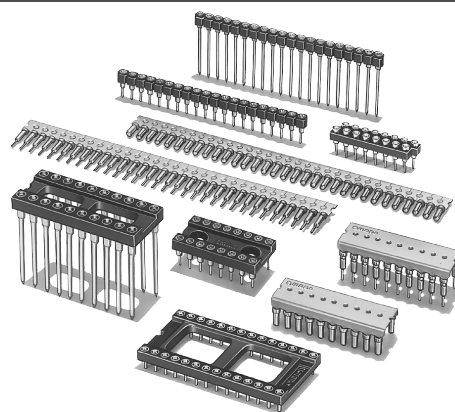


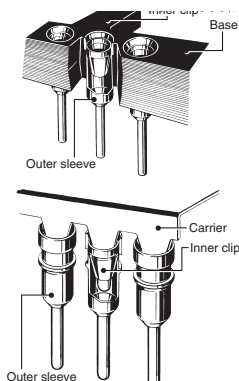
# IC Sockets XR2

## OMRON's IC Connectors Have Excellent Reliability and Can Tolerate Momentary Interruptions in Power.

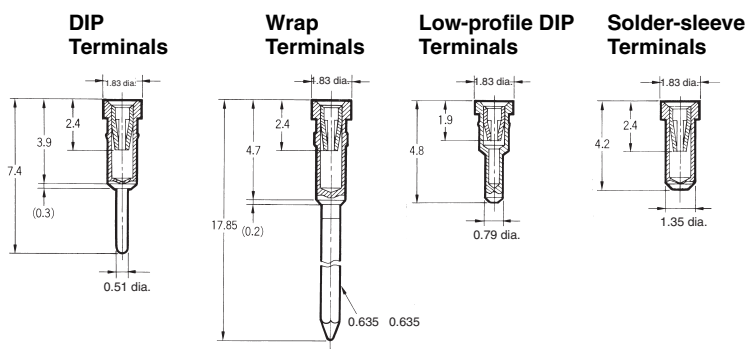
- Round pins and 4-point (4-finger) contact construction with contact entry holes that are large for easy insertion.
- IC lead contacts placed high for solid connections.
- A wide product range: open-frame, closed-frame, single-row, carrier-type DIP terminals, wrap terminals, solder-sleeve terminals, and low-profile DIP terminals.
- Conforms to UL standards (file no. E 103202) and CSA standards (file no. LR 62678).



## Construction



## Contact Dimensions



## Ratings and Characteristics

| Item                          | Gold plated                                                          | Gold flash plated |
|-------------------------------|----------------------------------------------------------------------|-------------------|
| Rated current                 | 1 A                                                                  |                   |
| Rated voltage                 | 300 VAC                                                              |                   |
| Contact resistance            | 20 mΩ max. (at 20 mV, 100 mA max.)                                   |                   |
| Insulation resistance         | 1,000 MΩ min. (at 500 VDC)                                           |                   |
| Dielectric strength           | 1,000 VAC for 1 min (leakage current: 1 mA max.)                     |                   |
| Contact insertion (See note.) | 400 gf (3.92 N) max.                                                 |                   |
| Contact removal (See note.)   | 65 gf (0.64 N) min. with gold plating or with solder plating         |                   |
| Insertion durability          | 100 times (0.75-μm gold plating),<br>50 times (0.25-μm gold plating) | 20 times          |
| Ambient temperature           | Operating: -55 to 125°C (with no icing)                              |                   |

**Note:** The contact insertion force and contact removal force are for a test gauge,  $t = 0.432$  mm.

## Materials and Finish

|              |                                                  |
|--------------|--------------------------------------------------|
| Base         | Fiber-glass reinforced PBT resin (UL94V-0)/black |
| Carrier      | Aluminum                                         |
| Inner clip   | Beryllium copper/nickel base, gold plated        |
| Outer sleeve | Brass/nickel base, gold flash plating            |

**Note:** For non-standard plating, contact your OMRON representative.

## Applicable Wrap Post Wire Sizes

AWG30, AWG28, AWG26, AWG24  
 (Solid wire: 0.25 to 0.51 mm dia.)

