

### »» 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.
- Complies with RoHS-Directive 2011/65/EU, 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
	1A (SPNO) ×2	103T-1AH-C	103T-1AH-V	103T-1AH-S
	1C (SPDT)	103-1CH-C	103-1CH-V	103-1CH-S
	1C (SPDT) ×2	103T-1CH-C	103T-1CH-V	103T-1CH-S

### »» Ordering Information

103        -    1A    H    -    C      
 1        2        3        4        5        6

- |  |  |
|--|--|
| 1. 103 -- Basic series designation<br><br>2. Blank -- Single relay<br>T    -- Twin relay<br><br>3. 1A -- Single pole normally open<br>1C -- Single pole double throw | 4. H    -- Contact material AgSnO<br><br>5. C    -- Flux tight<br>V    -- Sealed type<br>S    -- Sealed type washable<br><br>6. <input type="checkbox"/> -- Coil voltage (please refer to the coil rating data for the availability) |
|--|--|

### »» 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				

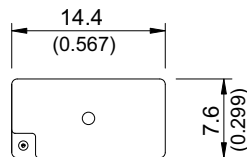
### »» Specification

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 (frequency 18,000 operations/hr)
	Electrical	100,000 operations (frequency 360 operations/hr)
Operating ambient temperature	-40~+125°C (no freezing)	
Weight	Approx. 4 g	

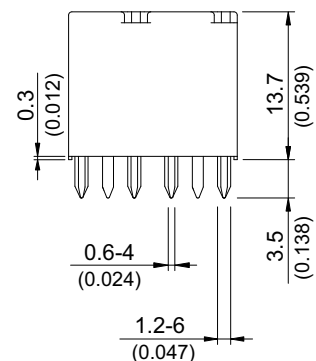
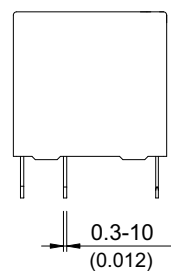
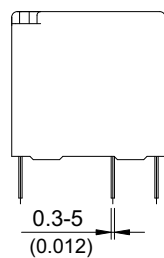
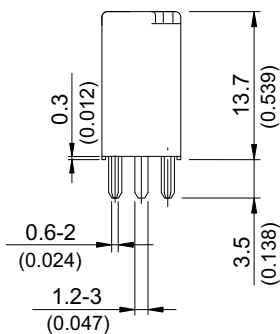
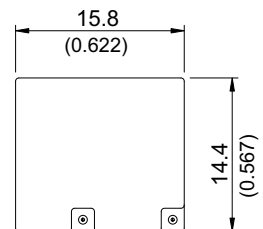
Note : (1) Initial value. Operate and release time excluding contact bounce.

### »» Outline Dimensions

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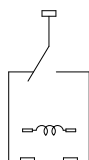
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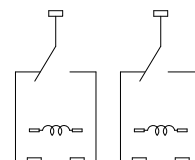
### »» Wiring Diagram

BOTTOM VIEW

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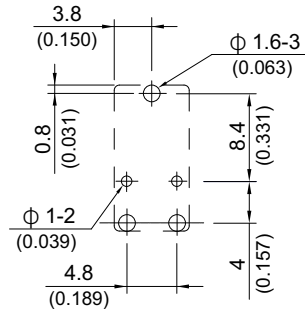
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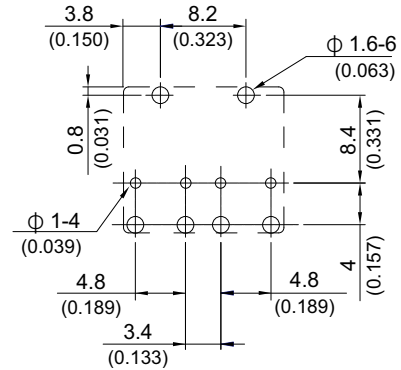
## PC Board Layout

BOTTOM VIEW

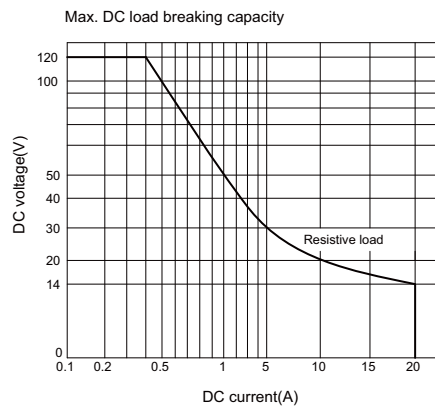
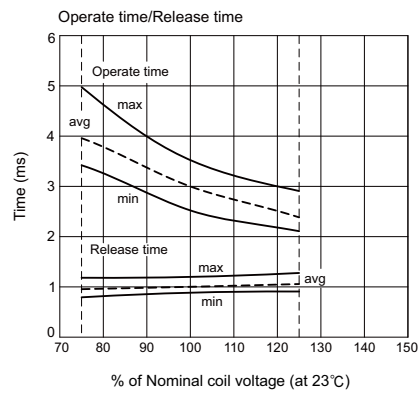
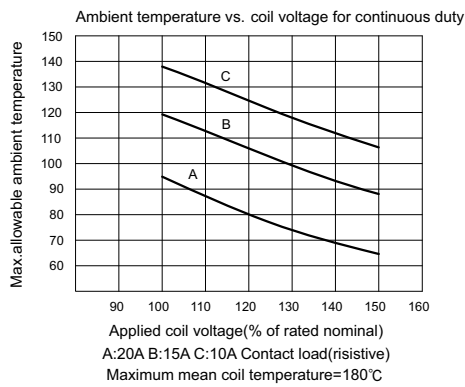
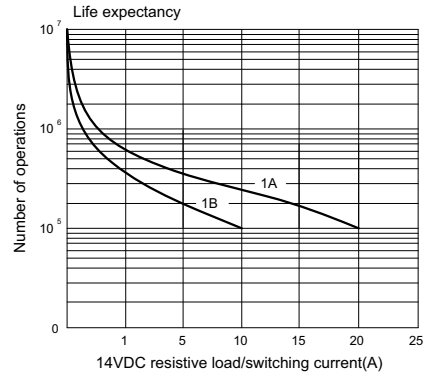
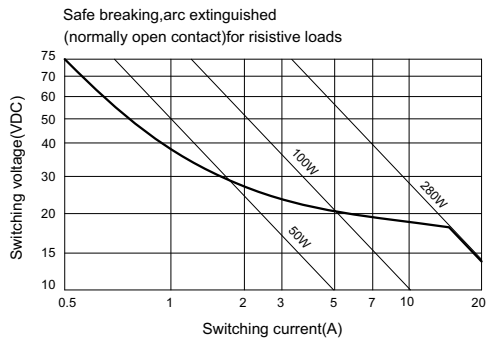
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