



»» Features

- Heavy duty sugar cube relay with 20A 120VAC, 16A 240VAC, TV-8 rating.
- UL & VDE safety approval.
- Optional for flux free, sealed type and sealed type washable cover, SPNO, SPDT contact configuration.
- High CTI 250 material or product comply with IEC 60335-1 are available.
- High performance PCB power relay for motor control, compressor control, home appliances.
- Complies with RoHS-Directive 2011/65/EU.
- Optional for halogen free version.

»» Type List

◆ Standard type

| Terminal style | Contact form | Insulation system | Designation (provided with) | | |
|----------------|--------------|-------------------|-----------------------------|-------------|----------------------|
| | | | Flux tight | Sealed type | Sealed type washable |
| PCB terminal | 1A (SPNO) | ----- | 207-1AH-C | 207-1AH-V | 207-1AH-S |
| | | F | 207-1AH-F-C | 207-1AH-F-V | 207-1AH-F-S |

◆ High power type

| | | | | | |
|--------------|--------------|-------|--------------|--------------|--------------|
| PCB terminal | 1A (SPNO) | ----- | 207H-1AC-C | 207H-1AC-V | 207H-1AC-S |
| | | F | 207H-1AC-F-C | 207H-1AC-F-V | 207H-1AC-F-S |

»» Ordering Information

207 - 1A H - - C
 1 2 3 4 5 6 7 8

- | | |
|---|---|
| <p>1. 207 -- Basic series designation</p> <p>2. Blank -- Standard type H -- High power type</p> <p>3. Blank -- Standard type A -- Double pin type</p> <p>4. 1A -- Single pole normally open 1C -- Single pole double throw</p> <p>5. C -- Contact material AgNi H -- Contact material AgSnO</p> | <p>6. Blank -- Standard type F -- Class F</p> <p>7. C -- Flux tight V -- Sealed type S -- Sealed type washable</p> <p>8. <input type="checkbox"/> -- Coil voltage (please refer to the coil rating data for the availability)</p> |
|---|---|

»» Contact Rating

◆ 207

| | |
|-------------------------|---|
| Resistive load | NO: 17A 240VAC 100K cycles 10A 240VAC at 105°C 300K cycles (B10 value) NC: 10A 240VAC 100K cycles |
| Max. switching current | 20A |
| Max. switching voltage | 277VAC |
| Max. switching capacity | 4080VA |

◆ 207H

| | |
|-------------------------|--|
| Resistive load | NO: 17A 240VAC 100K cycles 16A 240VAC at 105°C 100K cycles 10A 240VAC at 105°C 300K cycles NC: 10A 240VAC 100K cycles |
| Max. switching current | 20A |
| Max. switching voltage | 277VAC |
| Max. switching capacity | 4080VA |

»» 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 |
|-------------------|----------------------------------|-----------------------------------|---------------------------------|-------------------------------|--------------------------------|------------------------------------|
| 3 | 130 | 23 | 150 % of rated voltage | 75 % of rated voltage | 5 % of rated voltage | approx. 0.4W |
| 5 | 79 | 63 | | | | |
| 6 | 67 | 90 | | | | |
| 9 | 44 | 203 | | | | |
| 12 | 33 | 360 | | | | |
| 18 | 22 | 810 | | | | |
| 24 | 17 | 1440 | | | | |
| 36 | 11 | 3240 | | | | |
| 48 | 8 | 5760 | | | | |

»» Specification

| | | |
|-----------------------------------|--|--|
| Contact material | AgSnO / AgNi alloy | |
| Contact resistance ⁽¹⁾ | 100mΩ Max. (at 1A/6VDC by 4-wire resistance measurement) | |
| Operate time ⁽¹⁾ | 15ms Max. | |
| Release time ⁽¹⁾ | 10ms Max. | |
| 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 ops. (frequency 18,000 ops./hr) |
| | Electrical | See contact rating. (frequency 360 ops./hr) |
| Operating ambient temperature | -40~+85°C (no freezing) ⁽²⁾ | |
| Weight | Approx. 15 g | |

