



FEATURES

- 1. Compact with high capacity**
High capacity switching in a small package: 1 Form A, 10 A 250 V AC; 1 Form A 1 Form B and 2 Form A, 8 A 250 V AC.
- 2. High sensitivity: 200 mW nominal operating power**
- 3. High breakdown voltage**
Independent coil and the contact structure improves breakdown voltage.

| Between contact and coil | Between open contacts |
|--------------------------------------------------------------|-------------------------------------------------------------|
| 4,000 Vrms for 1 min. 10,000 V surge breakdown voltage | 1,000 Vrms for 1 min. 1,500 V surge breakdown voltage |

Conforms with FCC Part 68

- 4. Latching types available**
- 5. Sealed construction allows automatic washing.**
- 6. High insulation resistance**
Creepage distance and clearances between contact and coil: Min. 8 mm
DK2a-L2: 6.8 mm
DK1a1b-L2: 6.8 mm
- 7. Sockets are available**
- 8. Complies with safety standards**
Complies with Japan Electrical Appliance and Material Safety Law requirements for operating 200 V power supply circuits, and complies with UL, CSA, and TÜV safety standards.

TYPICAL APPLICATIONS

- 1. Switching power supply**
- 2. Power switching for various OA equipment**
- 3. Control or driving relays for industrial machines (robotics, numerical control machines, etc.)**
- 4. Output relays for programmable logic controllers, temperature controllers, timers and so on.**
- 5. Home appliances**

About Cd-free contacts

We have introduced Cadmium free type products to reduce Environmental Hazardous Substances.

(The suffix "F" should be added to the part number)

(Note: The Suffix "F" is required only for 1 Form A contact type. The 2 Form A and 1 Form A 1 Form B contact type is originally Cadmium free, the suffix "F" is not required.)

Please replace parts containing Cadmium with Cadmium-free products and evaluate them with your actual application before use because the life of a relay depends on the contact material and load.

ORDERING INFORMATION

DK - - -

Contact arrangement

- 1a: 1 Form A
- 2a: 2 Form A
- 1a1b: 1 Form A 1 Form B

Operating function

- Nil: Single side stable
- L: 1 coil latching
- L2: 2 coil latching

Coil voltage (DC)

- 3, 5, 6, 9, 12, 24V

Contact material

- F: 1 Form A (AgSnO₂ type)
- Nil: 2 Form A, 1 Form A 1 Form B (Au-flashed AgNi type)

- Notes: 1. UL/CSA, TÜV approved type is standard.
2. VDE approved type is available.

TYPES

| Contact arrangement | Nominal coil voltage | Single side stable | 1 coil latching | 2 coil latching |
|----------------------|----------------------|--------------------|-----------------|-----------------|
| | | Part No. | Part No. | Part No. |
| 1 Form A | 3V DC | DK1a-3V-F | DK1a-L-3V-F | DK1a-L2-3V-F |
| | 5V DC | DK1a-5V-F | DK1a-L-5V-F | DK1a-L2-5V-F |
| | 6V DC | DK1a-6V-F | DK1a-L-6V-F | DK1a-L2-6V-F |
| | 9V DC | DK1a-9V-F | DK1a-L-9V-F | DK1a-L2-9V-F |
| | 12V DC | DK1a-12V-F | DK1a-L-12V-F | DK1a-L2-12V-F |
| | 24V DC | DK1a-24V-F | DK1a-L-24V-F | DK1a-L2-24V-F |
| 1 Form A 1 Form B | 3V DC | DK1a1b-3V | DK1a1b-L-3V | DK1a1b-L2-3V |
| | 5V DC | DK1a1b-5V | DK1a1b-L-5V | DK1a1b-L2-5V |
| | 6V DC | DK1a1b-6V | DK1a1b-L-6V | DK1a1b-L2-6V |
| | 9V DC | DK1a1b-9V | DK1a1b-L-9V | DK1a1b-L2-9V |
| | 12V DC | DK1a1b-12V | DK1a1b-L-12V | DK1a1b-L2-12V |
| | 24V DC | DK1a1b-24V | DK1a1b-L-24V | DK1a1b-L2-24V |
| 2 Form A | 3V DC | DK2a-3V | DK2a-L-3V | DK2a-L2-3V |
| | 5V DC | DK2a-5V | DK2a-L-5V | DK2a-L2-5V |
| | 6V DC | DK2a-6V | DK2a-L-6V | DK2a-L2-6V |
| | 9V DC | DK2a-9V | DK2a-L-9V | DK2a-L2-9V |
| | 12V DC | DK2a-12V | DK2a-L-12V | DK2a-L2-12V |
| | 24V DC | DK2a-24V | DK2a-L-24V | DK2a-L2-24V |

