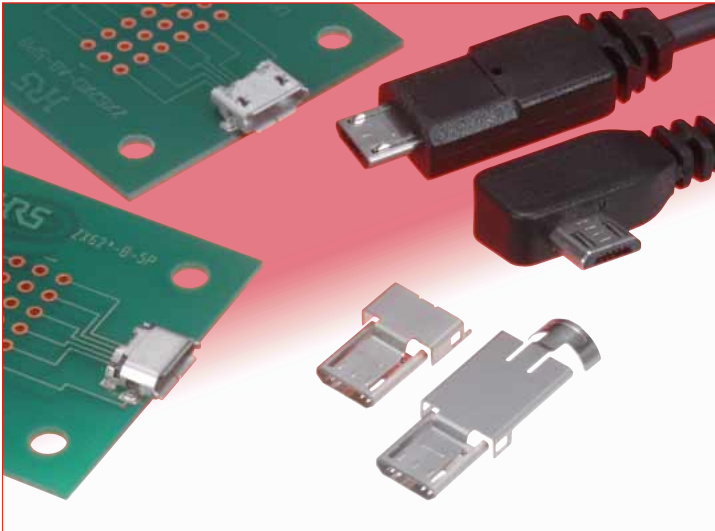


Micro-USB connectors meeting USB 2.0 Standard

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.

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).

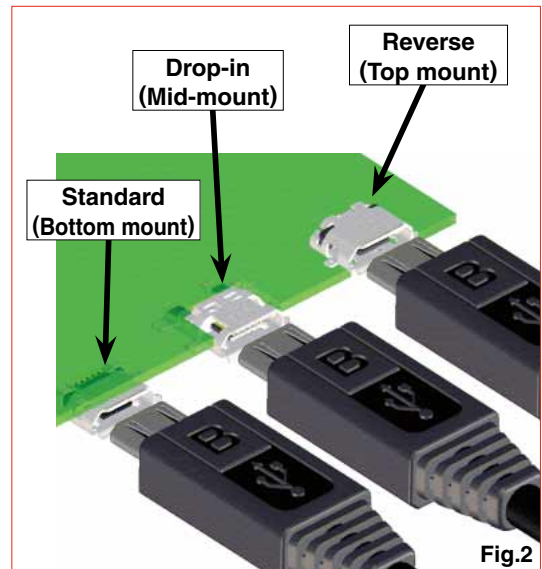


Fig.2

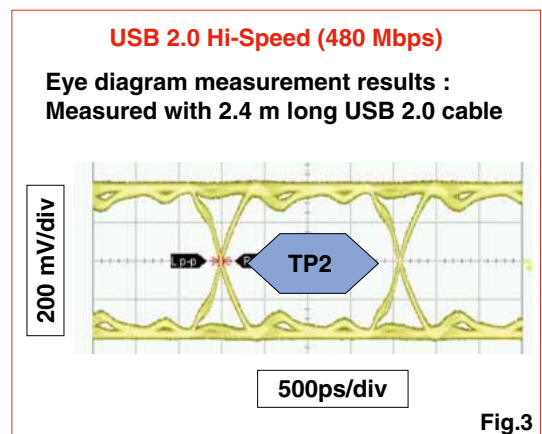


Fig.3

■ 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 62 RD - B - 5 P * 8
① ② ③ ④ ⑤ ⑥ ⑦ ⑧

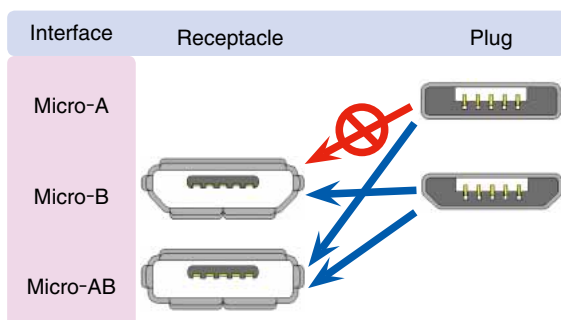
● Plugs

ZX 40 - B - 5 S * - UNIT
① ② ④ ⑤ ⑥ ⑦ ⑨

ZX 40 - B - SLDA
① ② ④ ⑨

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

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



■ Configurations

| | Mating side configuration | Type | Part No. | 3D Image | Page | |
|---|---------------------------|---|--|-------------------|-----------|---|
| R e c e p t a c l e s | 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 |
| P l u g s | 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 | |
| C r a d l e s | 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.

■ Receptacles

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



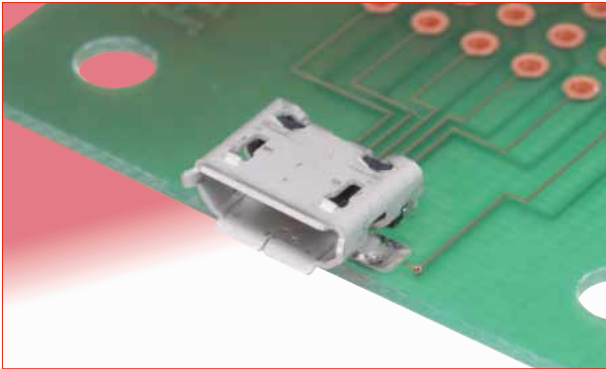
| Part No. | HRS No. | Packaging |
|----------------|---------------|---------------|
| ZX62-B-5PA(33) | 242-0033-8 33 | 3,500pcs/reel |

