

● Features

- Max high inrush: 120A 20ms
- Low height: 15.7 mm
- Creepage distance: 10mm
- 5kV dielectric strength (between coil and contacts)
- Plastic sealed and flux proofed types available
- UL insulation system: Class F
- Environmental friendly product (RoHS compliant)
- Dimensions: 29.0 x 12.7 x 15.7 mm



● Certificate

- UL E197803, TUV 50626912, CQC 11002061906

● Application

- Household Electrical Appliance / Automation System / Electrical Equipment / Instrument / Meter / Telecommunication Facilities / Remote Control Facilities, etc.

● Contact Data

| | |
|------------------------|--|
| Contact Arrangement | 1A, 1C |
| Contact Material | Ag Alloy |
| Contact Rating | 16A 250VAC |
| Inrush Rating (120VAC) | NO: TV-5 80A 120A / 20ms |
| Max. Switching Power | 4000VA |
| Max. Switching Voltage | 440VAC |
| Max. Switching Current | 16A |
| Contact Resistance | $\leq 100\text{m}\Omega$ (at 1A 6VDC) |
| Electrical Endurance | 7.5×10^4 (1 Form A type: 16A 250VAC, General use, Room temp., 1s on 9s off) 2.5×10^4 (1 Form A type: TV-5 120AC, Room temp., 1s on 59s off) |
| Mechanical Endurance | 1×10^7 |

● **Coil Parameter (at 23°C)**

| Coil Voltage (VDC) | | Coil Resistance ($\Omega \pm 10\%$) | Pickup Voltage(max) (VDC) | Release Voltage(min) (VDC) | Coil Power Consumption (W) |
|--------------------|-------|---------------------------------------|---------------------------|----------------------------|----------------------------|
| Rated | Max. | | | | |
| 5 | 7.5 | 62 | 3.50 | 0.5 | 0.40 |
| 9 | 13.5 | 202 | 6.30 | 0.9 | |
| 12 | 18.0 | 360 | 8.40 | 1.2 | |
| 24 | 36.0 | 1440 | 16.8 | 2.4 | |
| 48 | 72.0 | 5760(1±15%) | 33.6 | 4.8 | |
| 60 | 90.0 | 7500(1±15%) | 42.0 | 6.0 | |
| 110 | 165.0 | 25200(1±15%) | 77.0 | 11.0 | |

Notes: 1) The data shown above are initial values.

2) Maximum voltage refers to the maximum voltage which relay coil could endure in a short period of time.

3) For products with rated voltage $\geq 48V$, measures should be taken to prevent coil overvoltage in order to protect coil in test and application (eg. Connect diodes in parallel).

● **Operation Condition**

| | | |
|---|---------------------------|--------------------------------|
| Insulation Resistance | | 1000M Ω min (at 500VDC) |
| Dielectric Strength | Between Coil and Contacts | 5000VAC 1min |
| | Between Open Contacts | 1000VAC 1min |
| Surge Voltage (Between Coil & Contacts) | | 10kV (1.2 / 50 μ s) |
| Shock Resistance | Functional | 98m/s ² |
| | Endurance | 980m/s ² |
| Temperature Rise (at Nomi. Volt.) | | $\leq 85K$ |
| Vibration Resistance | | 10Hz to 150Hz 20g / 5g |
| Ambient Temperature | | -40 ~ +85°C |
| Operate Time | | $\leq 15ms$ |
| Release Time | | $\leq 8ms$ |
| Relative Humidity | | 5%~85% |
| Weight | | Approx. 13.5g |

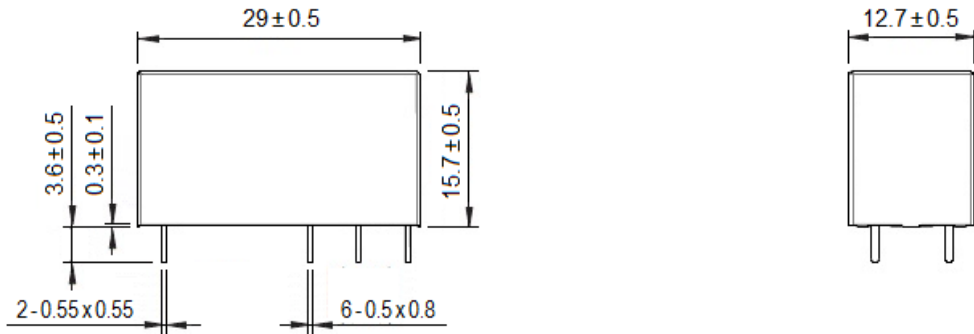
Notes: 1) The data shown above are initial values.