## Wrap Post Length

3 wires

## Applicable IC Lead Dimensions

### DIP, Wrap, and Solder-sleeve Terminals

|            | Depth × width (mm)                  |                |
|------------|-------------------------------------|----------------|
| Flat lead  | 0.29 ±0.09 × 0.46 ±0.08 (See note.) |                |
| Round lead | 0.53 dia. max.                      | 0.41 dia. min. |

**Note:** Do not use wire where the diagonal is more than 0.56 mm.

### Low-profile DIP Terminals

|            | Depth × width (mm)                  |                |
|------------|-------------------------------------|----------------|
| Flat lead  | 0.29 ±0.09 × 0.46 ±0.08 (See note.) |                |
| Round lead | 0.50 dia. max.                      | 0.41 dia. min. |

**Note:** Do not use wire where the diagonal is more than 0.52 mm.

# XR2A Open-frame Sockets

## ■ Dimensions

XR2A-□□11-N

XR2A-2463-N

XR2A-2473-N

XR2A-□□01-N

XR2A-2461-N

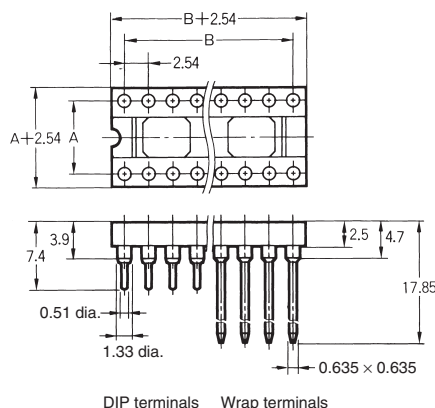
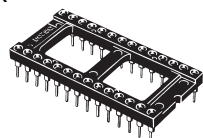
XR2A-2471-N

XR2A-□□21-N

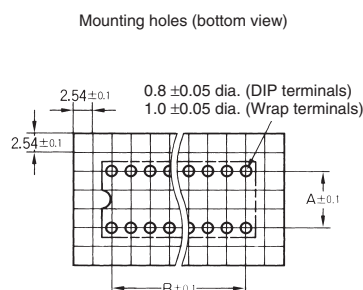
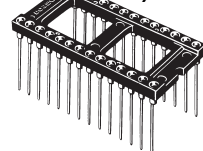
XR2A-2467-N

XR2A-2477-N

(With DIP terminals)



XR2A-□□02  
(With wrap  
terminals)



## Dimensions

| No. of contacts     | Dimensions (mm) |       |
|---------------------|-----------------|-------|
|                     | A               | B     |
| 8                   | 7.62            | 7.62  |
| 14                  | 7.62            | 15.24 |
| 16                  | 7.62            | 17.78 |
| 18                  | 7.62            | 20.32 |
| 20                  | 7.62            | 22.86 |
| 22                  | 10.16           | 25.40 |
| 24<br>(See note 1.) | 15.24           | 27.94 |
| 24<br>(See note 2.) | 10.16           | 27.94 |
| 24<br>(See note 3.) | 7.62            | 27.94 |
| 28                  | 15.24           | 33.02 |
| 32                  | 15.24           | 38.10 |
| 40                  | 15.24           | 48.26 |
| 42                  | 15.24           | 50.80 |
| 48                  | 15.24           | 58.42 |
| 50                  | 22.86           | 60.96 |
| 64                  | 22.86           | 78.74 |

- Note:** 1. XR2A-2401-N/XR2A-2402/  
XR2A-2411N/XR2A-2421-N  
2. XR2A-2461-N/XR2A-2463-N/  
XR2A-2467-N  
3. XR2A-2471-N/XR2A-2473-N/  
XR2A-2477-N