Standard packing: Carton: 50 pcs.; Case: 500 pcs.

* For sockets, see page 8.

RATING

1. Coil data

1) Single side stable

| Nominal coil voltage | Pick-up voltage (at 20°C 68°F) | Drop-out voltage (at 20°C 68°F) | Nominal operating current [±10%] (at 20°C 68°F) | Coil resistance [±10%] (at 20°C 68°F) | Nominal operating power | Max. applied voltage (at 20°C 68°F) |
|----------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------------|---------------------------------------|-------------------------|-------------------------------------|
| 3V DC | 70%V or less of nominal voltage (Initial) | 10%V or more of nominal voltage (Initial) | 66.6mA | 45Ω | 200mW | 130%V of nominal voltage |
| 5V DC | | | 40mA | 125Ω | | |
| 6V DC | | | 33.3mA | 180Ω | | |
| 9V DC | | | 22.2mA | 405Ω | | |
| 12V DC | | | 16.6mA | 720Ω | | |
| 24V DC | | | 8.3mA | 2,880Ω | | |

2) 1 coil latching

| Nominal coil voltage | Set voltage (at 20°C 68°F) | Reset voltage (at 20°C 68°F) | Nominal operating current [±10%] (at 20°C 68°F) | Coil resistance [±10%] (at 20°C 68°F) | Nominal operating power | Max. applied voltage (at 20°C 68°F) |
|----------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------------|---------------------------------------|-------------------------|-------------------------------------|
| 3V DC | 70%V or less of nominal voltage (Initial) | 10%V or more of nominal voltage (Initial) | 33.3mA | 90Ω | 100mW | 130%V of nominal voltage |
| 5V DC | | | 20mA | 250Ω | | |
| 6V DC | | | 16.6mA | 360Ω | | |
| 9V DC | | | 11.1mA | 810Ω | | |
| 12V DC | | | 8.3mA | 1,440Ω | | |
| 24V DC | | | 4.1mA | 5,760Ω | | |

3) 2 coil latching

| Nominal coil voltage | Set voltage (at 20°C 68°F) | Reset voltage (at 20°C 68°F) | Nominal operating current [±10%] (at 20°C 68°F) | | Coil resistance [±10%] (at 20°C 68°F) | | Nominal operating power | | Max. applied voltage (at 20°C 68°F) |
|----------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------------|------------|---------------------------------------|------------|-------------------------|------------|-------------------------------------|
| | | | Set coil | Reset coil | Set coil | Reset coil | Set coil | Reset coil | |
| 3V DC | 70%V or less of nominal voltage (Initial) | 70%V or less of nominal voltage (Initial) | 66.6mA | 66.6mA | 45Ω | 45Ω | 200mW | 200mW | 130%V of nominal voltage |
| 5V DC | | | 40mA | 40mA | 125Ω | 125Ω | | | |
| 6V DC | | | 33.3mA | 33.3mA | 180Ω | 180Ω | | | |
| 9V DC | | | 22.2mA | 22.2mA | 405Ω | 405Ω | | | |
| 12V DC | | | 16.6mA | 16.6mA | 720Ω | 720Ω | | | |
| 24V DC | | | 8.3mA | 8.3mA | 2,880Ω | 2,880Ω | | | |