



### Features

- Miniature relay with high power: max. switching capability 40A.
- Low coil power consumption with excellent performance.
- Both sealed and open types available.
- Class H coil available.

### Contact Capacity

| Model                                  | SARB-DM   | SARB-D                         |
|--|-----------|--------------------------------|
| Nominal switching capacity (res. load) | 40A 14VDC | NO: 40A 14VDC<br>NC: 30A 14VDC |
| Max. switching current                 | 40A       | 40A                            |
| Max. switching voltage                 | 30VDC     | 30VDC                          |
| Max. switching power                   | 560W      | 560W                           |

### Charateristic Data

|   |   |   |
|---|---|---|
| Contact material                        | Silver alloy                                    |   |
| Initial contact resistance (at 6VDC 1A) | 50mΩ Max.                                       |   |
| Operate time (at nominal volt.)         | 6msec. Max.                                     |   |
| Release time (at nominal volt.)         | 3msec. Max.                                     |   |
| Initial insulation resistance           | 500MΩ Min.(DC500V)                              |   |
| Initial dielectric strength             | Between open contacts: AC500V, 50/60Hz 1Min.    |   |
|   | Between coil and contact: AC500V, 50/60Hz 1Min. |   |
| Vibration resistance                    | Functional                                      | 10 ~ 55Hz at double amplitude of 1.5 mm |
|   | Destructive                                     | 10 ~ 55Hz at double amplitude of 1.5 mm |
| Shock resistance                        | Functional                                      | 20G Min.                                |
|   | Destructive                                     | 100G Min.                               |
| Endurance (operations)                  | Mechanical (at 10,800 ops./h)                   | 10,000,000                              |
|   | Electrical (at 600 ops./h)                      | 100,000                                 |
| Ambient temperature                     | -40°C ~ +125°C (no condensation)                |   |
| Unit weight                             | Open type: 16.0 g; Sealed type: 20.5 g          |   |

### Coil Data (at 20°C)

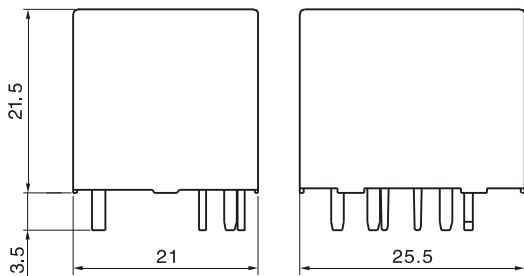
| Nominal voltage (VDC) | Nominal operating current ± 10% (mA) | Coil resistance ± 10% (Ω) | Max. allowable voltage   | Pick-up voltage (Max.)  | Drop-out voltage (Min.) | Nominal operating power |
|-----------------------|--------------------------------------|---------------------------|--------------------------|-------------------------|-------------------------|-------------------------|
| 6                     | 266.67                               | 22.5                      | 150 % of nominal voltage | 60 % of nominal voltage | 10% of nominal voltage  | Approx. 1.60W           |
| 9                     | 180.00                               | 50                        |                          |                         |                         |                         |
| 12                    | 133.33                               | 90                        |                          |                         |                         |                         |
| 18                    | 89.11                                | 202                       |                          |                         |                         |                         |
| 24                    | 66.67                                | 360                       |                          |                         |                         |                         |
| 48                    | 33.33                                | 1,440                     |                          |                         |                         |                         |

Ordering Information

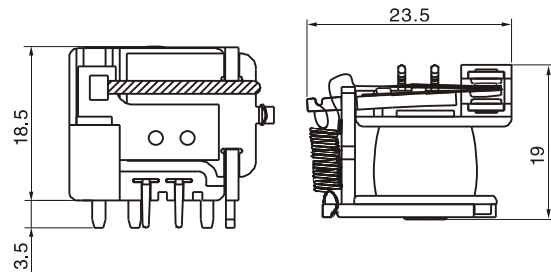
| Nomenclature |    |    |    |   |   |   |   |    |  |
|--------------|----|----|----|---|---|---|---|----|--|
| SARB         | -S | -1 | 12 | D | M | U | 1 | XX | Special Parameter: Nil-Standard type,<br>Letter or number-Special requirement      |
|              |    |    |    |   |   |   |   |    | Yoke Terminal Arrangement: Nil-3 yoke terminal,<br>1-2 yoke terminal               |
|              |    |    |    |   |   |   |   |    | Terminal Arrangement: U-USA, E-European  |
|              |    |    |    |   |   |   |   |    | Contact Form: Nil-Form C, B-Form B, M-Form A                                       |
|              |    |    |    |   |   |   |   |    | Coil Power: D-1.6W   |
|              |    |    |    |   |   |   |   |    | Coil Voltage (VDC): 06, 09, 12, 18, 24, 48   |
|              |    |    |    |   |   |   |   |    | Number of Poles: 1-1 Pole  |
|              |    |    |    |   |   |   |   |    | Protective Construction: Nil-Open type, S-Flux proofed,<br>SH-Sealed type washable |
|              |    |    |    |   |   |   |   |    | Type Designation: SARB   |

Outline Dimensions, Wiring Diagram, P.C. Board Layout (unit: mm)