## ■ Ordering Information

| Appearance     |                    | Sockets with DIP terminals |                           |                         | Sockets with wrap terminals |
|----------------|--------------------|----------------------------|---------------------------|-------------------------|-----------------------------|
|                |                    |                            |                           |                         |                             |
| No of contacts | Row pitch (A) (mm) | With 0.25-μm gold plating  | With 0.75-μm gold plating | With gold flash plating | With 0.75-μm gold plating   |
| 8              | 7.62               | XR2A-0811-N                | XR2A-0801-N               | XR2A-0821-N             | XR2A-0802                   |
| 14             | 7.62               | XR2A-1411-N                | XR2A-1401-N               | XR2A-1421-N             | XR2A-1402                   |
| 16             | 7.62               | XR2A-1611-N                | XR2A-1601-N               | XR2A-1621-N             | XR2A-1602                   |
| 18             | 7.62               | XR2A-1811-N                | XR2A-1801-N               | XR2A-1821-N             | XR2A-1802                   |
| 20             | 7.62               | XR2A-2011-N                | XR2A-2001-N               | XR2A-2021-N             | XR2A-2002                   |
| 22             | 10.16              | XR2A-2211-N                | XR2A-2201-N               | XR2A-2221-N             | XR2A-2202                   |
| 24             | 15.24              | XR2A-2411-N                | XR2A-2401-N               | XR2A-2421-N             | XR2A-2402                   |
| 24             | 10.16              | XR2A-2463-N                | XR2A-2461-N               | XR2A-2467-N             | —                           |
| 24             | 7.62               | XR2A-2473-N                | XR2A-2471-N               | XR2A-2477-N             | XR2A-2472                   |
| 28             | 15.24              | XR2A-2811-N                | XR2A-2801-N               | XR2A-2821-N             | XR2A-2802                   |
| 32             | 15.24              | XR2A-3211-N                | XR2A-3201-N               | XR2A-3221-N             | XR2A-3202                   |
| 40             | 15.24              | XR2A-4011-N                | XR2A-4001-N               | XR2A-4021-N             | XR2A-4002                   |
| 42             | 15.24              | XR2A-4211-N                | XR2A-4201-N               | XR2A-4221-N             | XR2A-4202                   |
| 48             | 15.24              | XR2A-4811-N                | XR2A-4801-N               | —                       | XR2A-4802                   |
| 50             | 22.86              | XR2A-5011-N                | XR2A-5001-N               | —                       | —                           |
| 64             | 22.86              | XR2A-6411-N                | XR2A-6401-N               | —                       | XR2A-6402                   |

# XR2A Open-frame Sockets (with Low-profile DIP Terminals)

## ■ Dimensions

XR2A-□□15

XR2A-2466

XR2A-2476

XR2A-□□05

XR2A-2465

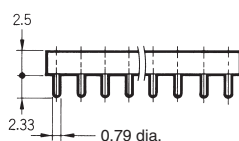
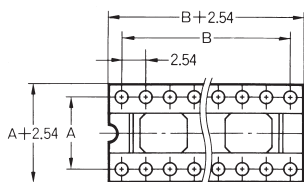
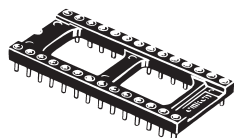
XR2A-2475

XR2A-□□25

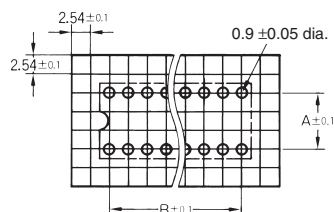
XR2A-2468

XR2A-2478

(With low-profile DIP terminals)



Mounting holes (bottom view)



## Dimensions

| No. of contacts     | Dimensions (mm) |       |
|---------------------|-----------------|-------|
|                     | A               | B     |
| 8                   | 7.62            | 7.62  |
| 14                  | 7.62            | 15.24 |
| 16                  | 7.62            | 17.78 |
| 18                  | 7.62            | 20.32 |
| 20                  | 7.62            | 22.86 |
| 22                  | 10.16           | 25.40 |
| 24<br>(See note 1.) | 15.24           | 27.94 |
| 24<br>(See note 2.) | 10.16           | 27.94 |
| 24<br>(See note 3.) | 7.62            | 27.94 |
| 28                  | 15.24           | 33.02 |
| 32                  | 15.24           | 38.10 |
| 40                  | 15.24           | 48.26 |
| 42                  | 15.24           | 50.80 |
| 48                  | 15.24           | 58.42 |
| 64                  | 22.86           | 78.74 |

- Note:** 1. XR2A-2415/XR2A-2405/  
XR2A-2425  
2. XR2A-2466/XR2A-2465/  
XR2A-2468  
3. XR2A-2476/XR2A-2475/  
XR2A-2478

