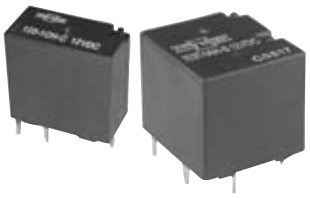


Features

- Smallest and slim type PCB Automotive relay.
- High rating 20A with maximum switching current up to 30A.
- High Temperature withstand up to 125℃.
- 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	T	-	1A	H	-	C
1	2		3	4		5

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

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				

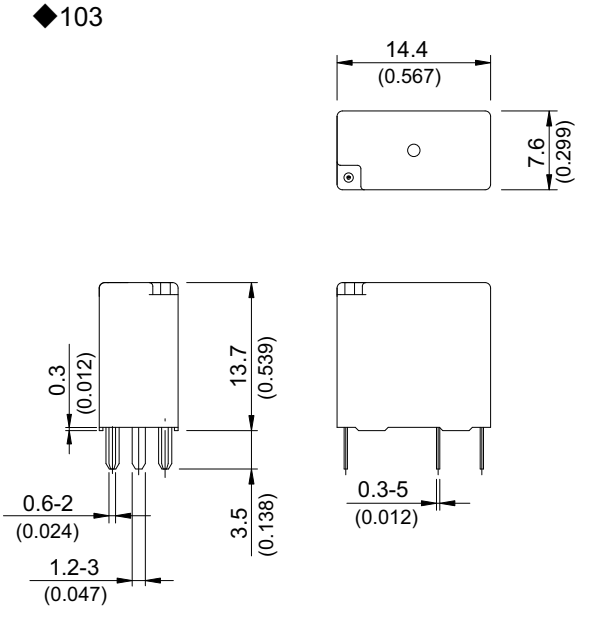
Specification

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	10～50Hz , amplitude 1.0 mm
	Damage limits	10～50Hz , amplitude 1.0 mm
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	

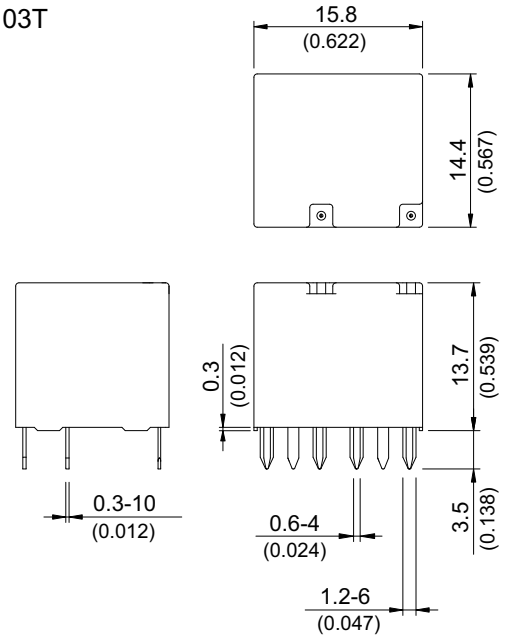
Note : (1) initial value

Outline Dimensions

◆103



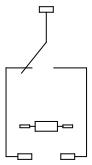
◆103T



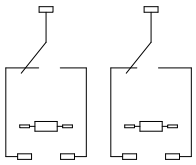
Wiring Diagram

BOTTOM VIEW

◆103



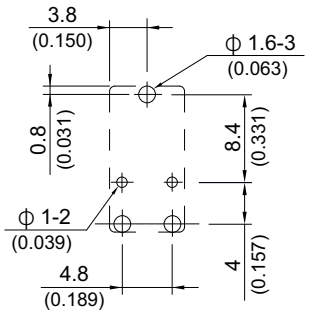
◆103T



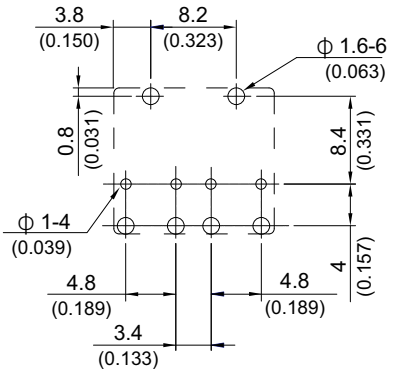
PC Board Layout

BOTTOM VIEW

◆103

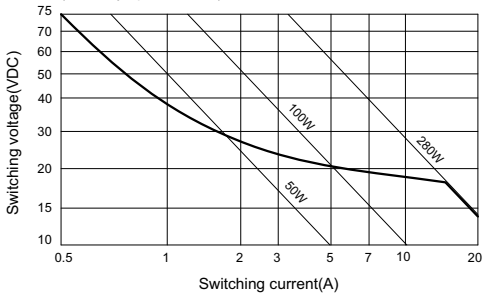


◆103T

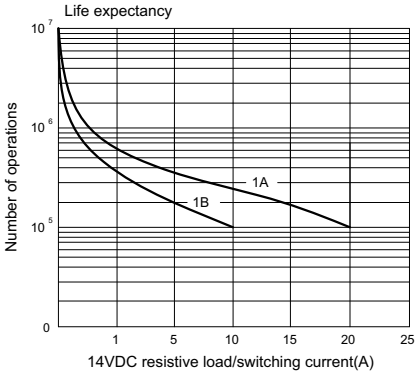


Engineering Data

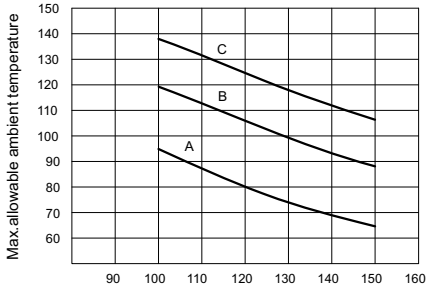
Safe breaking,arc extinguished
(normally open contact)for risistive loads



Life expectancy

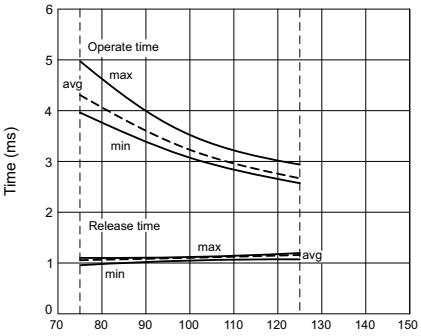


Ambient temperature vs. coil voltage for continuous duty



A:20A B:15A C:10A Contact load(risistive)
Maximum mean coil temperature=180℃

Operate time/Release time



Max. DC load breaking capacity