

# Circuit protection elements

## ●Circuit protection elements

Rohm's circuit protectors have a very reliable current cut-off capability that protects ICs and their circuits from accidental short circuit loads. Whether operated in AC or DC circuits, these circuit protectors have a very low internal resistance in normal operation, but safely and rapidly break the circuit when the current cutoff level is exceeded.

## ●Features

- 1) Cutoff is sharp and repeatable.
- 2) Low internal resistance and minimal voltage drop.
- 3) Incombustible.
- 4) Compact.
- 5) Rated for continuous use.
- 6) Good temperature characteristics.
- 7) Withstands surges well.
- 8) UL certified (UL certification number E107856).

## ●Application

Current surge protection

## ●Operation notes

Do not use this product on the primary side of commercial power supplies. Arcs that result after cutoff may damage the molding.

## Surface mounting Type

### ●ICP-S series

| Product name | Rated current (A) | Cutoff characteristics | Internal resistance Typ.( $\Omega$ ) | Rated voltage (V) | Operating temperature ( $^{\circ}\text{C}$ ) | Storage temperature ( $^{\circ}\text{C}$ ) |
|--------------|-------------------|------------------------|--------------------------------------|-------------------|--|--|
| ICP-S0.5     | 0.5               | Fig.1                  | 0.150                                | 50                | -55~+125                                     | -55~+125                                   |
| ICP-S0.7     | 0.7               | Fig.2                  | 0.084                                |                   |  |  |
| ICP-S1.0     | 1.0               | Fig.3                  | 0.061                                |                   |  |  |
| ICP-S1.2     | 1.2               | Fig.4                  | 0.048                                |                   |  |  |
| ICP-S1.8     | 1.8               | Fig.5                  | 0.032                                |                   |  |  |
| ICP-S2.3     | 2.3               | Fig.6                  | 0.026                                |                   |  |  |

