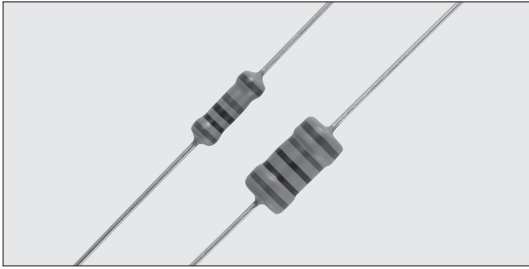
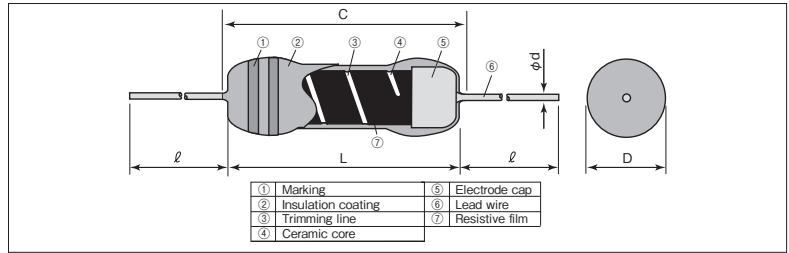


## SN 3A/3D Coat-Insulated Fixed Metal Film Resistors



Coating color : Light gray  
Marking : Color code

### Construction



### Features

- High precision and low T.C.R. metal film resistor.
- Excellent stability for a long time.
- Products meet EU-RoHS requirements.

### Reference Standards

IEC 60115-1  
JIS C 5201-1

### Dimensions

| Type | Dimensions (mm) |        |       |            |      | Weight (g)<br>(1000pcs) |
|------|-----------------|--------|-------|------------|------|-------------------------|
|      | L±2             | C Max. | D±1.0 | d(nominal) | l ±3 |                         |
| SN3A | 14.1            | 18.3   | 4.8   | 1.0        | 38   | 1,240                   |
| SN3D | 16.5            | 21.5   | 8.4   |            |      | 3,340                   |

### Type Designation

Example

| SN           | 3A                 | D                                | C                            | 1002                          | F                               |
|--------------|--------------------|----------------------------------|------------------------------|-------------------------------|---------------------------------|
| Product Code | Power Rating       | T.C.R.<br>( $\times 10^{-6}/K$ ) | Termination Surface Material | Nominal Resistance            | Resistance Tolerance            |
|              | 3A : 1W<br>3D : 2W | C : ±50<br>D : ±100<br>L : ±200  | C : SnCu                     | D, F : 4digits<br>G : 3digits | D : ±0.5%<br>F : ±1%<br>G : ±2% |

Contact us when you have control request for environmental hazardous material other than the substance specified by EU-RoHS.

### Ratings

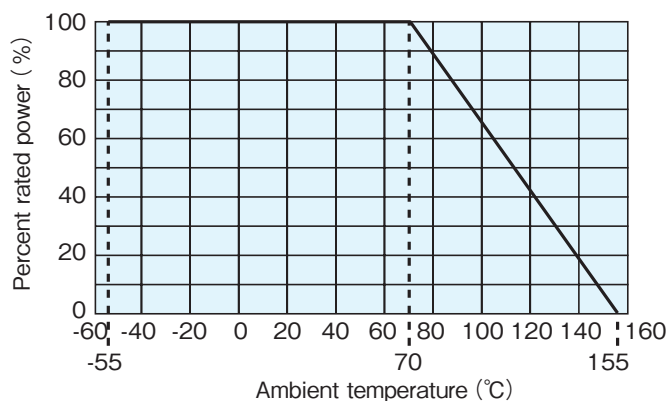
| Type   | Power Rating | T.C.R.<br>( $\times 10^{-6}/K$ ) | Resistance Range ( $\Omega$ ) |                      |                | Max. Working Voltage | Max. Overload Voltage | Dielectric Withstanding Voltage |
|--------|--------------|----------------------------------|-------------------------------|----------------------|----------------|----------------------|-----------------------|---------------------------------|
|        |              |                                  | D : ±0.5%<br>E24 · E192       | F : ±1%<br>E24 · E96 | G : ±2%<br>E24 |                      |                       |                                 |
| SN3ACC | 1W           | C : ±50                          | —                             | 10~1M                | —              | 500V                 | 1000V                 | 1000V                           |
| SN3ADC |              | D : ±100                         | 10~1M                         | 10~1M                | 10~1M          |                      |                       |                                 |
| SN3ALC |              | L : ±200                         | —                             | 4.99~10              | 1~10           |                      |                       |                                 |
| SN3DDC | 2W           | D : ±100                         | 10~1.5M                       | 10~1.5M              | 10~1.5M        | 500V                 | 1000V                 | 1000V                           |
| SN3DLC |              | L : ±200                         | —                             | —                    | 5.1~10         |                      |                       |                                 |

Rated Ambient Temperature : +70°C

Operating Temperature Range : -55°C ~ +155°C

Rated voltage =  $\sqrt{\text{Power Rating} \times \text{Resistance value}}$  or Max. working voltage, whichever is lower.

## Derating Curve



For resistors operated at an ambient temperature of 70°C or higher, the power shall be derated in accordance with the above derating curve.

## Performance

| Test Items                   | Performance Requirements<br>$\Delta R \pm (\% + 0.05\Omega)$ | Test Methods   |
|------------------------------|--|--|
|                              | Limit  |  |
| Resistance                   | Within specified tolerance                                   | 25°C   |
| T.C.R.                       | Within specified T.C.R.                                      | +25°C / +125°C   |
| Overload (Short time)        | 0.5  | Rated voltage $\times 2.5$ or Max. overload vol., whichever is lower, for 5s |
| Resistance to soldering heat | 0.25   | 260°C $\pm 5^\circ\text{C}$ , 10s $\pm 1\text{s}$                            |
| Rapid change of temperature  | 0.5  | -55°C (30min.) / +155°C (30min.) 5 cycles                                    |
| Moisture resistance          | 1  | 40°C $\pm 2^\circ\text{C}$ , 90%~95%RH, 1000h<br>1.5h ON/0.5h OFF cycle      |
| Endurance at 70°C            | 1  | 70°C $\pm 2^\circ\text{C}$ , 1000h<br>1.5h ON/0.5h OFF cycle                 |

## Precautions for Use

- Ionic impurities such as flux etc. that are attached to these products or those mounted onto a PCB, negatively affect their moisture resistance, corrosion resistance, etc. The flux may contain ionic substances like chlorine, acid, etc. Please wash them to get rid of these ionic substances especially when using lead-free solder that may contain much of the said substances for improving a wetting characteristic. Using RMA solder or RMA flux, or well-washing is needed. Also, attaching ionic substances such as perspiration, salt etc. by storage environments or mounting conditions/environments negatively affects their moisture resistance, corrosion resistance etc. Please wash them to remove the ionic substances when they are polluted.