◆ Recommended PCB mounting pattern



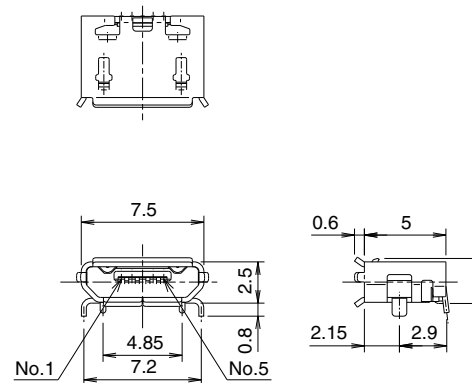
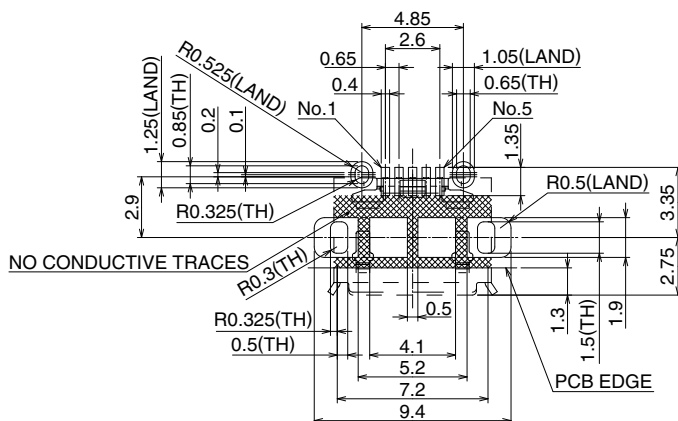
All dimensions : mm

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



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

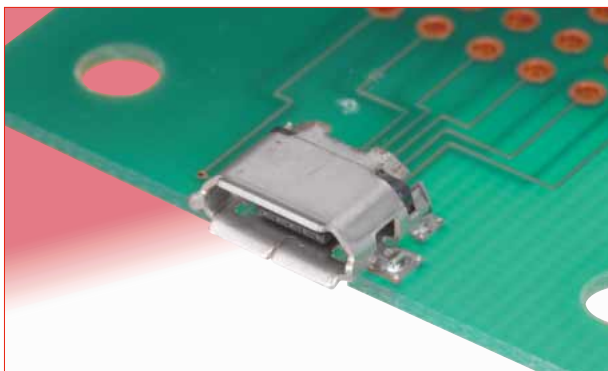
◆ Recommended PCB mounting pattern



All dimensions : mm

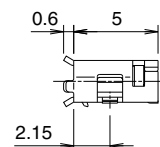
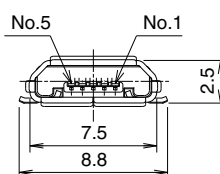
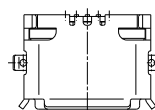
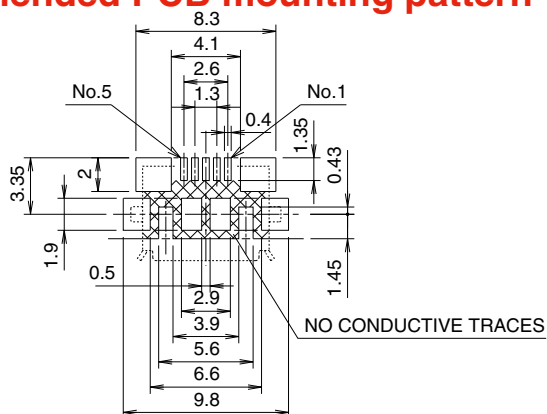
■ Receptacles

● Micro B - Reverse (Top mount) Shell SMT



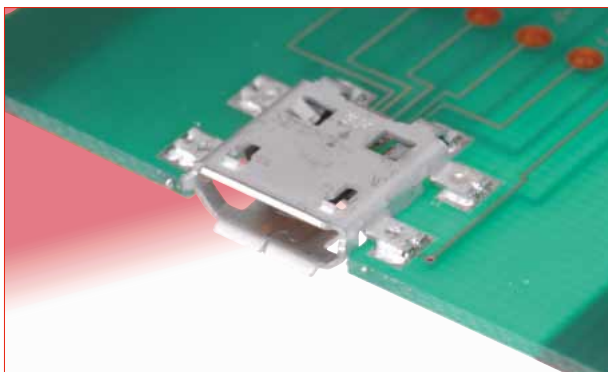
| Part No. | HRS No. | Packaging |
|----------------|---------------|---------------|
| ZX62R-B-5P(30) | 242-0028-8 30 | 2,000pcs/reel |

◆ Recommended PCB mounting pattern



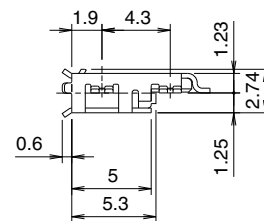
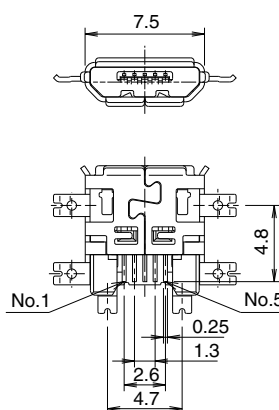
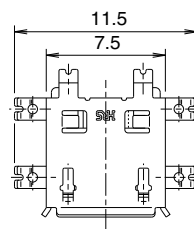
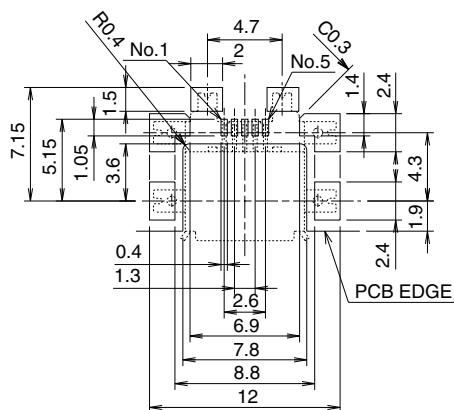
All dimensions : mm

