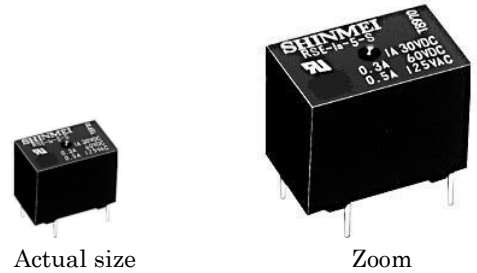


# Ultra small size, High sensitive (50mW,150mW), Single pole relay RSE Relay

## Features

- ◇ Ultra small size, high sensitive single pole relay.
- ◇ High sensitive (150mW), standard (200mW) & 280mW.
- ◇ Sealed construction.
- ◇ 12(L) x 7.3(W) x 9.7(H)mm
- ◇ Approved by UL / C-UL



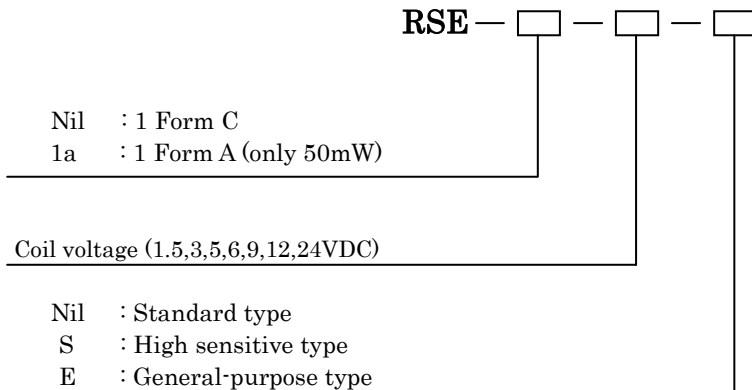
## Applications

- ◇ Automotive (Auto mirror controller etc.)
- ◇ Telephones, Modem, Facsimile.
- ◇ Portable equipment, Audio equipment.

## UL / C-UL Rating

1A30VDC,0.3A60VDC,0.5A125VAC (UL/C-UL File No.E128155)

## Model Number



## Products Line (Standard type , 1 Form C)(at 20 degree Celsius)

| Model number | Nominal Voltage (VDC) | Pick-up voltage (VDC)                | Drop-out voltage (VDC)               | Coil resistance (ohm) | Nominal operating current (mA) | Electric power consumption (mW) | Max .allowable voltage (VDC) |
|--------------|-----------------------|--------------------------------------|--------------------------------------|-----------------------|--------------------------------|---------------------------------|------------------------------|
| RSE-1.5      | 1.5                   | 75%<br>Max .of<br>nominal<br>voltage | 10%<br>Min .of<br>nominal<br>voltage | 11.3                  | 133.0                          | 200                             | 130% of<br>nominal voltage   |
| RSE-3        | 3                     |                                      |                                      | 45.0                  | 66.7                           |                                 |                              |
| RSE-5        | 5                     |                                      |                                      | 125.0                 | 40.0                           |                                 |                              |
| RSE-6        | 6                     |                                      |                                      | 180.0                 | 33.3                           |                                 |                              |
| RSE-9        | 9                     |                                      |                                      | 405.0                 | 22.2                           |                                 |                              |
| RSE-12       | 12                    |                                      |                                      | 720.0                 | 16.7                           |                                 |                              |
| RSE-24       | 24                    |                                      |                                      | 2,880.0               | 8.33                           |                                 |                              |

