



### »» Features

- ☐ Low cost automotive relay with ISO 280 footprint.
- ☐ High rating up to 35A at 125 degree C.
- ☐ Optional to be equipped with diode or resistor.
- ☐ General purpose applications for automotive in power control box.

### »» Type List

| Terminal style  | Contact form | Designation (provided with) | Enclosure style |             |                      |
|-----------------|--------------|-----------------------------|-----------------|-------------|----------------------|
|                 |              |                             | Dust cover      | Flux tight  | Sealed type washable |
| Socket terminal | 1A (SPNO)    | -----                       | 301-1A-D        | 301-1A-C    | 301-1A-S             |
|                 |              | Resistor <sup>(1)</sup>     | 301-1A-D-R1     | 301-1A-C-R1 | 301-1A-S-R1          |
|                 |              | Diode                       | 301-1A-D-D1     | 301-1A-C-D1 | 301-1A-S-D1          |
|                 | 1C (SPDT)    | -----                       | 301-1C-D        | 301-1C-C    | 301-1C-S             |
|                 |              | Resistor <sup>(1)</sup>     | 301-1C-D-R1     | 301-1C-C-R1 | 301-1C-S-R1          |
|                 |              | Diode                       | 301-1C-D-D1     | 301-1C-C-D1 | 301-1C-S-D1          |

Note : (1) 6VDC COIL: 180  $\Omega$  Resistor in parallel  
 12VDC COIL: 680  $\Omega$  Resistor in parallel  
 24VDC COIL: 2700  $\Omega$  Resistor in parallel

### »» Ordering Information

301 - 1A - D - R1  
 1 2 3 4

1. 301 -- Basic series designation
2. 1A -- Single pole normally open  
1C -- Single pole double throw
3. D -- Dust cover  
C -- Flux tight  
S -- Sealed type washable
4. Blank-- Standard type  
R1 -- Coil parallel with resistor 6VDC-180  $\Omega$  、12VDC-680 $\Omega$  、24VDC-2700 $\Omega$   
D1 -- Coil parallel with diode

### »» Contact Rating

| Resistive load | 1A        | 1C                               |
|----------------|-----------|----------------------------------|
|                | 35A 14VDC | NO : 35A 14VDC<br>NC : 20A 14VDC |

### »» Coil Rating (DC)

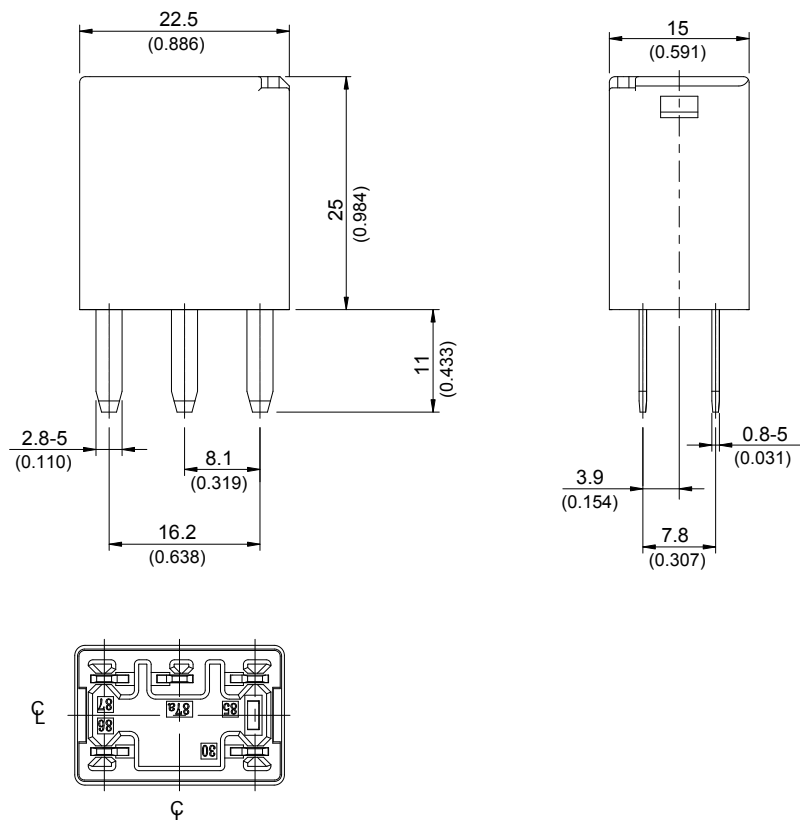
| Rated voltage (V) | Rated current $\pm 10\%$ at 23 °C (mA) | Coil resistance $\pm 10\%$ at 23 °C ( $\Omega$ ) | Max. continuous voltage at 85 °C | Pick up voltage(Max) at 23 °C | Drop out voltage(Min) at 23 °C | Power consumption at rated voltage |
|-------------------|----------------------------------------|--------------------------------------------------|----------------------------------|-------------------------------|--------------------------------|------------------------------------|
| 6                 | 187.5                                  | 32                                               | 133 % of rated voltage           | 60 % of rated voltage         | 10 % of rated voltage          | approx. 1.2W                       |
| 12                | 97.5                                   | 123                                              |                                  | rated voltage                 | rated voltage                  |                                    |
| 24                | 49.6                                   | 483                                              |                                  | voltage                       | voltage                        |                                    |