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



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

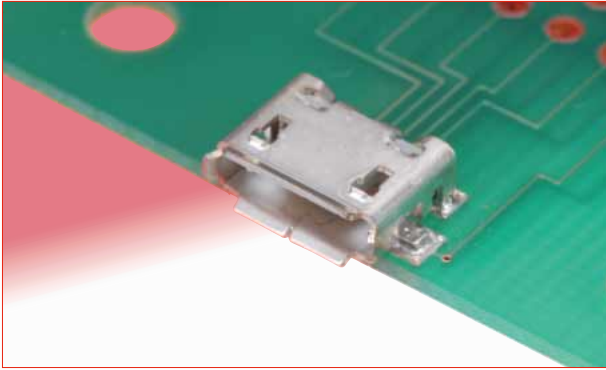
◆ Recommended PCB mounting pattern



All dimensions : mm

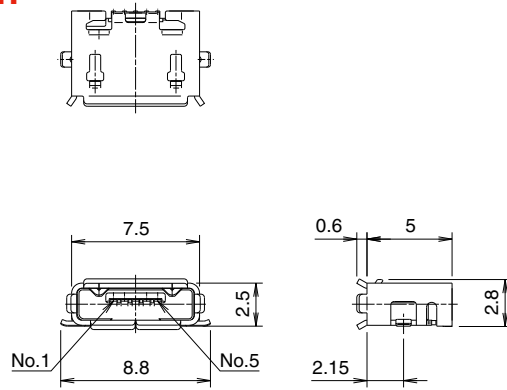
■ Receptacles

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



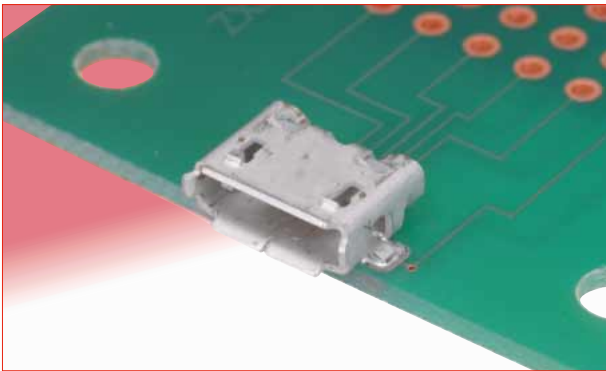
| Part No. | HRS No. | Packaging |
|-----------------|---------------|---------------|
| ZX62-AB-5PA(31) | 242-0045-7 31 | 3,500pcs/reel |

◆ Recommended PCB mounting pattern



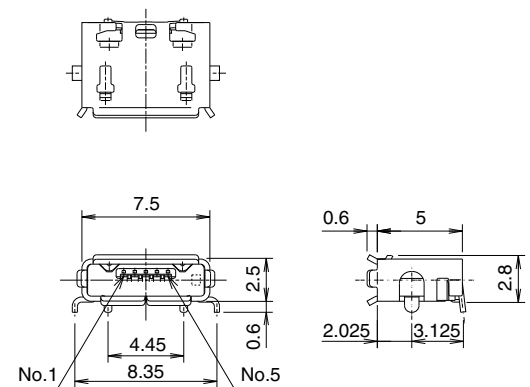
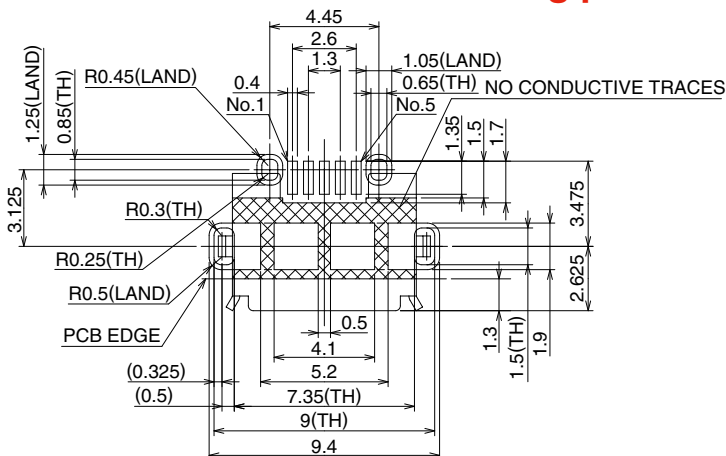
All dimensions : mm

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

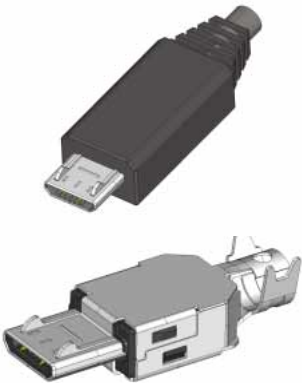


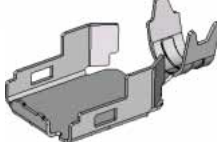

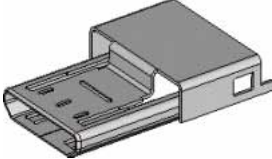

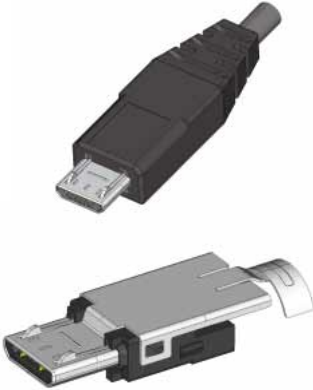
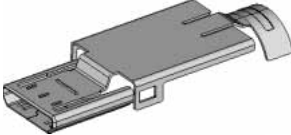

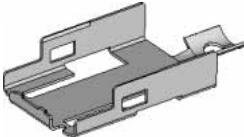


| Part No. | HRS No. | Packaging |
|------------------|---------------|---------------|
| ZX62D-AB-5P8(30) | 242-0027-5 30 | 2,000pcs/reel |