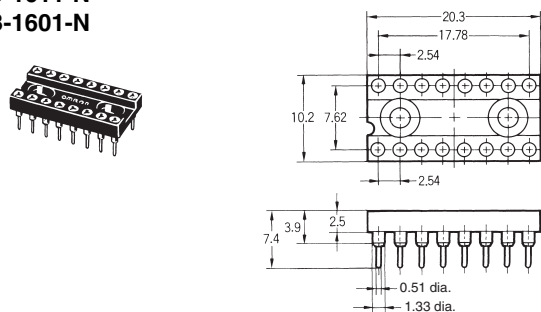
## ■ Ordering Information

| Appearance      |                    | Sockets with DIP terminals |                           |                         |
|-----------------|--------------------|----------------------------|---------------------------|-------------------------|
|                 |                    |                            |                           |                         |
| No. of contacts | Row pitch (A) (mm) | With 0.25-μm gold plating  | With 0.75-μm gold plating | With gold flash plating |
| 8               | 7.62               | XR2A-0815                  | XR2A-0805                 | XR2A-0825               |
| 14              | 7.62               | XR2A-1415                  | XR2A-1405                 | XR2A-1425               |
| 16              | 7.62               | XR2A-1615                  | XR2A-1605                 | XR2A-1625               |
| 18              | 7.62               | XR2A-1815                  | XR2A-1805                 | XR2A-1825               |
| 20              | 7.62               | XR2A-2015                  | XR2A-2005                 | XR2A-2025               |
| 22              | 10.16              | XR2A-2215                  | XR2A-2205                 | XR2A-2225               |
| 24              | 15.24              | XR2A-2415                  | XR2A-2405                 | XR2A-2425               |
| 24              | 10.16              | XR2A-2466                  | XR2A-2465                 | XR2A-2468               |
| 24              | 7.62               | XR2A-2476                  | XR2A-2475                 | XR2A-2478               |
| 28              | 15.24              | XR2A-2815                  | XR2A-2805                 | XR2A-2825               |
| 32              | 15.24              | XR2A-3215                  | XR2A-3205                 | XR2A-3225               |
| 40              | 15.24              | XR2A-4015                  | XR2A-4005                 | XR2A-4025               |
| 42              | 15.24              | XR2A-4215                  | XR2A-4205                 | —                       |
| 48              | 15.24              | XR2A-4815                  | XR2A-4805                 | —                       |
| 64              | 22.86              | XR2A-6415                  | XR2A-6405                 | —                       |

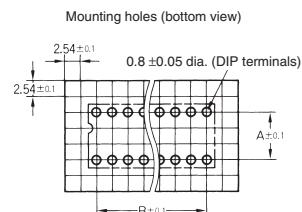
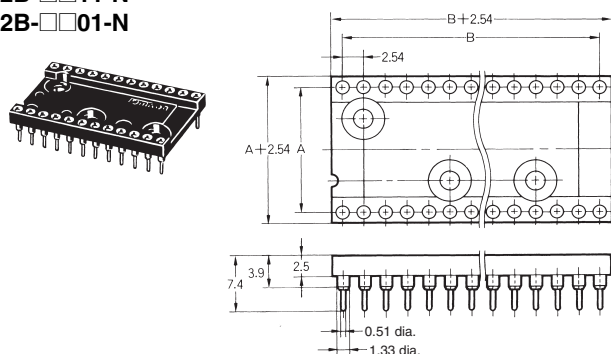
# XR2B Closed-frame Sockets

## ■ Dimensions

XR2B-1611-N  
XR2B-1601-N



XR2B-□□11-N  
XR2B-□□01-N



### Dimensions

| No. of contacts | Dimensions (mm) |       |
|-----------------|-----------------|-------|
|                 | A               | B     |
| 16              | 7.62            | 17.78 |
| 24              | 15.24           | 27.94 |
| 28              | 15.24           | 33.02 |
| 32              | 15.24           | 38.10 |
| 40              | 15.24           | 48.26 |

## ■ Ordering Information

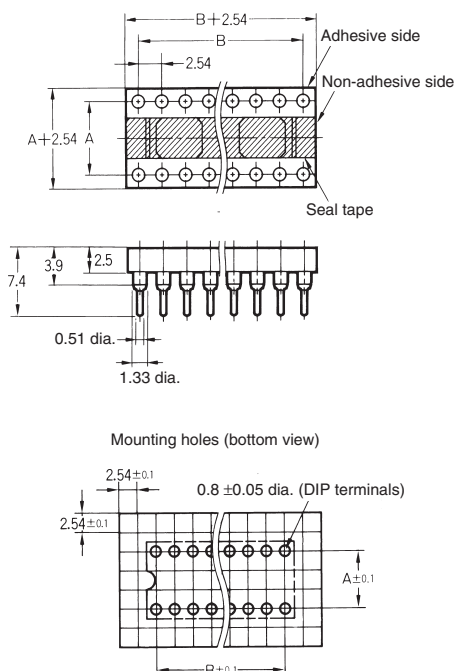
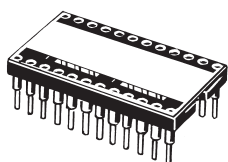
| Appearance      |                    | Sockets with DIP terminals |                           |
|-----------------|--------------------|----------------------------|---------------------------|
|                 |                    |                            |                           |
| No. of contacts | Row pitch (A) (mm) | With 0.25-μm gold plating  | With 0.75-μm gold plating |
| 16              | 7.62               | XR2B-1611-N                | XR2B-1601-N               |
| 24              | 15.24              | XR2B-2411-N                | XR2B-2401-N               |
| 28              | 15.24              | XR2B-2811-N                | XR2B-2801-N               |
| 32              | 15.24              | XR2B-3211-N                | XR2B-3201-N               |
| 40              | 15.24              | XR2B-4011-N                | XR2B-4001-N               |