- Ordering Information

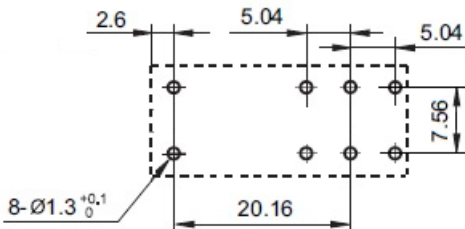
| | GNI | -12D | -A | 16 | -S | (XXX) |
|----------------------------|---|-------------|-----------|-----------|-----------|--------------|
| Model | | | | | | |
| Coil Voltage | 5, 9, 12, 24, 48, 60, 110VDC | | | | | |
| Contact Arrangement | A: 1 Form A C: 1 Form C | | | | | |
| Contact Current | 16: 16A | | | | | |
| Construction | Nil: Flux tight S: Sealed | | | | | |
| Special Code | Nil: Standard XXX: Customer special requirement | | | | | |

- Dimensions (UNIT: mm)

Outline Dimensions



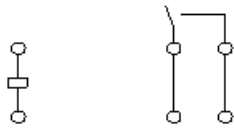
Mounting (Bottom views)



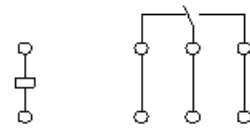
● **Dimensions (UNIT: mm)**

Wiring Diagram (Bottom views)

1 Form A



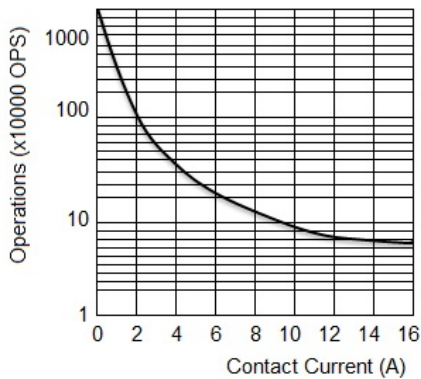
1 Form C



Remark: 1) In case of no tolerance shown in outline dimension: outline dimension $\leq 1\text{mm}$, tolerance should be $\pm 0.2\text{mm}$; outline dimension $>1\text{mm}$ and $\leq 5\text{mm}$, tolerance should be $\pm 0.3\text{mm}$; outline dimension $>5\text{mm}$, tolerance should be $\pm 0.5\text{mm}$.
 2) The tolerance without indicating for PCB layout is always $\pm 0.1\text{mm}$.

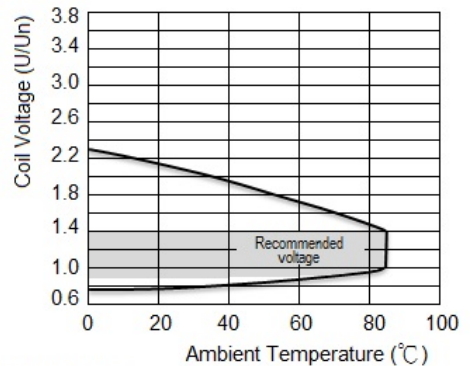
● **Engineering Data**

Endurance Curve



Test conditions:
 NO, 250VAC, Resistive load, Flux proofed, Room temp., 1s on 9s off.

Coil Operating Range (DC)*



Notes: *The use of a relay with an energizing voltage other than the rated coil voltage may lead to reduced electrical life. An energizing voltage over the above range may damage the insulation of relay coil.

Disclaimer

The specification is for reference only. See to "Terminology and Guidelines" for more information. Specifications subject to change without notice. We could not evaluate all the performance and all the parameters for every possible application. Thus the user should be in a right position to choose the suitable product for their own application. If there is any query, please contact IOEC for the technical service. However, it is the user's responsibility to determine which product should be used only.

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