◆ Recommended PCB mounting pattern



All dimensions : mm

| Plugs – assembled (not-terminated, without overmold) | Components |
|---|---|
| <p data-bbox="240 197 695 232">ZX40 - Direct wire soldering</p>  |  <p data-bbox="1177 271 1414 306">ZX40-*SLDA</p> <p data-bbox="1177 311 1267 331">Cover-top</p>  <p data-bbox="1177 400 1414 436">ZX40-*5S-UNIT</p> <p data-bbox="1177 441 1366 506">Assembly (insulator/ contacts/lock) *No PCB required</p>  <p data-bbox="1177 544 1414 580">ZX40-SLDB</p> <p data-bbox="1177 584 1302 604">Cover-bottom</p> |
| <p data-bbox="240 674 695 710">ZX20 - PCB wire soldering</p>  |  <p data-bbox="1177 768 1414 804">ZX20-*SLDC</p> <p data-bbox="1177 808 1235 828">Cover</p>  <p data-bbox="1177 916 1414 952">ZX20-*5S-UNIT</p> <p data-bbox="1177 956 1414 1043">Assembly (insulator/ contacts/lock) *Vertical through hole PCB termination</p> |
| <p data-bbox="240 1081 695 1117">ZX64 - PCB wire soldering</p>  |  <p data-bbox="1177 1155 1414 1191">ZX64-*SLDA</p> <p data-bbox="1177 1196 1267 1216">Cover-top</p>  <p data-bbox="1177 1285 1414 1321">ZX64-*5S-UNIT</p> <p data-bbox="1177 1326 1414 1413">Assembly (insulator/ contacts/lock) *Right angle through hole PCB termination</p>  <p data-bbox="1177 1473 1414 1509">ZX64-SLDB</p> <p data-bbox="1177 1514 1302 1534">Cover-bottom</p> |

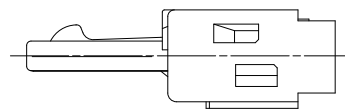
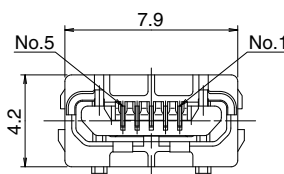
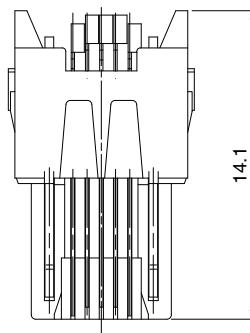
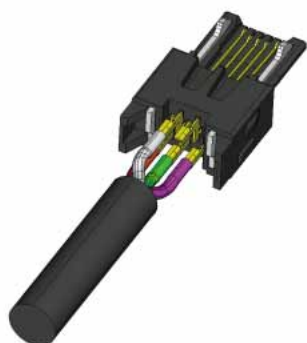
■ Plugs

● 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.

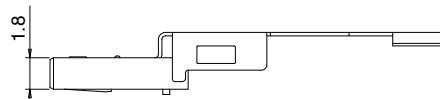
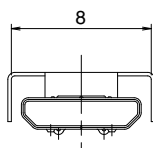
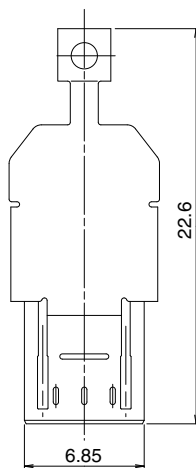


All dimensions : mm

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



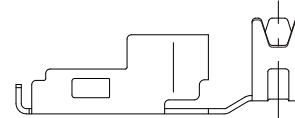
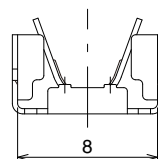
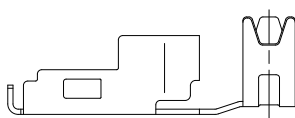
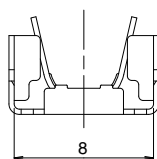
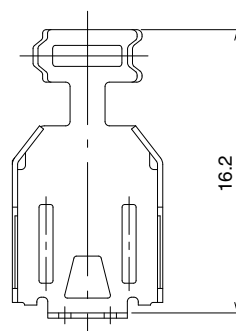
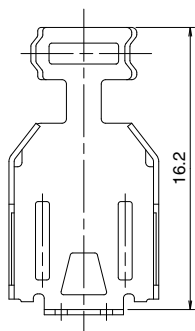
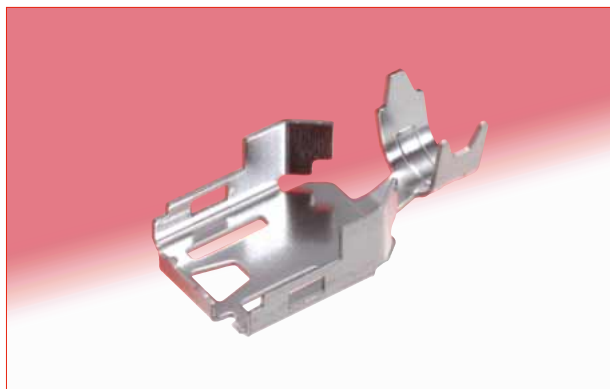
| Part No. | HRS No. | Packaging |
|-------------|------------|---------------|
| ZX40-B-SLDA | 242-0003-7 | 4,000pcs/reel |



All dimensions : mm

■ Plugs

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



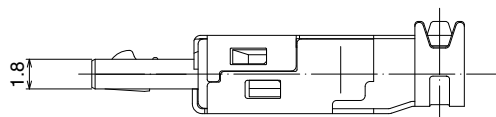
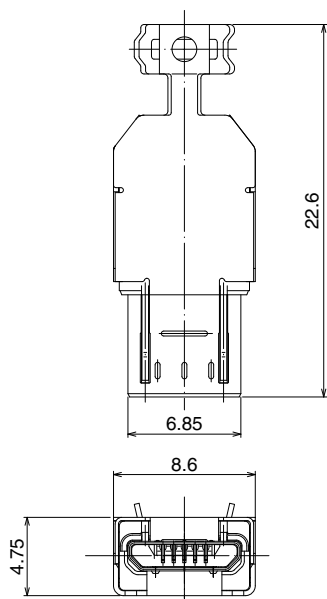
All dimensions : mm