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

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

- (3) Unless otherwise specified, all tests are under room temperature and humidity.
- (4) Consider the heat of PCB is necessary, please check the actual condition of PCB.
- (5) Applying no diode to this relay. The life expectancy will be lower when a diode is used. To use a varistor (ZNR) could absorb the coil surge of relay that is recommended.
- (6) Do not use the relay exceeding the coil rating, contact rating and life expectancy, or this may cause the risk of overheating.
- (7) To assure optimum performance, avoid the relay from dropping, hitting, or other unnecessary shocks.
- (8) Do not switch the contacts without any load as the contact resistance may become increased rapidly.
- (9) Usage, transport and storage conditions
 - 1. Temperature: $-40 \sim +85^{\circ}\text{C}$
 - 2. Humidity: 5 to 85% R.H.
 - 3. Pressure: 86 to 106 kPa
 - Furthermore, the humidity range varies with the temperature. So, use relays within the range indicated in the graph below.



- (10) Please contact Song Chuan for the detailed information.

»» Insulation Data

| | | |
|--------------------------------------|-------------------------------|--|
| Insulation resistance ⁽¹⁾ | 100 M Ω Min. (DC 500V) | |
| Dielectric strength ⁽¹⁾ | Between open contact | : AC 1000V, 50/60Hz 1 min. |
| | Between contact and coil | : AC 2500V, 50/60Hz 1 min. |
| Insulation of IEC 61810-1 | | |
| Clearance / creepage distances | Between coil to contact | : Basic, $\geq 1.5\text{mm}$ / $\geq 2.5\text{mm}$ |
| | Between open contact | : Functional |
| Rated insulation voltage | 250V | |
| Rated impulse withstand voltage | 2500V | |
| Pollution degree | 2 | |
| Rated voltage | 230 / 400V | |
| Overvoltage category | II | |

»» Safety Approval

| Certified | UL / CUL | VDE |
|-----------|----------|----------|
| File No. | E88991 | 40025801 |

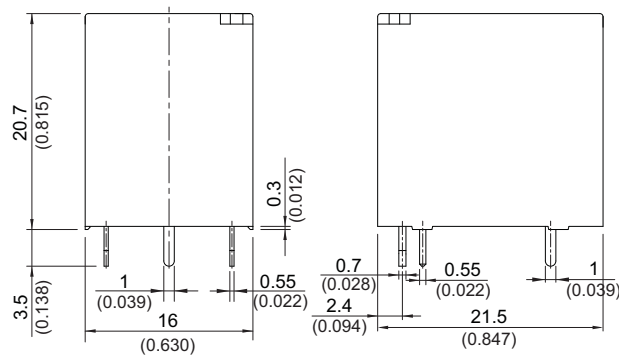
»» Safety Approval Rating

| UL / CUL | | | | VDE |
|--------------------------|--|--------------------------|--|---|
| 207 | | 207H | | |
| NO | NC | NO | NC | |
| 20A 277VAC | 16A 277VAC | 20A 277VAC | 16A 277VAC | NO : 17A 250VAC T105 NC : 10A 250VAC T85 |
| 1HP 125VAC | 1/3HP 7.2A/125VAC | 1HP 125VAC | 1/3HP 7.2A/125VAC | |
| TV-5 (for AgSnO contact) | 1/2HP 4.9A/250VAC 1/2HP 9.8A/125VAC (for AgSnO contact) | TV-8 (for AgSnO contact) | 1/2HP 4.9A/250VAC 1/2HP 9.8A/125VAC (for AgSnO contact) | |

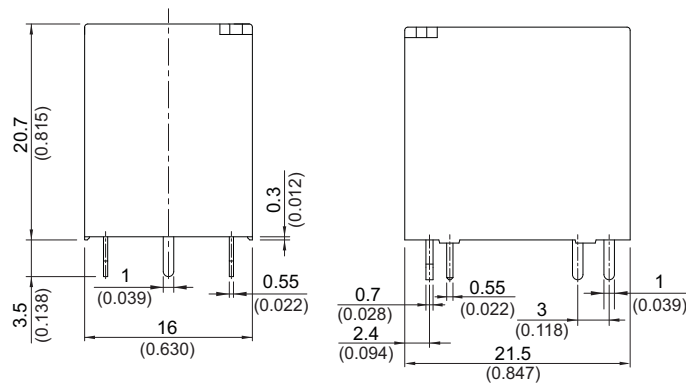
Note : (1) Flux tight version is recommended in high temperature. If there is cleaning process and sealed type is selected, the vent-hole should be removed after the process.

