

507



### »» Features

- High rating miniature PCB Relay.
- AC & DC coil are both available.
- UL/CUL and VDE approved.
- 17A 277VAC SPDT.
- Low profile 15.7mm and high insulation system class F.
- High CTI 250 material & New Glow Wire Approved.  
(E version)
- Special version for inrush rating application is available.  
(507 IR type)
- Comply with RoHS-Directive 2011/65/EU.

### »» Type List

#### ◆ Standard type

Terminal style	Contact form	Insulation system	Designation (provided with)		
			Flux tight	Sealed type	Sealed type washable
PCB terminal	1A (SPNO)	F	507-1AH-F-C	507-1AH-F-V	507-1AH-F-S
	1C (SPDT)	F	507-1CH-F-C	507-1CH-F-V	507-1CH-F-S

#### ◆ High sensitivity type (N) / Ultra-sensitivity type (N1)

PCB terminal	1A (SPNO)	F	507N-1AH-F-C	507N-1AH-F-V	507N-1AH-F-S
			507N1-1AH-F-C	507N1-1AH-F-V	507N1-1AH-F-S
	1C (SPDT)	F	507N-1CH-F-C	507N-1CH-F-V	507N-1CH-F-S
			507N1-1CH-F-C	507N1-1CH-F-V	507N1-1CH-F-S

#### ◆ High power type

PCB terminal	1A (SPNO)	F	507H-1AH-F-C	507H-1AH-F-V	507H-1AH-F-S
	1C (SPDT)	F	507H-1CH-F-C	507H-1CH-F-V	507H-1CH-F-S

#### ◆ High power type 、 High sensitivity type (N)

PCB terminal	1A (SPNO)	F	507HN-1AH-F-C	507HN-1AH-F-V	507HN-1AH-F-S
	1C (SPDT)	F	507HN-1CH-F-C	507HN-1CH-F-V	507HN-1CH-F-S

Note : 507A—Special footprint 5.0mm pinning version can be selected.

### »» Ordering Information

507   - 1A H -  - C    
 1 2 3 4 5 6 7 8 9

- |  |                                       |
|--|---------------------------------------|
| 1. 507 -- Basic series designation   | N -- High sensitivity type (0.40 W)   |
|  | N1 -- Ultra-sensitivity type (0.25 W) |
| 2. Blank -- Standard type<br>(1P - Terminal pitch 3.5mm)                     | 4. 1A -- Single pole normally open    |
| A -- Standard type and special terminal pitch<br>(1P - Terminal pitch 5.0mm) | 1C -- Single pole double throw        |
| H -- High power type (only for 1P type)                                      | 5. C -- Contact material AgNi         |
| 3. Blank -- Standard type<br>(DC: 0.53 W) (AC: 0.75 VA)                      | CA -- Contact material AgNi+Au        |
|  | H -- Contact material AgSnO           |
|  | HA -- Contact material AgSnO+Au       |



6. Blank -- Standard type

F -- Class F

7. C -- Flux tight

V -- Sealed type

S -- Sealed type washable

8. Blank -- Standard type

E -- CTI 250V

IR -- 507 Inrush type(only for H, 1A/1C type)

9.  -- Coil voltage (please refer to the coil rating data for the availability)

### »» Contact Rating

Type	507 · 507N	507N1	507H · 507HN
Rated load (resistive)	12A 240VAC	10A 240VAC	16A 240VAC
Max. switching current	12A	10A	17A
Max. switching voltage	277VAC	277VAC	277VAC
Max. switching capacity	2880VA	2400VA	4080VA

### »» Coil Rating (DC)

#### ◆ Standard Type

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
3	176	17	150 % of rated voltage	75 % of rated voltage	10 % of rated voltage	approx. 0.53W
5	106	47				
6	88	68				
9	59	153				
12	44	272				
15	35	425				
18	29	611				
24	22	1,087				
36	15	2,445				
48	11	4,347				

#### ◆ High sensitivity type (N)

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
3	133	22.5	150 % of rated voltage	70 % of rated voltage	10 % of rated voltage	approx. 0.40W
5	80	62				
6	67	90				
9	44	203				
12	33	360				
18	23	771				
24	17	1,440				
36	11	3,240				
48	9	5,520				

## ◆ Ultra-sensitivity type (N1)

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
3	83	36	150 % of rated voltage	75 % of rated voltage	10 % of rated voltage	approx. 0.25W
5	50	100				
6	42	144				
9	28	324				
12	21	576				
18	14	1,296				
24	10	2,304				
36	7	5,184				