Transistors

●Cutoff characteristics

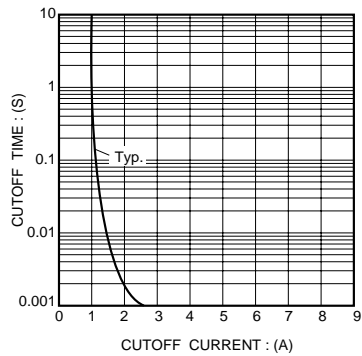


Fig.1 ICP-S0.5

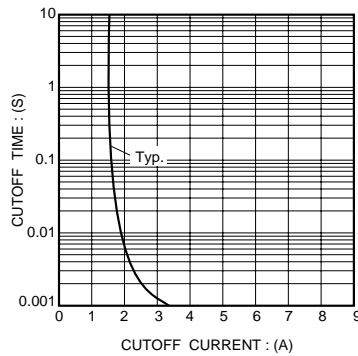


Fig.2 ICP-S0.7

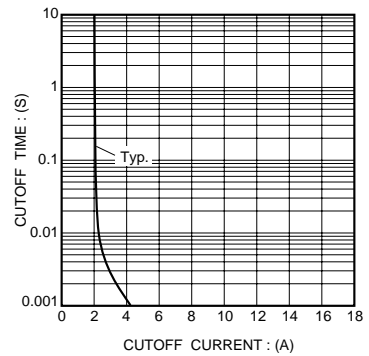


Fig.3 ICP-S1.0

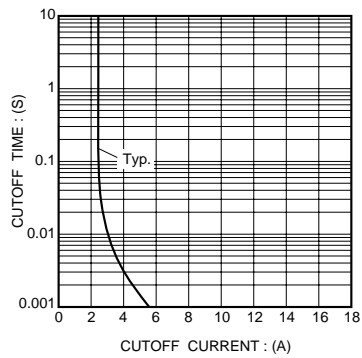


Fig.4 ICP-S1.2

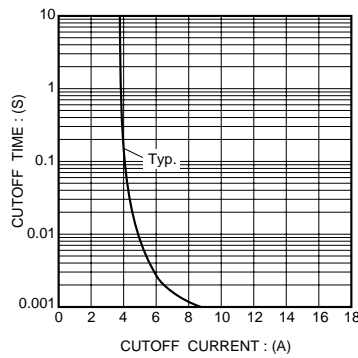


Fig.5 ICP-S1.8

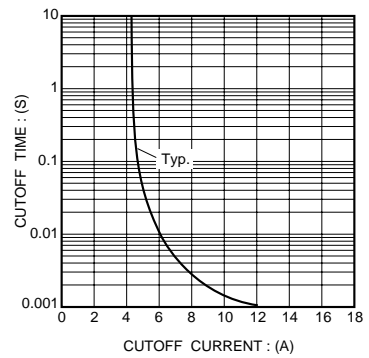
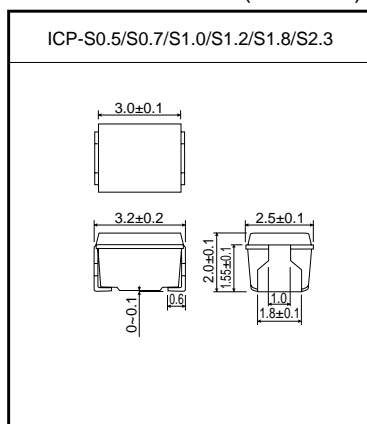


Fig.6 ICP-S2.3

The cutoff characteristics shown are typical. For further details of how to use these protectors, please request the technical documentation from your Rohm representative.

●External dimensions (Units : mm)

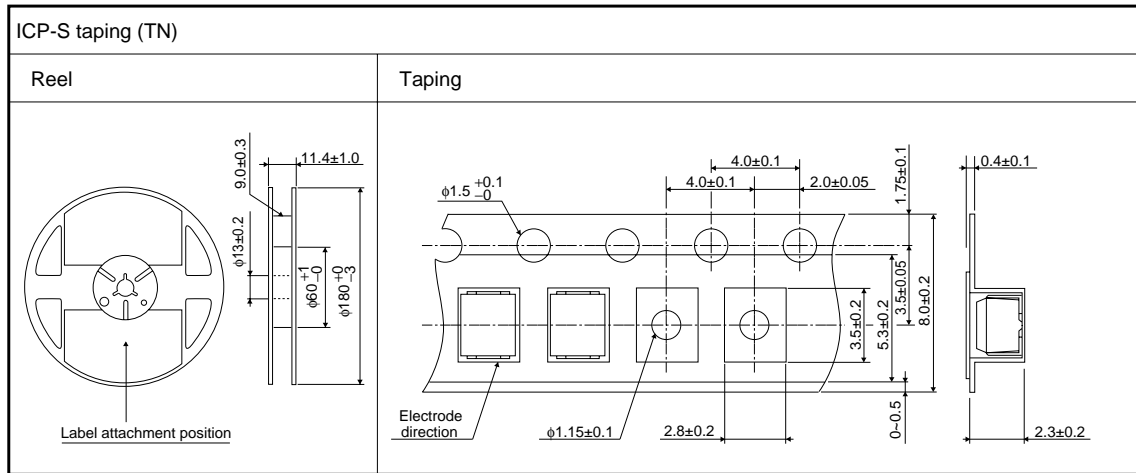


Transistors

●Packaging specifications

| ICP-S<br>Type | Package type                 | Taping |
|---------------|------------------------------|--------|
|               | Symbol                       | TN     |
|               | Basic ordering unit (pieces) | 2000   |
| ICP-S0.5      |                              | ○      |
| ICP-S0.7      |                              | ○      |
| ICP-S1.0      |                              | ○      |
| ICP-S1.2      |                              | ○      |
| ICP-S1.8      |                              | ○      |
| ICP-S2.3      |                              | ○      |

●Taping specifications (Units : mm)



# Leaded type

ICP-N series

| Product name | Rated current (A) | Cutoff characteristics | Internal resistance Typ.(Ω) | Rated voltage (V) | Operating temperature (°C) | Storage temperature(°C) |
|--------------|-------------------|------------------------|-----------------------------|-------------------|----------------------------|-------------------------|
| ICP-N10      | 0.4               | Fig.1                  | 0.220                       | 50                | -55~+125                   | -55~+125                |
| ICP-N15      | 0.6               | Fig.2                  | 0.135                       |                   |                            |                         |
| ICP-N20      | 0.8               | Fig.3                  | 0.100                       |                   |                            |                         |
| ICP-N25      | 1.0               | Fig.4                  | 0.070                       |                   |                            |                         |
| ICP-N38      | 1.5               | Fig.5                  | 0.042                       |                   |                            |                         |
| ICP-N50      | 2.0               | Fig.6                  | 0.035                       |                   |                            |                         |
| ICP-N70      | 2.5               | Fig.7                  | 0.023                       |                   |                            |                         |