»» Outline Dimensions

◆ 207,207H



◆ 207A,207HA

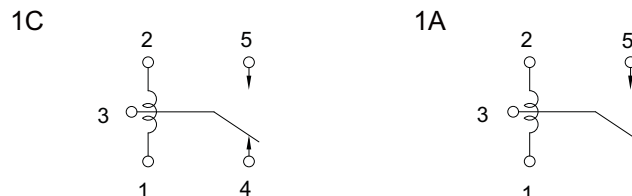


TOLERANCE:
 LESS THAN: 1(0.039) ±0.1(0.004)
 5(0.197) ±0.3(0.012)
 20(0.787) ±0.5(0.020)
 MORE THAN: 20(0.787) ±1(0.039)

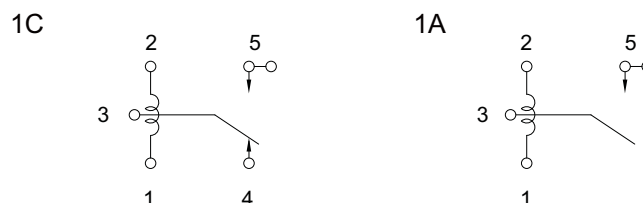
»» Wiring Diagram

BOTTOM VIEW

◆ 207,207H



◆ 207A,207HA



»» PC Board Layout

BOTTOM VIEW

◆ 207,207H

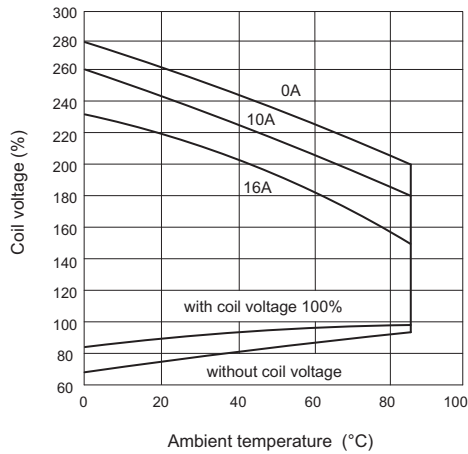


◆ 207A,207HA

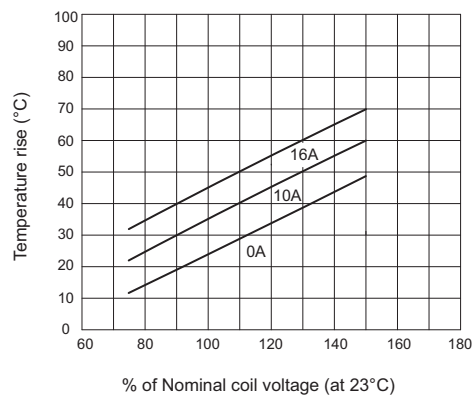


»» Engineering Data

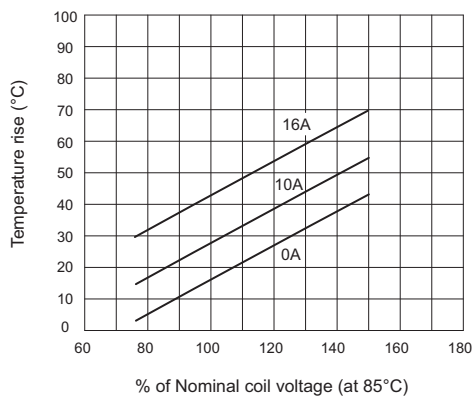
Coil operating range



Coil temperature rise



Coil temperature rise



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