

»» 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

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

»» 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				

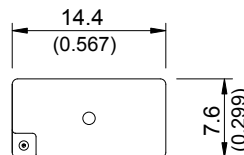
>>> Specification

Contact material	AgSnO alloy	
Contact voltage drop ⁽¹⁾	Typ. 50mV at 10A	
Operate time ⁽¹⁾	10 ms Max.	
Release time ⁽¹⁾	5 ms Max.	
Insulation resistance ⁽¹⁾	100 MΩ Min. (DC 500V)	
Dielectric strength ⁽¹⁾	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	

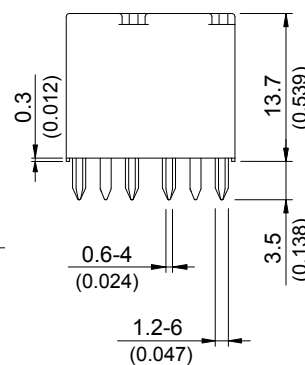
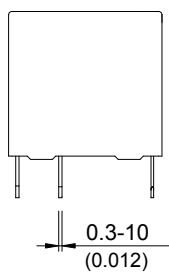
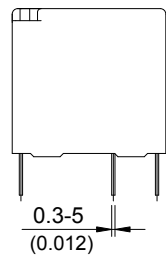
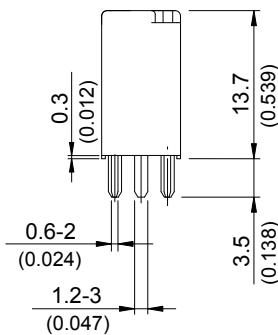
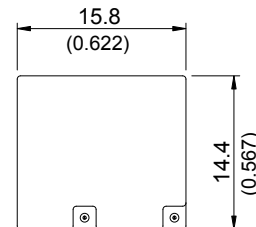
Note : (1) Initial value. Operate and release time excluding contact bounce.

>>> Outline Dimensions

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◆103T

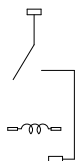

 TOLERANCE:
 LESS THAN: 1(0.039) ±0.1(0.004)
 5(0.197) ±0.3(0.012)
 20(0.787) ±0.5(0.020)
 MORE THAN: 20(0.787) ±1(0.039)

>>> Wiring Diagram

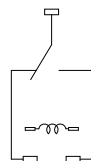
BOTTOM VIEW

◆103

1A

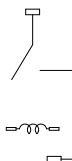


1C

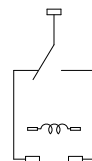
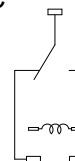


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1A



1C

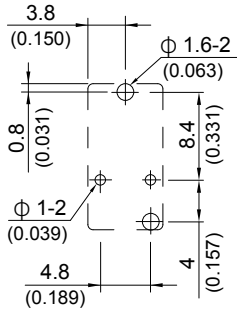


PC Board Layout

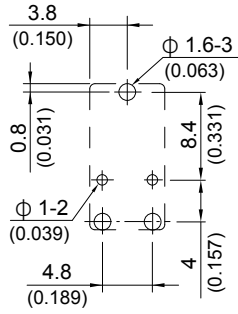
BOTTOM VIEW

◆ 103

1A

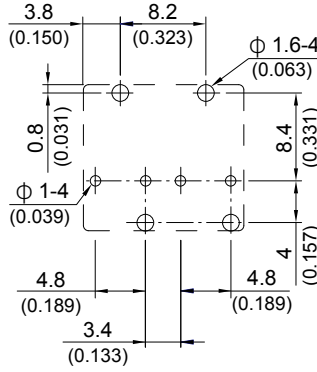


1C

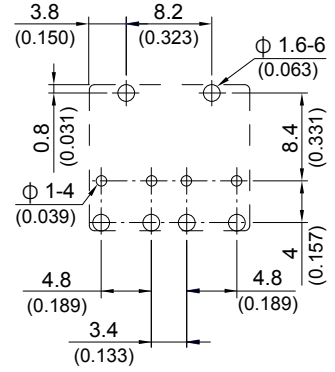


◆ 103T

1A



1C



Engineering Data

