## Features

2 pole relay suitable for signal circuit.
High sensitive polarized relay.
100mW pick-up power. (200mW Electric power consumption)
150mW Electric power consumption available.
High reliability and long life.
1 x $10^8$(mechanical life), 3 x $10^5$(2A 30VDC electrical life)
High breakdown voltage.
1,500VAC Between coil and contact.
1,000VAC Between open contacts.
Gold-clad Silver palladium contact available, too.
Sealed construction.
Approved by UL / C-UL

Actual size

## Applications

Switch board, Facsimile, Telephones
Audio equipment, Industrial machines

## UL / C-UL Rating

2A 30VDC , 1A120VAC (UL/C-UL File No.E128155)

## Model Number

RSB □—□—□

Nil : Single side stable
L : 2 coil latching
K : 1 coil latching

Coil voltage(3,5,6,9,12,24,48VDC)

Nil : Standard type :400mW or 360mW
S : High sensitive type :200mW or 180mW
U : Ultra high sensitive type :150mW(only single type)

## Products Line (Single side stable , Standard type)(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) |
|---|---|---|---|---|---|---|---|
| RSB-3 | 3 | 70% Max .of nominal voltage | 10% Min .of nominal voltage | 22.5 | 133.3 | 400 | 4.6 |
| RSB-5 | 5 | | | 62.5 | 80.0 | | 7.7 |
| RSB-6 | 6 | | | 90 | 66.7 | | 9.3 |
| RSB-9 | 9 | | | 203 | 44.3 | | 14.0 |
| RSB-12 | 12 | | | 360 | 33.3 | | 18.7 |
| RSB-24 | 24 | | | 1,440 | 16.7 | | 37.4 |
| RSB-48 | 48 | | | 5,760 | 8.3 | | 74.8 |

Products Line (Single side stable , High sensitive type)(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) |
|---|---|---|---|---|---|---|---|
| RSB-3-S | 3 | 70% Max .of nominal voltage | 10% Min .of nominal voltage | 45 | 66.7 | 200 | 5.9 |
| RSB-5-S | 5 | | | 125 | 40.0 | | 9.8 |
| RSB-6-S | 6 | | | 180 | 33.3 | | 11.7 |
| RSB-9-S | 9 | | | 406 | 22.2 | | 17.7 |
| RSB-12-S | 12 | | | 720 | 16.6 | | 23.5 |
| RSB-24-S | 24 | | | 2,880 | 8.3 | | 47.1 |
| RSB-48-S | 48 | | | 11,520 | 4.2 | | 94.3 |

Products Line (Single side stable , Ultra high sensitive type)(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) |
|---|---|---|---|---|---|---|---|
| RSB-3-U | 3 | 80% Max .of nominal voltage | 10% Min .of nominal voltage | 60 | 50.0 | 150 | 6.9 |
| RSB-5-U | 5 | | | 167 | 29.9 | | 11.5 |
| RSB-6-U | 6 | | | 240 | 25.0 | | 13.8 |
| RSB-9-U | 9 | | | 540 | 16.6 | | 20.7 |
| RSB-12-U | 12 | | | 960 | 12.5 | | 27.6 |
| RSB-24-U | 24 | | | 3,840 | 6.2 | | 55.2 |

Products Line (2 coil latching , Standard type)(at 20 degree Celsius)

| Model number | Nominal Voltage (VDC) | Set voltage (VDC) | Reset voltage (VDC) | Coil resistance (ohm) | Nominal operating current (mA) | Electric power consumption (mW) | Max .allowable voltage (VDC) |
|---|---|---|---|---|---|---|---|
| RSBL-3 | 3 | 70% Max .of nominal voltage | 70% Min .of nominal voltage | 25 | 120 | 360 | 4.6 |
| RSBL-5 | 5 | | | 69.4 | 72 | | 7.8 |
| RSBL-6 | 6 | | | 100 | 60 | | 9.3 |
| RSBL-9 | 9 | | | 225 | 40 | | 14.0 |
| RSBL-12 | 12 | | | 400 | 30 | | 18.7 |
| RSBL-24 | 24 | | | 1,600 | 15 | | 37.4 |
| RSBL-48 | 48 | | | 6,400 | 7.5 | | 74.8 |

Products Line (2 coil latching , High sensitive type)(at 20 degree Celsius)

| Model number | Nominal Voltage (VDC) | Set voltage (VDC) | Reset voltage (VDC) | Coil resistance (ohm) | Nominal operating current (mA) | Electric power consumption (mW) | Max .allowable voltage (VDC) |
|---|---|---|---|---|---|---|---|
| RSBL-3-S | 3 | 70% Max .of nominal voltage | 70% Min .of nominal voltage | 50 | 60 | 180 | 5.8 |
| RSBL-5-S | 5 | | | 139 | 36 | | 9.8 |
| RSBL-6-S | 6 | | | 200 | 30 | | 11.8 |
| RSBL-9-S | 9 | | | 450 | 20 | | 17.7 |
| RSBL-12-S | 12 | | | 800 | 15 | | 23.6 |
| RSBL-24-S | 24 | | | 3,200 | 7.5 | | 47.2 |
| RSBL-48-S | 48 | | | 12,800 | 3.8 | | 94.4 |

