 31	1 piece

Contact HRS for Cable Termination Procedure Manual.







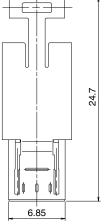


All dimensions : mm

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



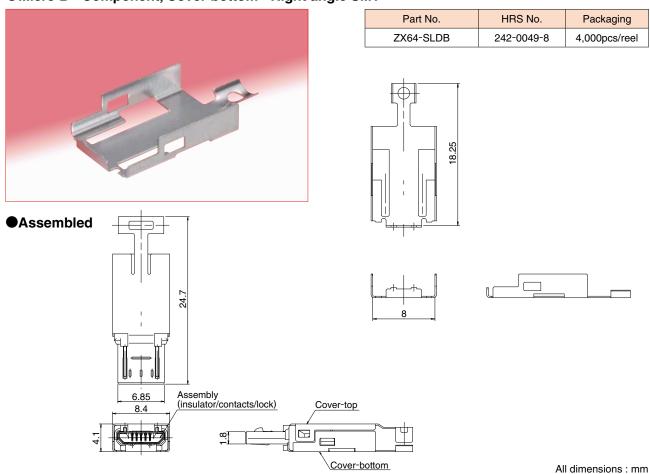
Part No.	HRS No.	Packaging
ZX64-B-SLDA	242-0013-0	4,000pcs/reel







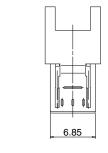
## Micro B - Component, Cover-bottom - Right angle SMT



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



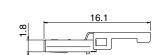
Shell/cover, without cable clamp This shell/cover does not require ZX64-SLDB.



Part No.

ZX64-B-SLDC

	•		
●Assembled			
		16.1	
	6.85 Ass (ins	sembly sulator/contacts/lock)	Cover-top
1.	8.4	8.	
			Cover-bottom



HRS No.

242-0018-4

Packaging

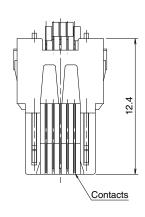
4,000pcs/reel

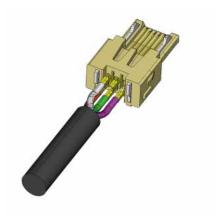
## ●Micro A - Assembly (insulator/contacts/lock) - Direct wire soldering

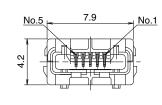


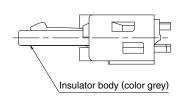
Part No.	HRS No.	Packaging
ZX40-A-5S-UNIT(30)	242-0010-2 30	1 piece

Contact HRS for Cable Termination Procedure Manual.



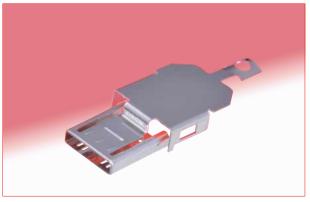




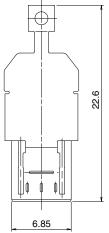


All dimensions : mm

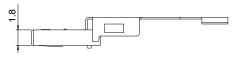
## ●Micro A - Component, Cover-top - Direct wire soldering



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

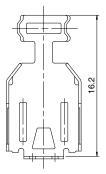


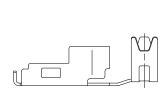


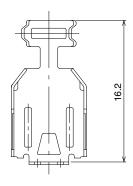


## ●Micro A, Micro B - Component, Cover-bottom - Direct wire soldering

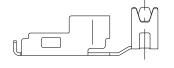










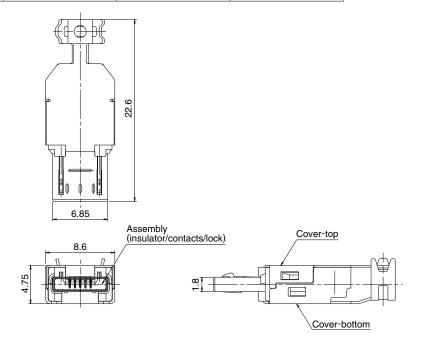


ZX40-SLDB

All dimensions : mm ZX40-SLDB(3.3)

Part No.	HRS No.	Packaging	Cable dia.
ZX40-SLDB	242-0004-0	4.000000/real	φ3.8
ZX40-SLDB(3.3)	242-0023-4	4,000pcs/reel	φ3.3

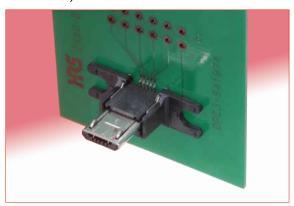


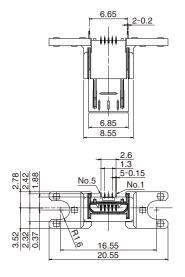


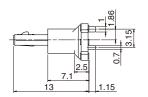
**HS** 15

## ■Plug-Vertical, cradle mount, Shell through hole

## ●Micro B, with lock



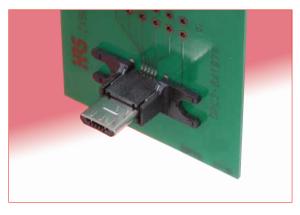


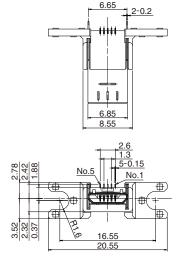


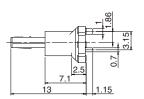
All dimensions: mm

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

## Micro B, without lock





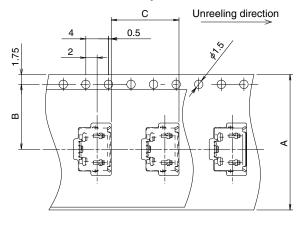


Part No.	HRS No.	Packaging
ZX80-B-5SA(30)	242-0019-7 30	100pcs/pks

### **●**PCB mounting pattern 1.1(Land) 0.5(Through hole) 8: 1.9(Land) 0.37 2.9 1.6(Through hole) 2.2(Land) 0.5(Through hole) 0.4 1.3 1.1(Land) 2.6 Contact No.1/ Contact No.5 6.65

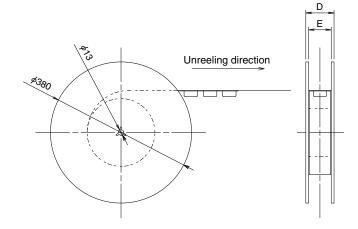
## ◆Packaging Specifications

#### 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

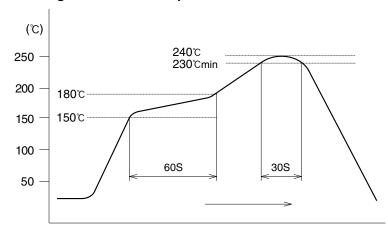
#### Reel Dimensions



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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MEMO:

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