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

■ Plugs

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

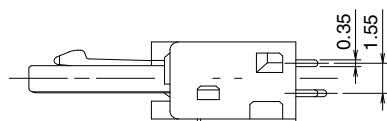
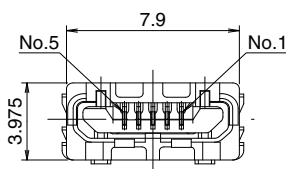
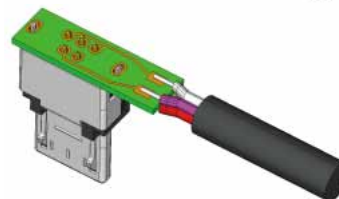
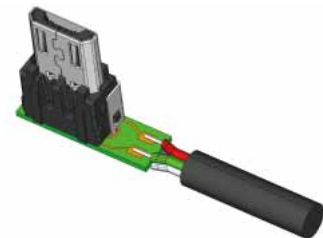
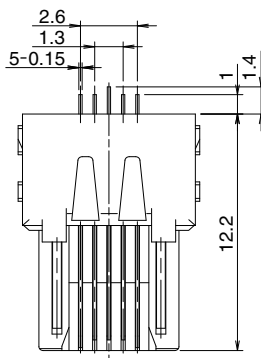
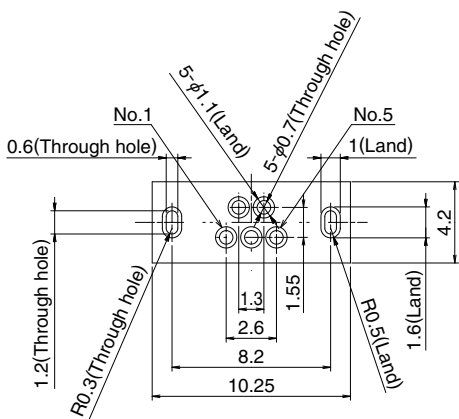


| Part No. | HRS No. | Packaging |
|--------------------|---------------|--------------|
| ZX20-B-5S-UNIT(30) | 242-0012-8 30 | 4,000pcs/pks |

Contact HRS for Cable Termination Procedure Manual.

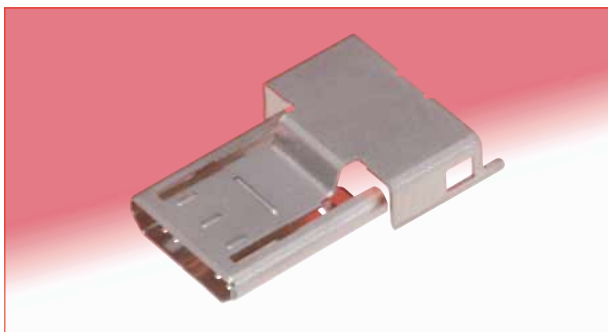
PCB mounting pattern

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



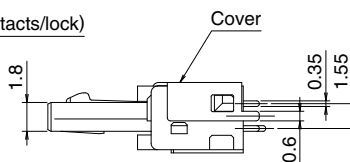
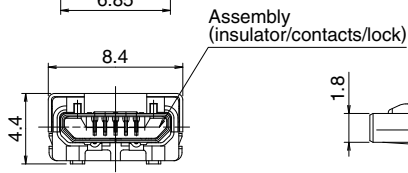
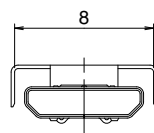
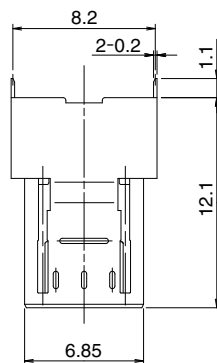
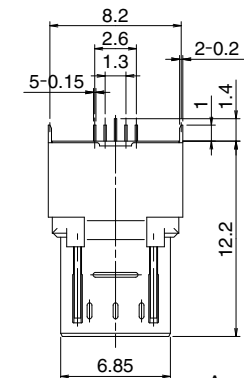
All dimensions : mm

● Micro B - Component, Cover - through hole



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

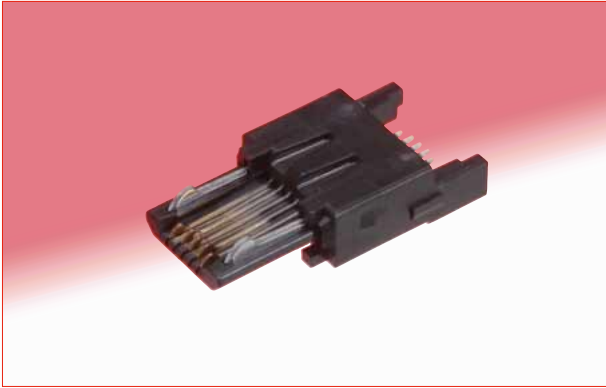
● Assembled



All dimensions : mm

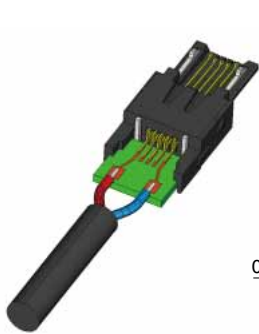
Plugs

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

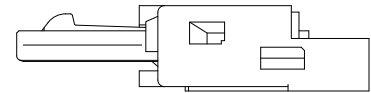
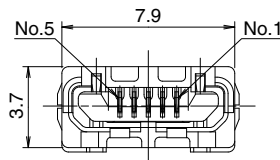
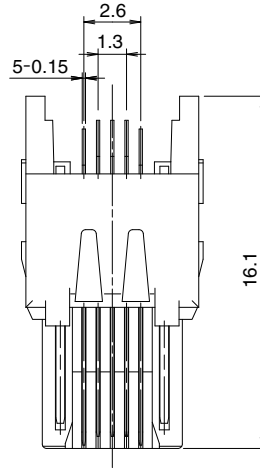
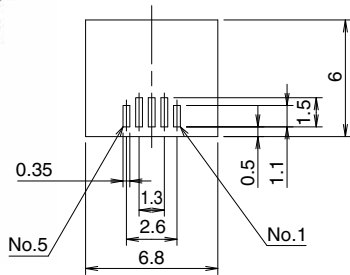


| Part No. | HRS No. | Packaging |
|--------------------|---------------|-----------|
| ZX64-B-5S-UNIT(31) | 242-0009-3 31 | 1 piece |

Contact HRS for Cable Termination Procedure Manual.