## Products Line (High sensitive type , 1 Form C)(at 20 degree Celsius)

| Model number | Nominal Voltage (VDC) | Pick-up voltage (VDC)                | Drop-out voltage (VDC)               | Coil resistance (ohm) | Nominal operating current (mA) | Electric power consumption (mW) | Max .allowable voltage (VDC) |
|--------------|-----------------------|--------------------------------------|--------------------------------------|-----------------------|--------------------------------|---------------------------------|------------------------------|
| RSE-1.5-S    | 1.5                   | 75%<br>Max .of<br>nominal<br>voltage | 10%<br>Min .of<br>nominal<br>voltage | 15.0                  | 100.0                          | 150                             | 150% of<br>nominal voltage   |
| RSE-3-S      | 3                     |                                      |                                      | 60.0                  | 50.0                           |                                 |                              |
| RSE-5-S      | 5                     |                                      |                                      | 167.0                 | 30.0                           |                                 |                              |
| RSE-6-S      | 6                     |                                      |                                      | 240.0                 | 25.0                           |                                 |                              |
| RSE-9-S      | 9                     |                                      |                                      | 540.0                 | 16.7                           |                                 |                              |
| RSE-12-S     | 12                    |                                      |                                      | 960.0                 | 12.5                           |                                 |                              |
| RSE-24-S     | 24                    |                                      |                                      | 3,840.0               | 6.25                           |                                 |                              |

## □ Products Line (General purpose type , 1 Form C)(at 20 degree Celsius)

| Model number | Nominal Voltage (VDC) | Pick-up voltage (VDC)                | Drop-out voltage (VDC)           | Coil resistance (ohm) | Nominal operating current (mA) | Electric power consumption (mW) | Max .allowable voltage (VDC) |
|--------------|-----------------------|--------------------------------------|----------------------------------|-----------------------|--------------------------------|---------------------------------|------------------------------|
| RSE-1.5-E    | 1.5                   | 70%<br>Max .of<br>nominal<br>voltage | 5% Min .of<br>nominal<br>voltage | 8.0                   | 188.0                          | 280                             | 110% of nominal<br>voltage   |
| RSE-3-E      | 3                     |                                      |                                  | 32.1                  | 93.5                           |                                 |                              |
| RSE-5-E      | 5                     |                                      |                                  | 89.3                  | 56.0                           |                                 |                              |
| RSE-6-E      | 6                     |                                      |                                  | 129.0                 | 46.7                           |                                 |                              |
| RSE-9-E      | 9                     |                                      |                                  | 289.0                 | 31.1                           |                                 |                              |
| RSE-12-E     | 12                    |                                      |                                  | 514.0                 | 23.3                           |                                 |                              |
| RSE-24-E     | 24                    |                                      |                                  | 2,060.0               | 11.7                           |                                 |                              |

## □ Products Line (High sensitive type , 1 Form A)(at 20 degree Celsius)

| Model number | Nominal Voltage (VDC) | Pick-up voltage (VDC)                | Drop-out voltage (VDC)               | Coil resistance (ohm) | Nominal operating current (mA) | Electric power consumption (mW) | Max .allowable voltage (VDC) |
|--------------|-----------------------|--------------------------------------|--------------------------------------|-----------------------|--------------------------------|---------------------------------|------------------------------|
| RSE-1a-1.5-S | 1.5                   | 80%<br>Max .of<br>nominal<br>voltage | 10%<br>Min .of<br>nominal<br>voltage | 45.0                  | 33.3                           | 50                              | 180% of<br>nominal voltage   |
| RSE-1a-3-S   | 3                     |                                      |                                      | 180.0                 | 16.7                           |                                 |                              |
| RSE-1a-5-S   | 5                     |                                      |                                      | 500.0                 | 10.0                           |                                 |                              |
| RSE-1a-6-S   | 6                     |                                      |                                      | 720.0                 | 8.33                           |                                 |                              |
| RSE-1a-9-S   | 9                     |                                      |                                      | 1,620.0               | 5.56                           |                                 |                              |
| RSE-1a-12-S  | 12                    |                                      |                                      | 2,880.0               | 4.17                           |                                 |                              |