# XR2T Open-frame Sockets with Seal Tape

- Equipped with seal tape to prevent flux cleaning liquids from entering the Socket.
- The same round-pin, 4-point contact structure as the RX2A is used for the contacts.
- The seal tape is made of transparent polyethylene (adhesive portion) and yellow polypropylene (non-adhesive portion).

## ■ Dimensions

XR2T-□□11-N  
 XR2T-2463-N  
 XR2T-2473-N  
 XR2T-□□01-N  
 XR2T-2461-N  
 XR2T-2471-N  
 XR2T-□□21-N  
 XR2T-2467-N  
 XR2T-2477-N

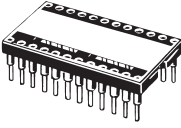


## Dimensions

| No. of contacts     | Dimensions (mm) |       |
|---------------------|-----------------|-------|
|                     | A               | B     |
| 8                   | 7.62            | 7.62  |
| 14                  | 7.62            | 15.24 |
| 16                  | 7.62            | 17.78 |
| 18                  | 7.62            | 20.32 |
| 20                  | 7.62            | 22.86 |
| 22                  | 10.16           | 25.40 |
| 24<br>(See note 1.) | 15.24           | 27.94 |
| 24<br>(See note 2.) | 10.16           | 27.94 |
| 24<br>(See note 3.) | 7.62            | 27.94 |
| 28                  | 15.24           | 33.02 |
| 32                  | 15.24           | 38.10 |
| 40                  | 15.24           | 48.26 |
| 48                  | 15.24           | 58.42 |

- Note:** 1. XR2T-2411-N/XR2T-2401-N/  
XR2A-2421-N  
 2. XR2T-2463-N/XR2T-2461-N/  
XR2T-2467-N  
 3. XR2T-2473-N/XR2T-2471-N/  
XR2T-2477-N

## ■ Ordering Information

| Appearance      |                    | Sockets with DIP terminals                                                          |                           |                         |
|-----------------|--------------------|-------------------------------------------------------------------------------------|---------------------------|-------------------------|
|                 |                    |  |                           |                         |
| No. of contacts | Row pitch (A) (mm) | With 0.25-μm gold plating                                                           | With 0.75-μm gold plating | With gold flash plating |
| 8               | 7.62               | XR2T-0811-N                                                                         | XR2T-0801-N               | XR2T-0821-N             |
| 14              | 7.62               | XR2T-1411-N                                                                         | XR2T-1401-N               | XR2T-1421-N             |
| 16              | 7.62               | XR2T-1611-N                                                                         | XR2T-1601-N               | XR2T-1621-N             |
| 18              | 7.62               | XR2T-1811-N                                                                         | XR2T-1801-N               | XR2T-1821-N             |
| 20              | 7.62               | XR2T-2011-N                                                                         | XR2T-2001-N               | XR2T-2021-N             |
| 22              | 10.16              | XR2T-2211-N                                                                         | XR2T-2201-N               | XR2T-2221-N             |
| 24              | 15.24              | XR2T-2411-N                                                                         | XR2T-2401-N               | XR2T-2421-N             |
| 24              | 10.16              | XR2T-2463-N                                                                         | XR2T-2461-N               | XR2T-2467-N             |
| 24              | 7.62               | XR2T-2473-N                                                                         | XR2T-2471-N               | XR2T-2477-N             |
| 28              | 15.24              | XR2T-2811-N                                                                         | XR2T-2801-N               | XR2T-2821-N             |
| 32              | 15.24              | XR2T-3211-N                                                                         | XR2T-3201-N               | XR2T-3221-N             |
| 40              | 15.24              | XR2T-4011-N                                                                         | XR2T-4001-N               | XR2T-4021-N             |
| 48              | 15.24              | XR2T-4811-N                                                                         | XR2T-4801-N               | ---                     |