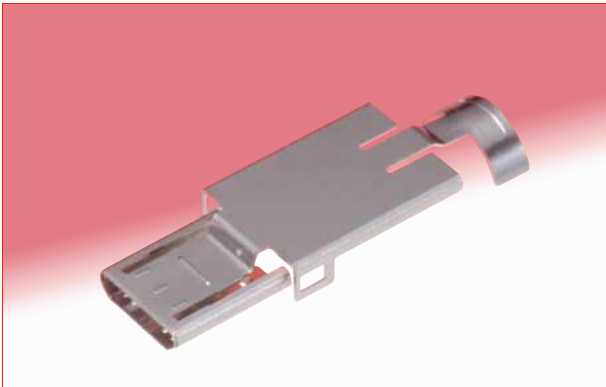


PCB mounting pattern
*PCB required (not supplied)
Max. thickness: 1.0mm

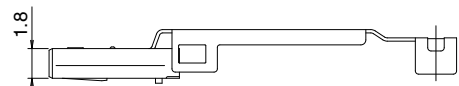
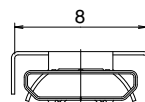
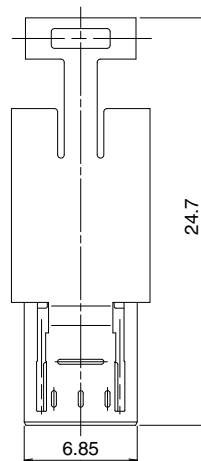


All dimensions : mm

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



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



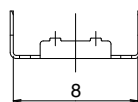
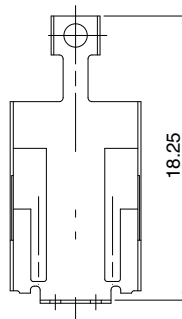
All dimensions : mm

Plugs

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



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



● Assembled

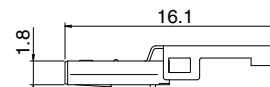
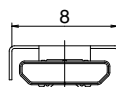
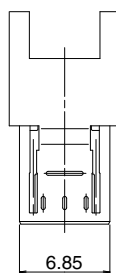


All dimensions : mm

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

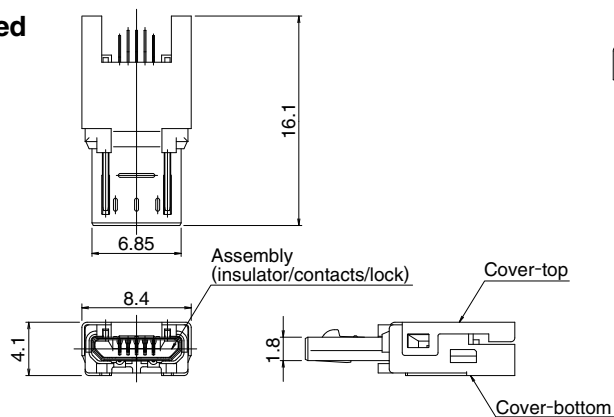


| Part No. | HRS No. | Packaging |
|-------------|------------|---------------|
| ZX64-B-SLDC | 242-0018-4 | 4,000pcs/reel |



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

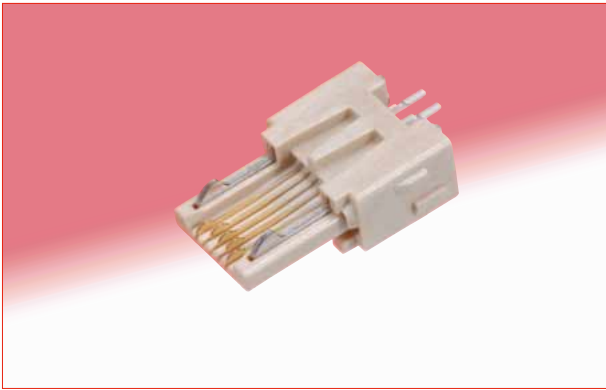
● Assembled



All dimensions : mm

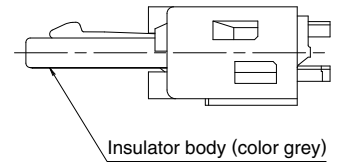
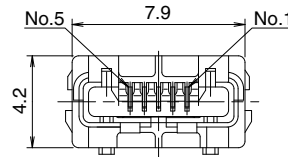
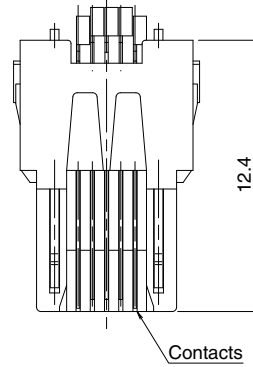
■ Plugs

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



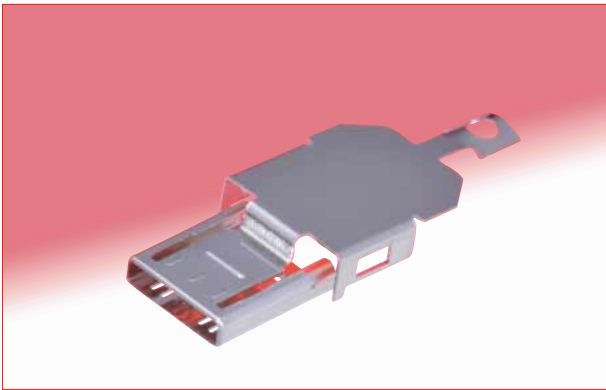
| Part No. | HRS No. | Packaging |
|--------------------|---------------|-----------|
| ZX40-A-5S-UNIT(30) | 242-0010-2 30 | 1 piece |

Contact HRS for Cable Termination Procedure Manual.