## »» Coil Rating (AC) [only for 507、507H]

Rated voltage (V)	Rated current $\pm 10\%$ at 23°C (mA)	Coil resistance $\pm 10\%$ at 23°C ( $\Omega$ )	Max. continuous voltage at 70°C	Pick up voltage(Max.) at 23°C	Drop out voltage(Min.) at 23°C	Power consumption at rated voltage
6	125	23.4	150 % of rated voltage	80 % of rated voltage	15 % of rated voltage	approx. 0.75VA
12	62.5	100				
24	31.2	368				
42	17.8	1,188				
48	15.6	1,540				
100/110	7.45	6,880				
110/120	6.8	8,360				
200/220	3.75	26,700				
220/240	3.4	33,000				

## »» Specification

Contact material	AgNi / AgSnO alloy	
Contact resistance <sup>(1)</sup>	100m $\Omega$ Max. (1A(100mA for Au-plating contact)/6VDC by 4 pipes m $\Omega$ meter)	
Operate time <sup>(1)</sup>	20ms Max.	
Release time <sup>(1)</sup>	10ms Max.	
Insulation resistance <sup>(1)</sup>	1000M $\Omega$ Min. (DC 500V)	
Dielectric strength <sup>(1)</sup>	Between open contact	: AC 1000V, 50/60Hz 1 min.
	Between contact and coil	: AC 5000V, 50/60Hz 1 min.
Surge voltage withstand <sup>(1)</sup>	Between contact and coil : 10KV (1.2X50) $\mu$ S	
Vibration resistance	Operating extremes	10~55Hz , amplitude 1.5 mm
	Damage limits	10~55Hz , amplitude 1.5 mm
Shock resistance	Operating extremes	10G
	Damage limits	100G
Life expectancy	Mechanical	30,000,000 operations 10,000,000 operations (for AC type) (frequency 36,000 operations /hr)
	Electrical	100,000 operations (frequency 360 operations /hr)

Operating ambient temperature	DC coil	-40~+85°C (no freezing) <sup>(2)</sup>
	AC coil	-40~+70°C (no freezing)
Weight	Approx. 10 g	

Note : (1) initial value

(2) special version of high temperature 105°C can be selected.

### »» Safety Approval

Certified	UL / CUL	VDE
File No.	E88991	40006746

### »» Safety Approval Rating (VDE)

◆ DC coil

◆ AC coil

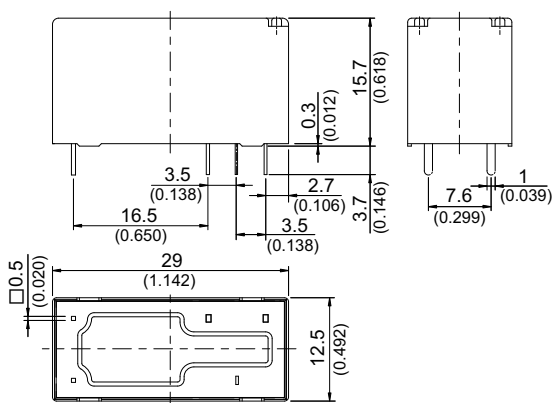
507H、507HN	507、507N、507N1	507H	507
17A 250VAC T105	12A 250VAC T105	17A 250VAC T85	12A 250VAC T85

### »» Safety Approval Rating (UL/CUL)

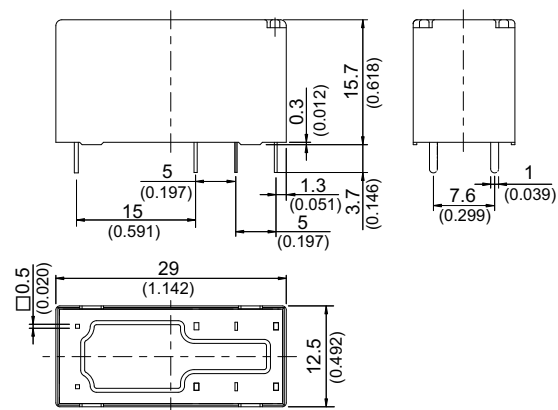
507		507N1
AgNi contact	AgSnO contact	
NO/NC: 17A 277VAC NO: 10FLA 250VAC 12A 30VDC 1HP 480VAC NC: 1/2HP 120/240/480VAC	NO/NC: 17A 277VAC 10FLA 250VAC NO: 1HP 120/240/480VAC TV-8 NC: 12A 30VDC 1/2HP 120/240/480VAC	17A 277VAC 12A 30VDC