# XR2C Single-row Sockets

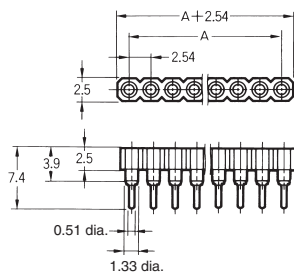
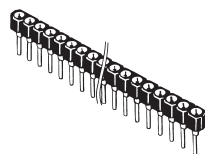
## ■ Dimensions

XR2C-□□11-N

XR2C-□□01-N

XR2C-□□21-N

(With DIP terminals)

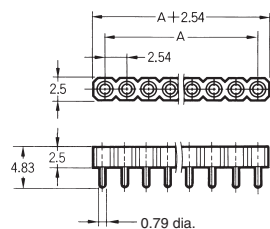
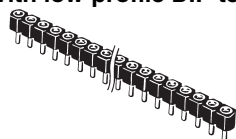


XR2C-□□15

XR2C-□□05

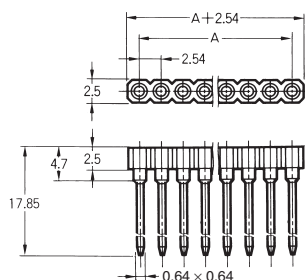
XR2C-□□25

(With low-profile DIP terminals)

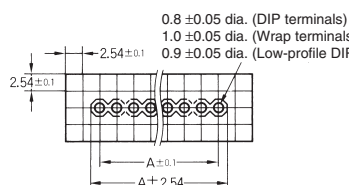


XR2C-□□02

(With wrap terminals)



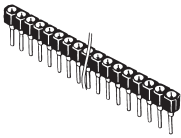
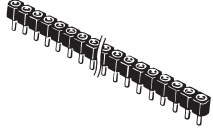
Mounting holes (bottom view)



Dimensions

| No. of contacts | A (mm) |
|-----------------|--------|
| 20              | 48.26  |
| 32              | 78.74  |

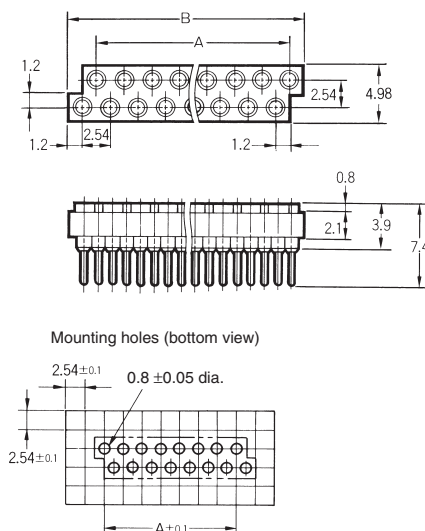
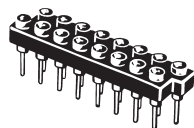
## ■ Ordering Information

| Appearance                                                                                                                    | No. of contacts | With 0.25-μm gold plating | With 0.75-μm gold plating | With gold flash plating |
|-------------------------------------------------------------------------------------------------------------------------------|-----------------|---------------------------|---------------------------|-------------------------|
| Sockets with DIP terminals<br>             | 10              | XR2C-1011-N               | —                         | —                       |
|                                                                                                                               | 16              | XR2C-1611-N               | —                         | —                       |
|                                                                                                                               | 20              | XR2C-2011-N               | XR2C-2001-N               | XR2C-2021-N             |
|                                                                                                                               | 32              | XR2C-3211-N               | XR2C-3201-N               | XR2C-3221-N             |
| Sockets with low-profile DIP terminals<br> | 20              | XR2C-2015                 | XR2C-2005                 | XR2C-2025               |
|                                                                                                                               | 32              | XR2C-3215                 | XR2C-3205                 | XR2C-3225               |
| Sockets with wrap terminals<br>            | 20              | —                         | XR2C-2002                 | —                       |
|                                                                                                                               | 32              | —                         | XR2C-3202                 | —                       |

# XR2H ZIP (Zigzag) Sockets

## ■ Dimensions

XR2H-□□11-N  
(With DIP terminals)



