



### »» Features

- Ultra Micro ISO Automotive relay.
- High Rating up to 20A.
- High Temperature withstand up to 125°C ambient.
- General Purpose for Automotive applications.

### »» Type List

Terminal style	Contact form	Designation (provided with)	Enclosure style			
			Dust cover	Flux tight	Sealed type	Sealed type washable
Socket terminal	1A (SPNO)	-----	303-1AH-D	303-1AH-C	303-1AH-V	303-1AH-S
		Resistor <sup>(1)</sup>	303-1AH-D-R1	303-1AH-C-R1	303-1AH-V-R1	303-1AH-S-R1
		Diode	303-1AH-D-D1	303-1AH-C-D1	303-1AH-V-D1	303-1AH-S-D1

Note : (1) 12VDC COIL: 680 Ω Resistor in parallel

### »» Ordering Information

303 - 1A H - D - R1  
 1 2 3 4 5

- |                                    |  |
|------------------------------------|--|
| 1. 303 -- Basic series designation | 5. Blank -- Standard type  |
| 2. 1A -- Single pole normally open | R1 -- Coil parallel with resistor 680 Ω for coil voltage 12VDC               |
| 3. H -- Contact material AgSnO     | D1 -- Coil parallel with diode IN4007 the positive pole "+" on # 85 terminal |
| 4. D -- Dust cover                 | U01 -- Class F Coil Insulation   |
| C -- Flux tight                    |  |
| V -- Sealed type                   |  |
| S -- Sealed type washable          |  |

### »» Contact Rating

Inductive	4A 14VDC ; ON 3s / OFF 3s -30~+80°C 880K ops.
Motor fuel-pump	8A 14VDC Inrush 30A ; ON 1s / OFF 3s -30 ~+80°C 160K ops.
Motor radiator-fan	16A 14VDC Inrush 80A ; ON 2s / OFF 5s -30 ~+80°C 440K ops.
Lamp	16A 14VDC Inrush 80A ; ON 3s / OFF 3s -30 ~+100°C 100K ops.
Resistive	20A 14VDC +25°C 100K ops.
Max. switching current	Coil 16VDC / Contact 20A 14VDC +100°C

### »» Coil Rating (DC)

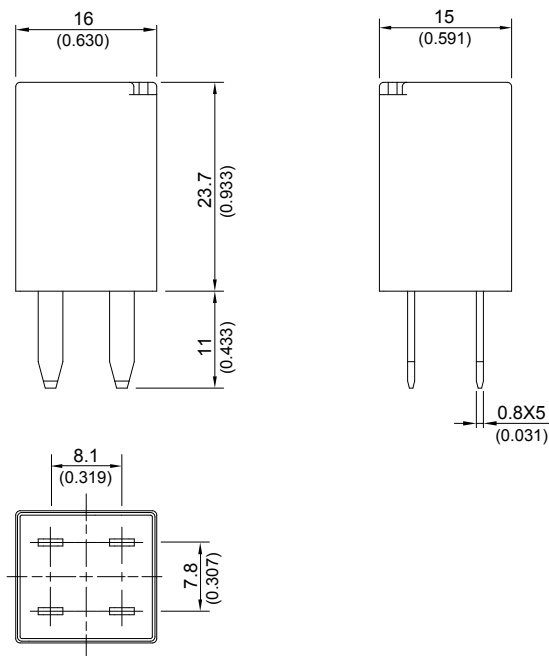
Rated voltage (V)	Rated current ±10 % at 23 °C (mA)	Coil resistance ±10 % at 23 °C (Ω)	Max. continuous voltage at 85 °C	Pick up voltage(Max) at 23 °C	Drop out voltage(Min) at 23 °C	Power consumption at rated voltage
12	80	150	133 % of rated voltage	60 % of rated voltage	10 % of rated voltage	approx. 0.96W

## »» Specification

Contact material	AgSnO alloy	
Contact voltage drop <sup>(1)</sup>	NO:200 mV Max. at 15A NC:250mV Max. at 10A	
Operate time <sup>(1)</sup>	10 ms MAX	
Release time <sup>(1)</sup>	10 ms MAX	
Insulation resistance <sup>(1)</sup>	20 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 , 5.0G
	Damage limits	10~500Hz , 5.0G
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 1,800 operations/hr)
Operating ambient temperature	-40 ~ +125 °C (no freezing)	
Weight	Approx. 20 g	

Note:(1)Initial value

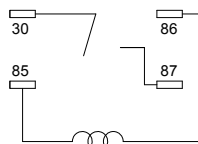
## »» Outline Dimensions



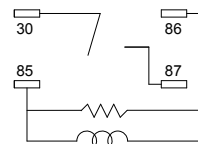
## »» Wiring Diagram

BOTTOM VIEW

1A



1A (R1)



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[303-1AH-C-R1-12VDC](#)