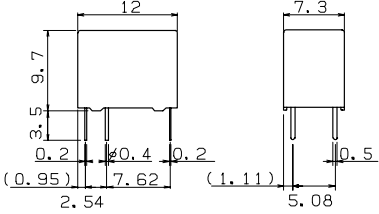
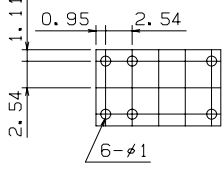
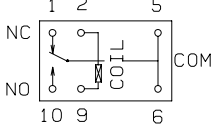
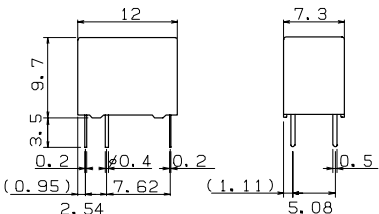
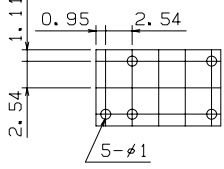
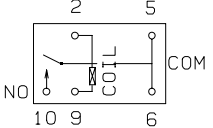
## □ Typical Specifications

| Item                     |   | Specifications                                   |   |
|--------------------------|---|--|---|
| Contact                  | Arrangement                               | 1a, 1c   |   |
|                          | Initial contact resistance max.           | Max.100 milliohm (By voltage drop 6VDC 1A)       |   |
|                          | Material                                  | Silver alloy, gold clad                          |   |
| Rating                   | Nominal switching capacity                | 1A30VDC, 0.3A60VDC, 0.5A125VAC*                  |   |
|                          | Max .switching power                      | 30W, 60VA  |   |
|                          | Max .switching voltage                    | 60VDC, 125VAC                                    |   |
|                          | Max .switching current                    | 1A (DC 30V)                                      |   |
| Electrical specification | Initial insulation resistance             | Min. 100 megohm (at 500VDC)                      |   |
|                          | Withstanding voltage (Initial)            | Between open Contacts                            | AC500V (1 minute)                       |
|                          |   | Between contacts and Coil                        | AC1,000V (1 minute)                     |
|                          | Coil Temperature rise(at nominal voltage) | Max. 50 degree Celsius                           |   |
|                          | Operate time(at nominal voltage)          | Max. 5msec                                       |   |
|                          | Release time(at nominal voltage)          | Max. 5msec                                       |   |
| Mechanical specification | Shock resistance                          | Functional                                       | Min. 98m/s <sup>2</sup> (10G)           |
|                          |   | Destruction                                      | Min. 980 m/s <sup>2</sup> (100G)        |
|                          | Vibration resistance                      | Functional                                       | 10 to 55Hz at double amplitude of 1.0mm |
|                          |   | Destruction                                      | 10 to 55Hz at double amplitude of 2.0mm |
| Life expectancy          | Mechanical life                           | 10,000,000 operations (at 180cpm)                |   |
|                          | Electrical life(at rating)                | 100,000 operations (at 20cpm)                    |   |
| Ambient temperature      | Operating                                 | -40 to +70 degree Celsius (without being frozen) |   |
| Unit weight              |   | Approx. 1.8g                                     |   |

\*These AC ratings are under random phase-control. In driving AC load, life expectancy so greatly depends on the phase at turning on or off so that user should check selected relays with actual load

## Dimensions

Unit:mm

| Dimensions  | PC board pattern<br>(Bottom view)   | Schematics<br>(Bottom view)   |
|---|---|---|
| <p>1 Form C</p>  | <p>1 Form C</p>  | <p>1 Form C</p>  |
| <p>1 Form A</p>  | <p>1 Form A</p>  | <p>1 Form A</p>  |

## Note

1. The appearance and specifications of the product may be modified without prior notice to improve its performance.
2. This catalog shows only outline specifications. When using the product, please obtain formal specifications for supply.
3. Please see appendix "Technical Definitions" and "Technical Notes".
4. Please feel free to contact us for relays with the specifications not shown in this catalogue.
5. Please confirm the performance on actual operation by simulation with actual environments for high reliability.