## Dimensions

| No. of contacts | Dimensions (mm) |      |
|-----------------|-----------------|------|
|                 | A               | B    |
| 16              | 17.78           | 21.5 |
| 20              | 22.86           | 26.5 |
| 24              | 27.94           | 31.6 |
| 28              | 33.02           | 36.7 |

## ■ Ordering Information

| Appearance      | Sockets with DIP terminals |
|-----------------|----------------------------|
| No. of contacts | With 0.25-μm gold plating  |
| 16              | XR2H-1611-N                |
| 20              | XR2H-2011-N                |
| 24              | XR2H-2411-N                |
| 28              | XR2H-2811-N                |

# XR2P Single-row Round Pin Plugs

## Single-row Round Pins for Low-profile Stacking

- Single row with 2.54-mm pitch.
- Low-profile stacking possible in combination with Single-row IC Sockets (XR2C).
- Easily divided into the desired number of contacts.

## Ratings and Characteristics

|                                   |                                                      |
|-----------------------------------|------------------------------------------------------|
| Rated current                     | 1 A                                                  |
| Rated voltage                     | 300 VAC                                              |
| Contact resistance<br>(See note.) | 20 mΩ max. (at 20 mV, 10 mA max.)                    |
| Insulation resistance             | 1,000 MΩ min. (at 500 VDC)                           |
| Dielectric strength               | 1,000 VAC for 1 min (leakage current:<br>1 mA max.)  |
| Ambient operating<br>temperature  | –55 to 125°C (with no icing at low temper-<br>ature) |

**Note:** The contact and vibration resistance are the values when the Plug is mated with an XR2C.

## Materials and Finish

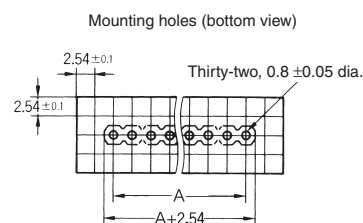
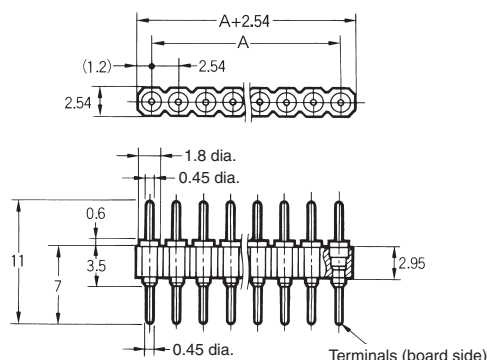
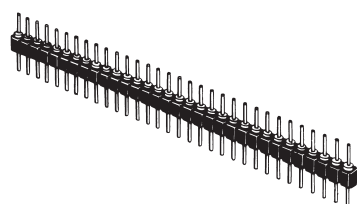
|          |                                                     |
|----------|-----------------------------------------------------|
| Base     | Fiber-glass reinforced PBT resin<br>(UL94V-0)/black |
| Contacts | Mating end<br>Terminal                              |
|          | Brass/nickel base with 0.25-μm gold plat-<br>ing    |

## Applicable Sockets

|             |                                     |
|-------------|-------------------------------------|
| XR2C-□□11-N | IC Sockets (single row)             |
| XR2C-3215   | IC Socket (single row, low profile) |

## Dimensions

XR2P-□□41  
(With DIP straight terminals)



### Dimensions

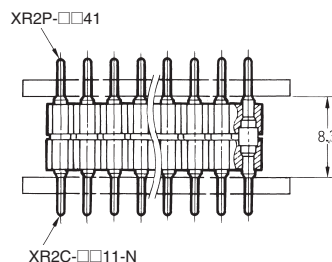
| No. of<br>contacts | A (mm) |
|--------------------|--------|
| 10                 | 22.86  |
| 16                 | 38.1   |
| 20                 | 48.26  |
| 32                 | 78.74  |

## Ordering Information

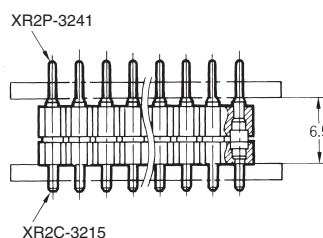
| No. of<br>contacts | Model     |
|--------------------|-----------|
| 10                 | XR2P-1041 |
| 16                 | XR2P-1641 |
| 20                 | XR2P-2041 |
| 32                 | XR2P-3241 |