Products Line(1 coil latching , Standard type)(at 20 degree Celsius)

| Model number | Nominal Voltage (VDC) | Set voltage (VDC) | Reset voltage (VDC) | Coil resistance (ohm) | Nominal operating current (mA) | Electric power consumption (mW) | Max .allowable voltage (VDC) |
|---|---|---|---|---|---|---|---|
| RSBK-3 | 3 | 70% Max .of nominal voltage | 70% Min .of nominal voltage | 25 | 120 | 360 | 4.6 |
| RSBK-5 | 5 | | | 69.4 | 72 | | 7.8 |
| RSBK-6 | 6 | | | 100 | 60 | | 9.3 |
| RSBK-9 | 9 | | | 225 | 40 | | 14.0 |
| RSBK-12 | 12 | | | 400 | 30 | | 18.7 |
| RSBK-24 | 24 | | | 1,600 | 15 | | 37.4 |
| RSBK-48 | 48 | | | 6,400 | 7.5 | | 74.8 |

Products Line (1 coil latching , High sensitive type)(at 20 degree Celsius)

| Model number | Nominal Voltage (VDC) | Set voltage (VDC) | Reset voltage (VDC) | Coil resistance (ohm) | Nominal operating current (mA) | Electric power consumption (mW) | Max .allowable voltage (VDC) |
|---|---|---|---|---|---|---|---|
| RSBK-3-S | 3 | 70% Max .of nominal voltage | 70% Min .of nominal voltage | 50 | 60 | 180 | 5.8 |
| RSBK-5-S | 5 | | | 139 | 36 | | 9.8 |
| RSBK-6-S | 6 | | | 200 | 30 | | 11.8 |
| RSBK-9-S | 9 | | | 450 | 20 | | 17.7 |
| RSBK-12-S | 12 | | | 800 | 15 | | 23.6 |
| RSBK-24-S | 24 | | | 3,200 | 7.5 | | 47.2 |
| RSBK-48-S | 48 | | | 12,800 | 3.8 | | 94.4 |

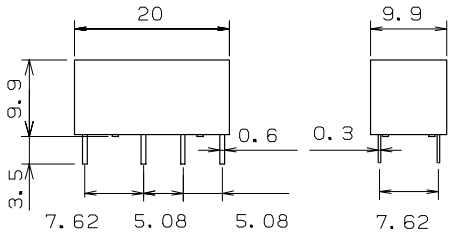
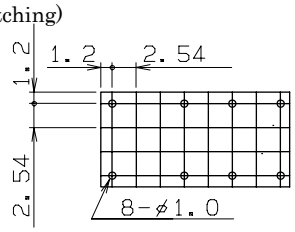
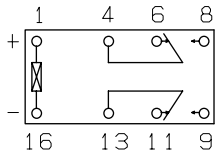
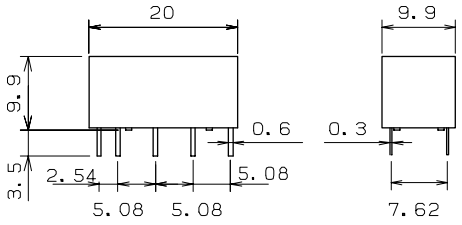
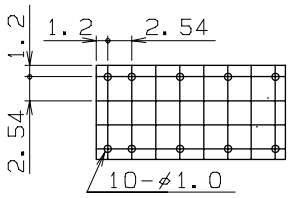
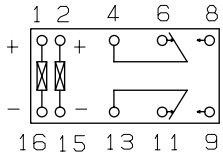
Typical Specifications

| Item | | | Specifications | |
|---|---|---|---|---|
| Type | | | Standard / High sensitive type | Ultra high sensitive type |
| Contact | Arrangement | | 2c | |
| | Initial contact resistance max. | | Max. 50 milliohm | |
| | Material | | Silver nickel, gold clad | |
| Rating | Nominal switching Capacity | | 2A30VDC , 1A125VAC* | |
| | Max .switching power | | 60W, 125VA | |
| | Max .switching voltage | | 220VDC, 250VAC | |
| | Max .switching current | | 2A | |
| Electrical specification | Initial insulation resistance | | Min.100 megohm (at 500VDC) | |
| | Withstanding voltage (Initial) | Between open contacts | AC1,000V (1 minute) | |
| | | Between contacts and coil | AC1,500V (1 minute) | |
| | Coil Temperature rise (at nominal Voltage) | | Max.40 degree Celsius (Standard type) Max.30 degree Celsius (High sensitive type) | Max. 25 degree Celsius |
| | Operate time(Set & Reset time) (at nominal voltage) | | Max.5msec | Approx. 7msec |
| | Release time(at nominal voltage) | | Max.3.5msec | Approx. 2msec |
| Mechanical specification | Shock resistance | Functional | Min.392m/s² (40G) | |
| | | Destruction | Min.980 m/s² (100G) | |
| | Vibration resistance | Functional | 10 to 55Hz at double amplitude of 1.5mm | |
| | | Destruction | 10 to 55Hz at double amplitude of 1.5mm | |
| Life expectancy | Mechanical life | | 100,000,000 Operations(at 600cpm) | |
| | Electrical life(at rating) | | 300,000 operations (2A30VDC, 1A125VAC) 1000,000 operations (1A30VDC, 0.5A125VAC) (at 20cpm) | 100,000 operations (2A30VDC, 1A125VAC) 500,000 operations (1A30VDC, 0.5A125VAC) (at 20cpm) |
| Ambient temperature | Operating | | -40 to +70 degree Celsius (without being frozen) | |
| Unit weight | | | Approx.4.5g | |

*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 (Bottom view) | Schematics (Bottom view) |
|---|---|---|
| RSB(Single side stable , 1 coil latching)<br>  | RSB(Single side stable , 1 coil latching)<br>  | RSB(Single side stable , 1 coil latching)<br>  <br>Reverse polarity available |
| RSBL(2 coil latching)<br>  | RSB(2 coil latching)<br>  | RSBL(2 coil latching)<br>  <br>Reverse polarity available |

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.