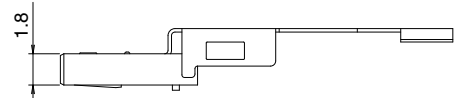
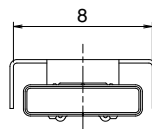
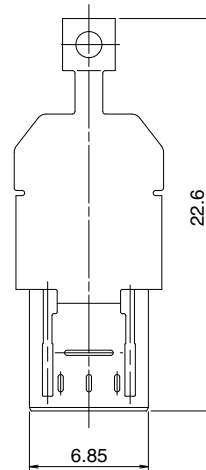


All dimensions : mm

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



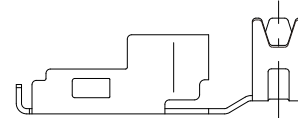
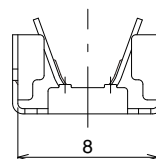
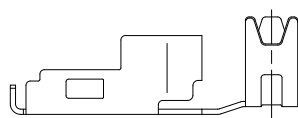
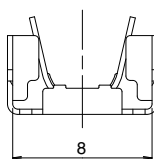
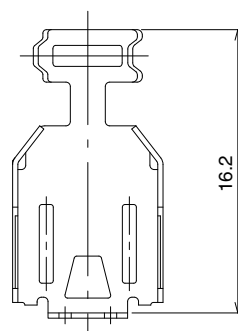
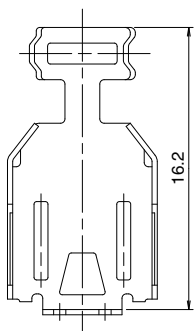
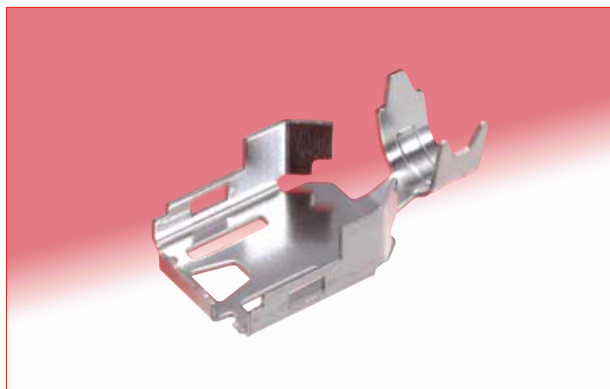
| Part No. | HRS No. | Packaging |
|-------------|------------|---------------|
| ZX40-A-SLDA | 242-0011-5 | 4,000pcs/reel |



All dimensions : mm

■ Plugs

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



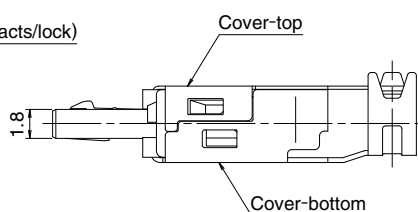
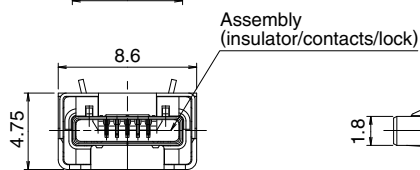
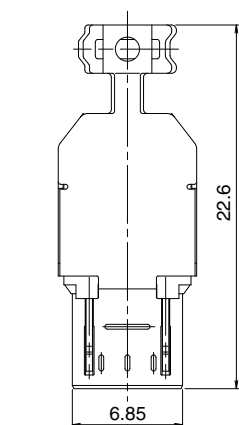
All dimensions : mm

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 |

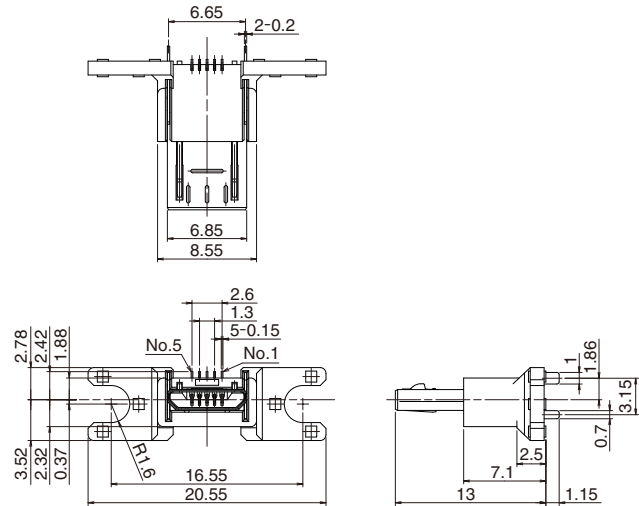
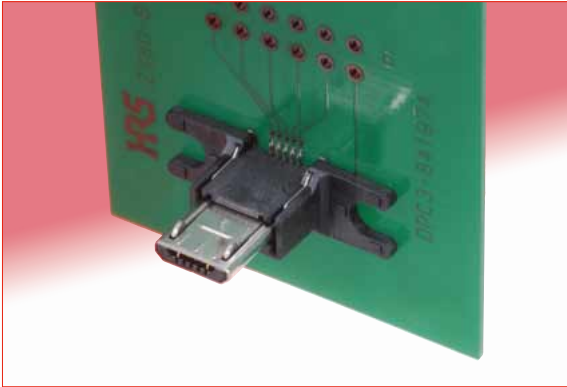
● Assembled