## Specification

|                                      |                          |                                                           |
|--------------------------------------|--------------------------|-----------------------------------------------------------|
| Contact material                     | AgSnO alloy              |                                                           |
| Contact voltage drop <sup>(1)</sup>  | Typ. 40mV at 10A         |                                                           |
| Operate time <sup>(1)</sup>          | 10ms Max.                |                                                           |
| Release time <sup>(1)</sup>          | 10ms Max.                |                                                           |
| Insulation resistance <sup>(1)</sup> | 20MΩ 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<br>(frequency 18,000 operations/hr) |
|                                      | Electrical               | 100,000 operations<br>(frequency 1,800 operations/hr)     |
| Temperature range                    | Storage                  | -40~+155° C (no freezing)                                 |
|                                      | Operating                | -40~+125° C (no freezing)                                 |
| Weight                               | Approx. 20 g             |                                                           |

Note:(1)Initial value

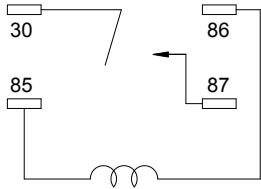
## Outline Dimensions



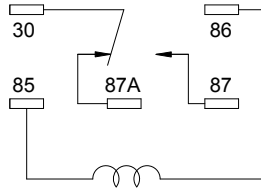
## Wiring Diagram

BOTTOM VIEW

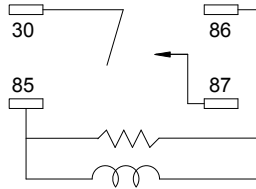
1A



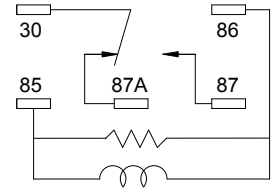
1C



1A (R1)

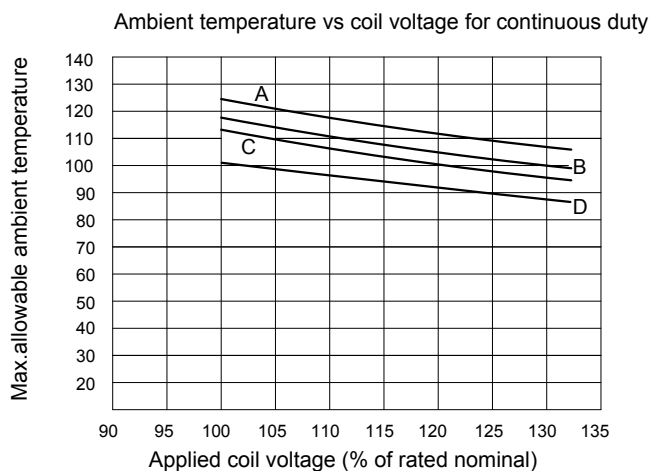
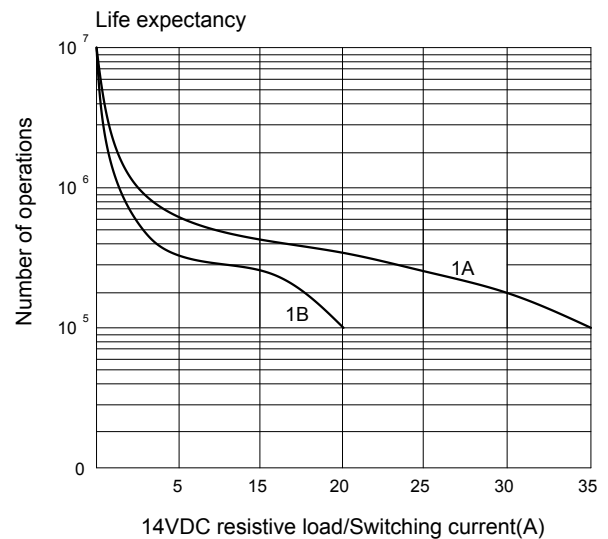
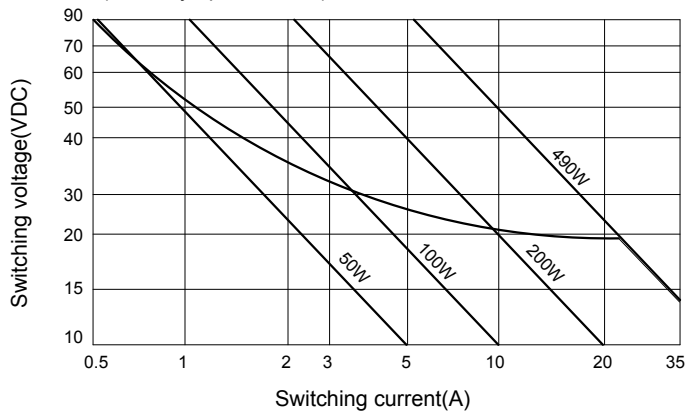


1C (R1)



## Engineering Data

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



A: 15A B: 20 C: 25 D: 35A Contact load (resistive)  
Maximum mean coil temperature = 155°C

