

## »» Features

- Smallest and slim type PCB Automotive relay.
- High rating 20A with maximum switching current up to 30A.
- High Temperature withstand up to 125°C.
- Single or twin relays are both available.
- Comply with RoHS-Directive 2002/95/EC, and ELV-Directive 2000/53/EC.

## »» Type List

| Terminal style | Contact form | Designation (provided with) |             |                      |
|----------------|--------------|-----------------------------|-------------|----------------------|
|                |              | Flux tight                  | Sealed type | Sealed type washable |
| PCB terminal   | 1A (SPNO)    | 103-1AH-C                   | 103-1AH-V   | 103-1AH-S            |
|                |              | 103T-1AH-C                  | 103T-1AH-V  | 103T-1AH-S           |
|                | 1C (SPDT)    | 103-1CH-C                   | 103-1CH-V   | 103-1CH-S            |
|                |              | 103T-1CH-C                  | 103T-1CH-V  | 103T-1CH-S           |

## »» Ordering Information

103    □    -    1A    H    -    C  
 1        2        3        4        5

- |  |   |
|--|---|
| 1. 103 -- Basic series designation                                   | 4. H -- Contact material AgSnO                                      |
| 2. Blank -- Single relay<br>T -- Twin relay                          | 5. C -- Flux tight<br>V -- Sealed type<br>S -- Sealed type washable |
| 3. 1A -- Single pole normally open<br>1C -- Single pole double throw |   |

## »» Contact Rating

|                |   |
|----------------|---|
| Resistive load | NO/NC 20A/10A 14VDC                         |
| Motor load     | Inrush 30A Steady state 10A 14VDC,750K ops. |
|                | Motor Lock : 20A 14VDC 200K ops.            |

## »» Coil Rating (DC)

| Rated voltage (V) | Rated current ±10 % at 23°C (mA) | Coil resistance ±10 % at 23°C (Ω) | Max. continuous voltage at 85°C | Pick up voltage(Max) at 23°C | Drop out voltage(Min) at 23°C | Power consumption at rated voltage |
|-------------------|----------------------------------|-----------------------------------|---------------------------------|------------------------------|-------------------------------|------------------------------------|
| 6                 | 107                              | 56                                | 125 % of rated voltage          | 60 % of rated voltage        | 5 % of rated voltage          | approx. 0.64W                      |
| 9                 | 70.8                             | 127                               |                                 |                              |                               |                                    |
| 12                | 53.3                             | 225                               |                                 |                              |                               |                                    |
| 24                | 26.7                             | 900                               |                                 |                              |                               |                                    |

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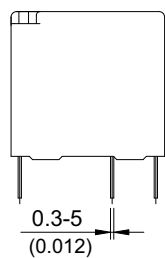
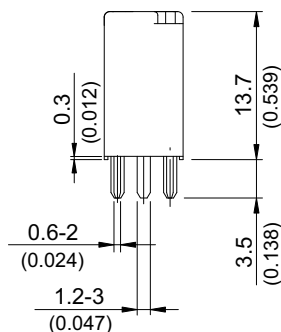
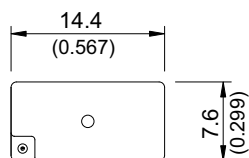
## »» Specification

|                                      |                          |   |
|--------------------------------------|--------------------------|---|
| Contact material                     | AgSnO alloy              |   |
| Contact voltage drop <sup>(1)</sup>  | Typ. 50mV at 10A         |   |
| Operate time <sup>(1)</sup>          | 10 ms Max.               |   |
| Release time <sup>(1)</sup>          | 5 ms Max.                |   |
| Insulation resistance <sup>(1)</sup> | 100 MΩ Min. (DC 500V)    |   |
| Dielectric strength <sup>(1)</sup>   | Between open contact     | : AC 500V , 50/60Hz 1 min.                                |
|                                      | Between contact and coil | : AC 500V , 50/60Hz 1 min.                                |
| Vibration resistance                 | Operating extremes       | 10~500Hz , 4.4G   |
|                                      | Damage limits            | 10~500Hz , 4.4G   |
| Shock resistance                     | Operating extremes       | 10G   |
|                                      | Damage limits            | 100G  |
| Life expectancy                      | Mechanical               | 10,000,000 operations<br>(frequency 18,000 operations/hr) |
|                                      | Electrical               | 100,000 operations<br>(frequency 360 operations/hr)       |
| Operating ambient temperature        | -40~+125°C (no freezing) |   |
| Weight                               | Approx. 4 g              |   |

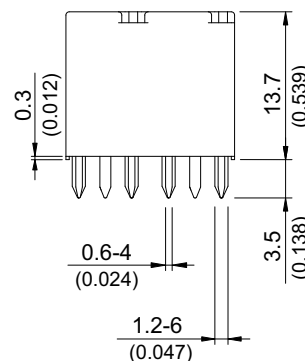
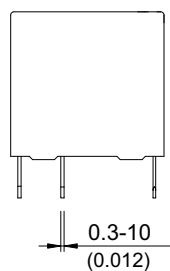
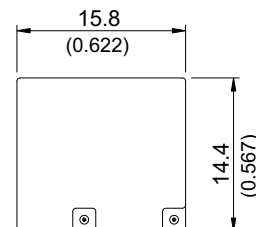
Note : (1) initial value

## »» Outline Dimensions

### ◆ 103



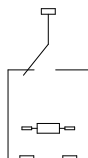
### ◆ 103T



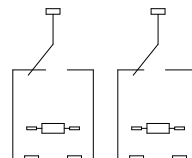
## »» Wiring Diagram

BOTTOM VIEW

### ◆ 103



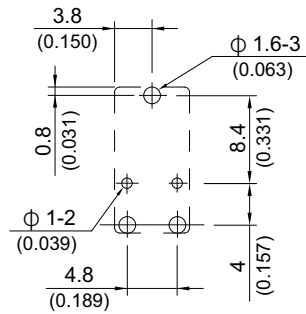
### ◆ 103T



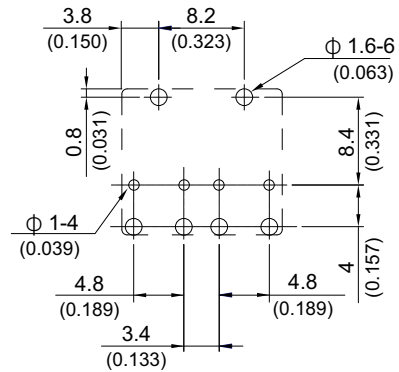
## »» PC Board Layout

BOTTOM VIEW

◆103



◆103T



## »» Engineering Data