All dimensions : mm

■ Plug-Vertical, cradle mount, Shell through hole

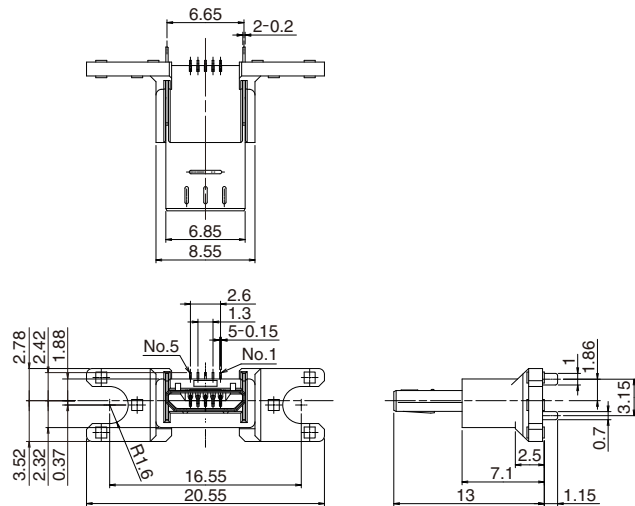
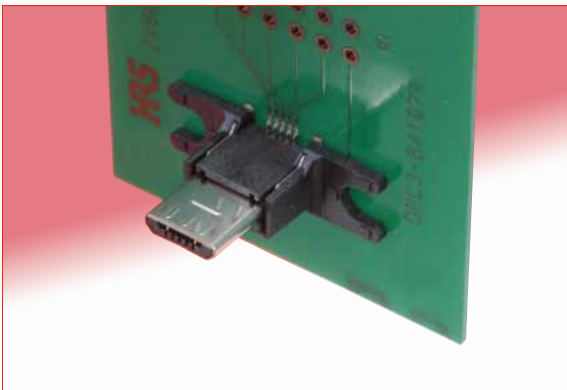
● Micro B, with lock



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

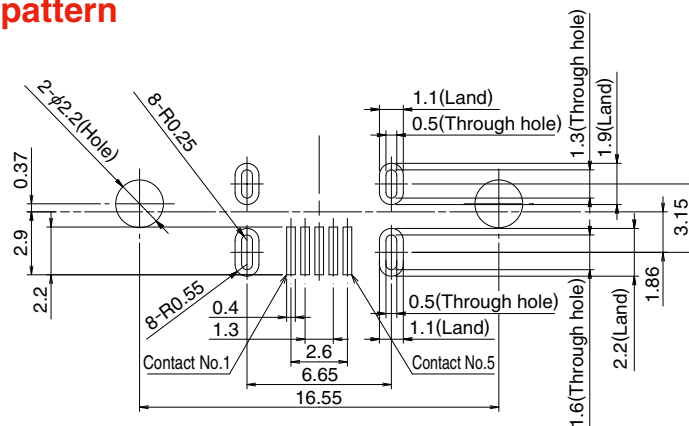
All dimensions : mm

● Micro B, without lock



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

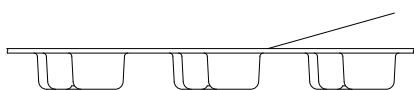
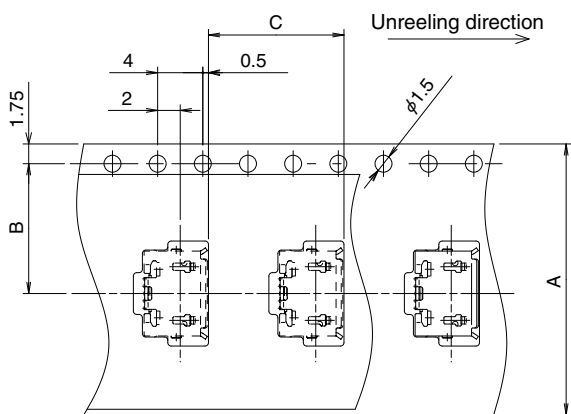
◆ PCB mounting pattern



All dimensions : mm

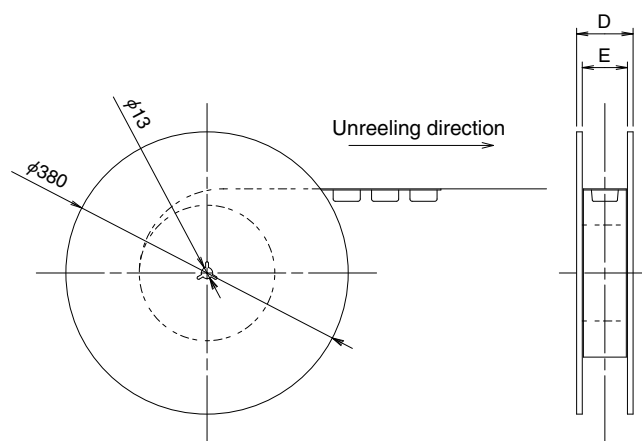
◆ Packaging Specifications

● 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 |

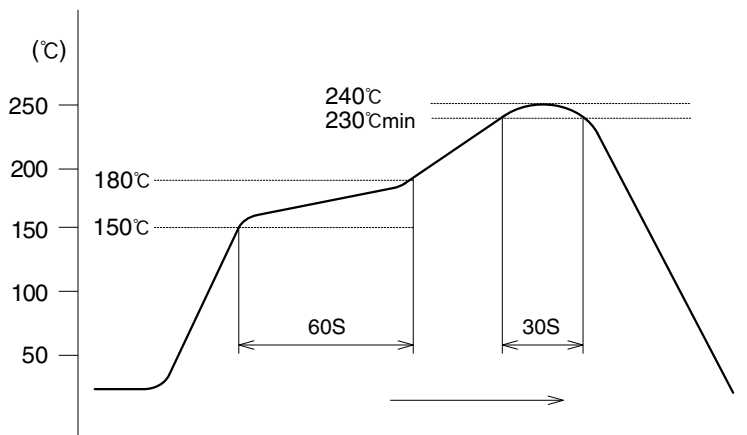
● Reel Dimensions



| 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

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

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