Sealed type

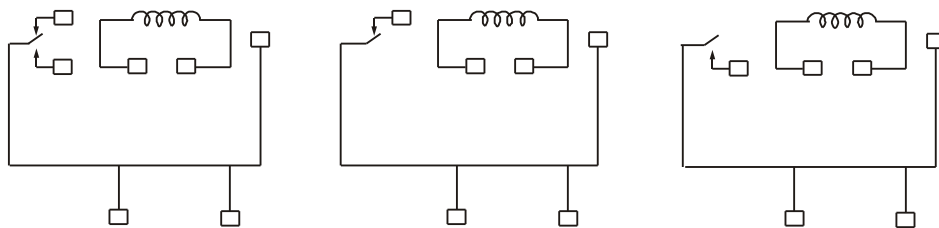


Open type

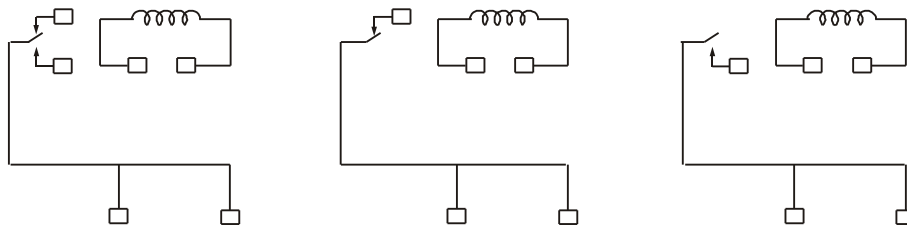


Unless otherwise specified:  
 If dimension < 1mm, tolerance:  $\pm 0.2\text{mm}$ ;  
 If dimension 1-5mm, tolerance:  $\pm 0.3\text{mm}$ ;  
 If dimension > 5mm, tolerance:  $\pm 0.4\text{mm}$ .  
 Note: 1. Extended terminal dimension is dimension before soldering.  
 2. Tolerance of P.C.B. layout:  $\pm 0.1\text{mm}$ .

3 yoke terminal



2 yoke terminal

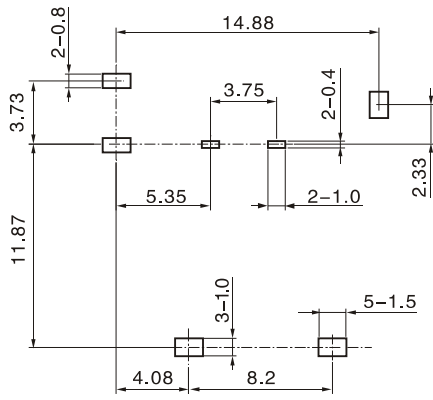


1c

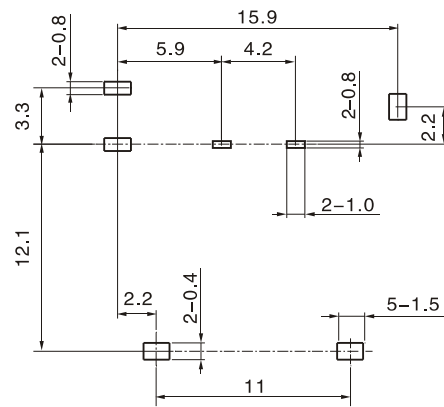
1b

1a

Wiring Diagram (bottom view)



SARB-U



SARB-E

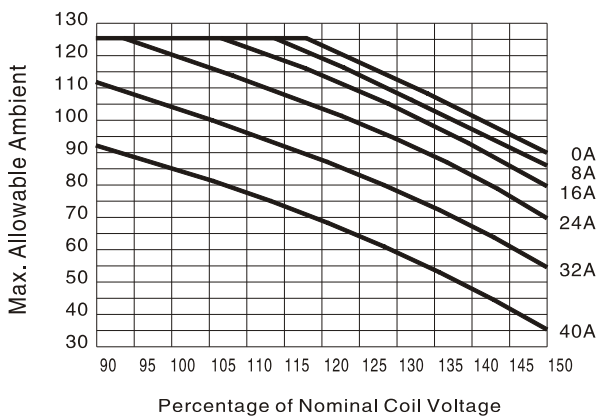
P.C.B. Layout (bottom view)

## Typical Applications

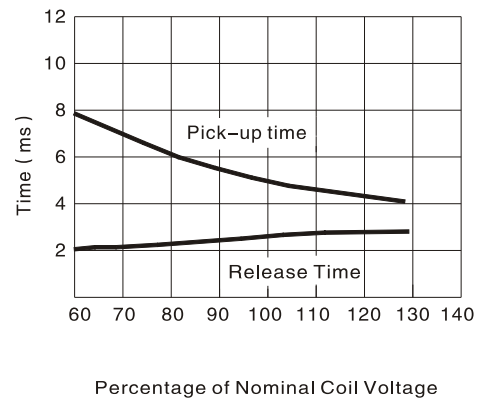
- Automotive control switching box, automation, etc.

## Characteristic Curves

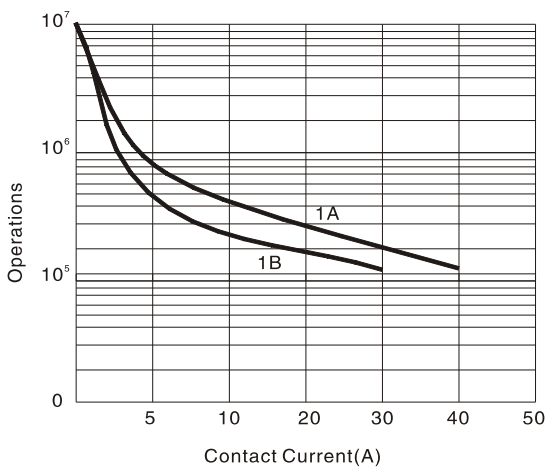
Ambient temperature vs coil voltage



Pick-up/release time



Endurance Curve



Anti-arc capability of N.O. Contacts with res. Load