●Cutoff characteristics

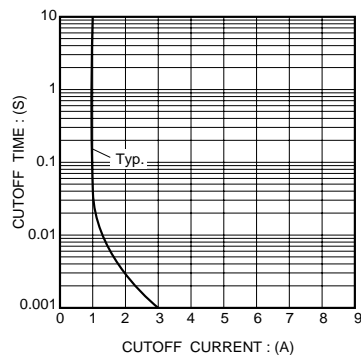


Fig.1 ICP-N10

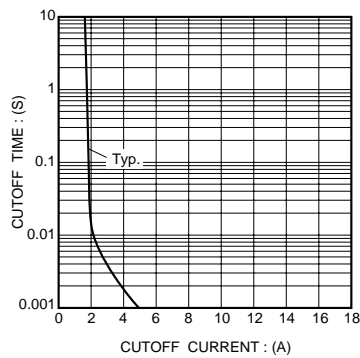


Fig.2 ICP-N15

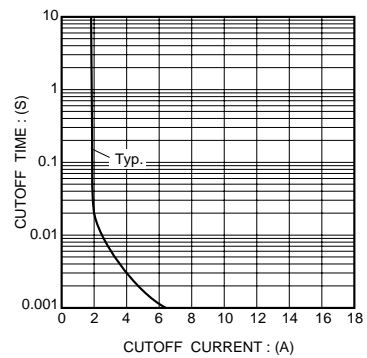


Fig.3 ICP-N20

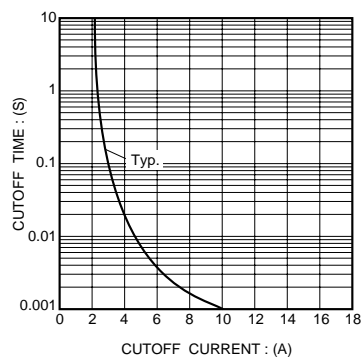


Fig.4 ICP-N25

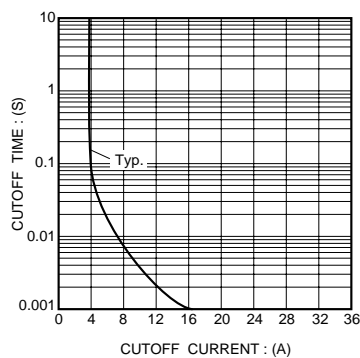


Fig.5 ICP-N38

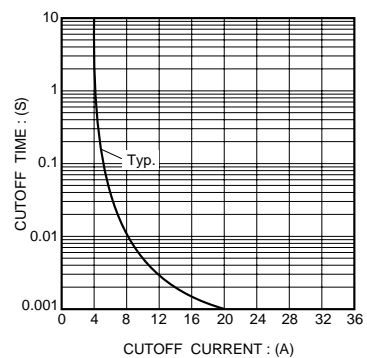


Fig.6 ICP-N50

Transistors

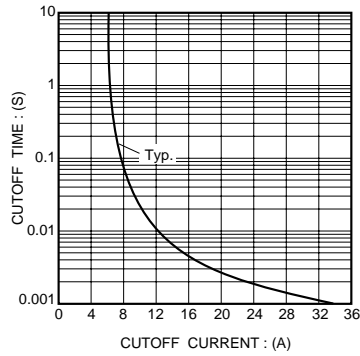
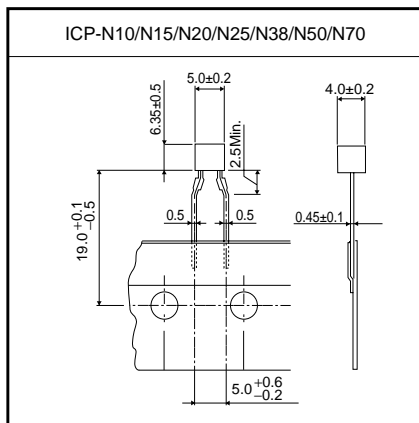


Fig.7 ICP-N70

The cutoff characteristics given represent typical values. Technical documentation regarding ways of using circuit protectors is available from your Rohm representative.

●External dimensions (Units : mm)



●Packaging specifications

|                                 |                              |        |
|---------------------------------|------------------------------|--------|
| ICP-N                           | Packaging type               | Taping |
|                                 | Symbol                       | T104   |
| Type                            | Basic ordering unit (pieces) | 3000   |
| ICP-N10/N15/N20/N25/N38/N50/N70 |                              | ○      |

●Taping specifications (Units : mm)