### »» Outline Dimensions

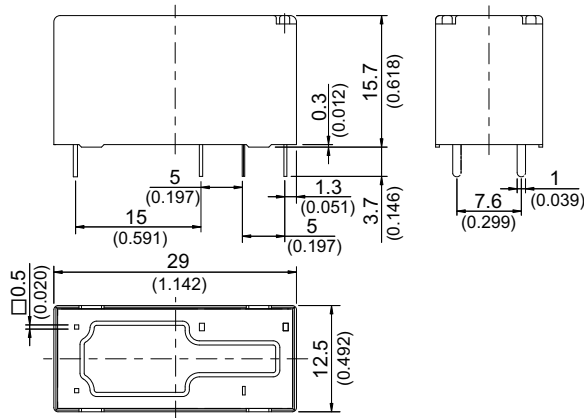
◆ 507 1P



◆ 507H 1P



◆ 507A 1P



»» Wiring Diagram

BOTTOM VIEW

◆ 507 1P

1C



1A



◆ 507H 1P

1C



1A



◆ 507A 1P

1C



1A

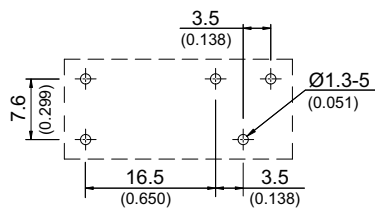


»» PC Board Layout

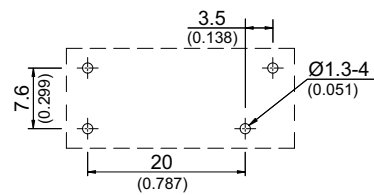
BOTTOM VIEW

◆ 507 1P

1C

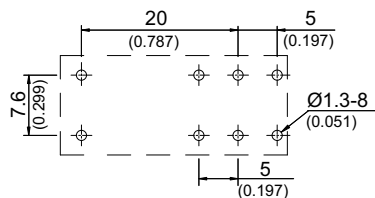


1A

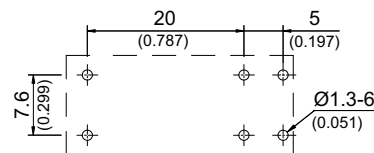


◆ 507H 1P

1C

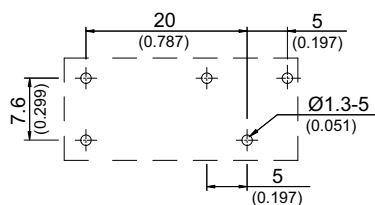


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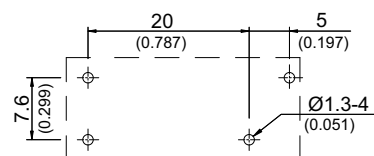


◆ 507A 1P

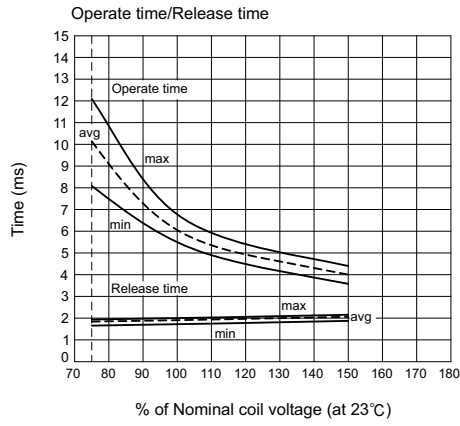
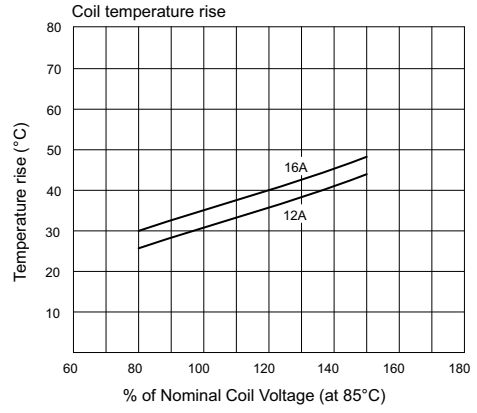
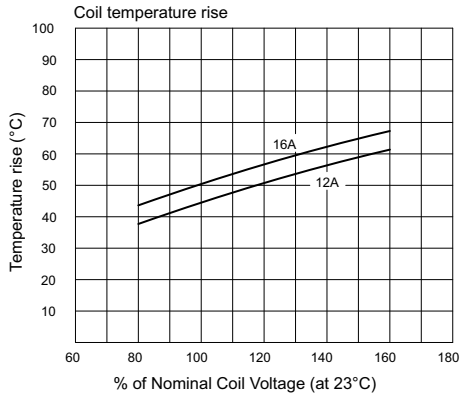
1C



1A



## »» Engineering Data



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