## Mated Dimensions

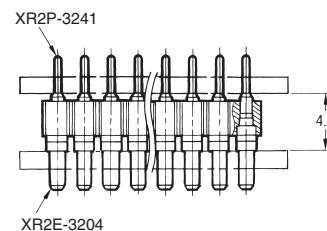
XR2P-□□41 with XR2C-□□11-N  
Single-row IC Socket



XR2P-3241 with XR2C-3215  
Single-row Low-profile IC Socket



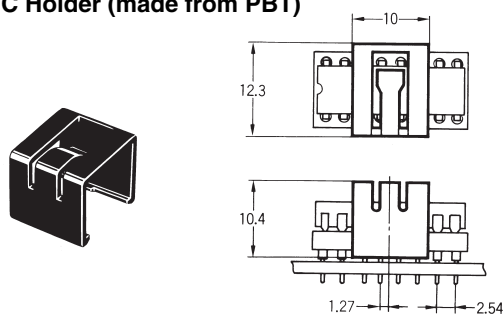
XR2P-3241 with XR2E-3204  
Single-row Carrier Socket with  
Solder-sleeve Terminals



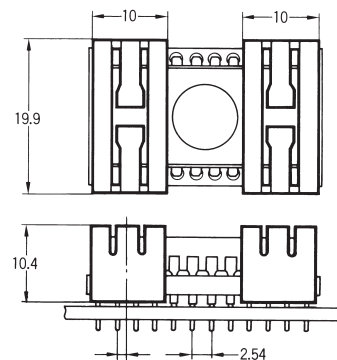
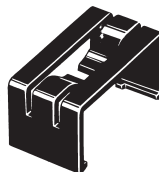
## Tools and Accessories

### XR2Z-11

IC Holder (made from PBT)



### XR2Z-13



**Note:** Order the following models in multiples of the minimum order.

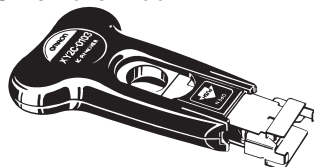
| Model   | No. of IC Socket contacts | IC socket width | Order in multiples of |
|---------|---------------------------|-----------------|-----------------------|
| XR2Z-11 | 14, 16, 18, 20, 24        | 7.62 mm         | 100                   |
| XR2Z-13 | 24, 28, 32, 40, 42, 48    | 15.24 mm        | 500                   |

**Note:** This Holder protects the IC from falling out due to shock. The IC will not fall out even with a 980 m/s<sup>2</sup> shock. Applicable IC height: 2.7 to 5.6 mm.

### XY2C-0101

### XY2C-0103

IC Removal Tool



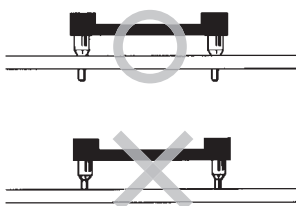
| Model     | No. of IC Socket contacts | IC socket width |
|-----------|---------------------------|-----------------|
| XY2C-0101 | 14, 16, 18, 20            | 7.62 mm         |
| XY2C-0103 | 24, 28, 32, 40            | 15.24 mm        |

## Precautions

### Correct Use

#### Soldering

- When soldering, make sure that the outer sleeve of the IC Socket does not stick out of the circuit board through-holes.



- Make sure that no flux enters the IC Socket from the top.

#### Removing ICs

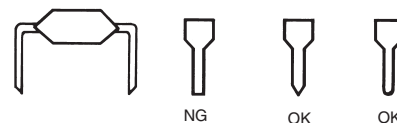
- Use the XY2C-0101 or XY2C-0103 IC Removal Tool to remove ICs.
- Do not use a screwdriver to remove the IC. It may damage the circuit board.
- Do not use a testing rod or check pin to check contacts or circuits. This may damage the inner clips or plating and may lead to improper contact.
- Four-point contact construction is used for plated products to make them more tolerant of momentary power interruptions. We recommend using gold-plated contacts in areas subject to vibration and shock.

#### Automated Soldering Conditions (Jet Flow)

- Soldering temperature: 250±5°C
- Continuous soldering time: Within 5 s

#### Applicable IC Lead Dimensions

- Use leads that are within the range shown here. For details, refer to the first page of this datasheet. Use an IC with leads longer than 3 mm. If the leads are too long, the IC will not sit flush on the board.
- Use an IC with tapered leads for easy insertion, a minimum amount of bending, and minimum damage to the leads.



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**ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.**

To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

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