Panasonic









FEATURES

- 1. 2 Form C contact
- 2. High sensitivity-200 mW nominal operating power
- 3. High breakdown voltage 1500 V FCC surge between open contacts
- 4. DIP-2C type matching 16 pin IC socket
- 5. Sealed construction

TYPICAL APPLICATIONS

- 1. Telecommunication equipment
- 2. Office equipment
- 3. Computer peripherals
- 4. Security alarm systems
- 5. Medical equipment

RoHS compliant

ORDERING INFORMATION

| | DS2Y-S |
|---|--------|
| Operating function Nil: Single side stable | |
| Nominal coil voltage DC 3, 5, 6, 9, 12, 24, 48 V | |

Note: UL/CSA approved type is standard.

TYPES

| Contact arrangement | Nominal coil voltage | Single side stable type | |
|---------------------|----------------------|-------------------------|--|
| Contact arrangement | | Part No. | |
| | 3 V DC | DS2Y-S-DC3V | |
| | 5 V DC | DS2Y-S-DC5V | |
| | 6 V DC | DS2Y-S-DC6V | |
| 2 Form C | 9 V DC | DS2Y-S-DC9V | |
| | 12 V DC | DS2Y-S-DC12V | |
| | 24 V DC | DS2Y-S-DC24V | |
| | 48 V DC | DS2Y-S-DC48V | |

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

RATING

1. Coil data

Single side stable type

| 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 50°C 122°F) | |
|----------------------|-----------------------------------|------------------------------------|---|--|-------------------------|---|--------------------------|
| 3 V DC | | | 66.7 mA | 45 Ω | 200 mW | | |
| 5 V DC | | | 40 mA | 125 Ω | | | |
| 6 V DC | 70%V or less of | | 33.3 mA | 180 Ω | | | |
| 9 V DC | nominal voltage | | | 22.2 mA | 405 Ω | 200 MW | 200%V of nominal voltage |
| 12 V DC | (Initial) | | 16.7 mA | 720 Ω | | nominal voltage | |
| 24 V DC | | | 8.3 mA | 2,880 Ω | | | |
| 48 V DC | | | 6.3 mA | 7,680 Ω | 300 mW | | |

2. Specifications

| Characteristics | Item | | Specifications | |
|----------------------------|---|--------------------------|---|--|
| | Arrangement | | 2 Form C | |
| Contact | Initial contact resistar | nce, max. | Max. 50 mΩ (By voltage drop 6 V DC 1A) | |
| | Contact material | | Ag+Au clad | |
| | Max. switching power | r | 60 W, 62.5 VA (resistive load) | |
| Rating | Max. switching voltage | | 220 V DC, 250 V AC | |
| | Max. switching current | | 2 A | |
| | Max. carrying current | t | 3 A | |
| | Minimum operating p | ower | Approx. 98 mW (147 mW: 48 V) | |
| | Nominal operating po | ower | Approx. 200 mW (300 mW: 48 V) | |
| | Insulation resistance (Initial) | | Min. $100M\Omega$ (at $500V$ DC) Measurement at same location as "Initial breakdown voltage" section. | |
| | | Between open contacts | 750 Vrms for 1min. (Detection current: 10mA.) | |
| | Breakdown voltage (Initial) | Between contact sets | 1,000 Vrms for 1min. (Detection current: 10mA.) | |
| | | Between contact and coil | 1,000 Vrms for 1min. (Detection current: 10mA.) | |
| Electrical characteristics | FCC surge breakdown voltage between contacts and coil | | 1,500 V | |
| | Temperature rise (at 20°C 68°F) | | Max. 65°C with nominal coil voltage across coil and at nominal switching capacity | |
| | Operate time [Set time] (at 20°C 68°F) | | Approx. 4 ms [approx. 3 ms] (Nominal coil voltage applied to the coil, excluding contact bounce time.) | |
| | Release time [Reset time] (at 20°C 68°F) | | Approx. 3 ms [approx. 3 ms] (Nominal coil voltage applied to the coil, excluding contact bounce time.) (without diode) | |
| | Charle registeres | Functional | Min. 490 m/s² (Half-wave pulse of sine wave: 11 ms; detection time: 10µs.) | |
| 1echanical | Shock resistance | Destructive | Min. 980 m/s² (Half-wave pulse of sine wave: 6 ms.) | |
| haracteristics | | Functional | 10 to 55 Hz at double amplitude of 3.3 mm (Detection time: 10µs.) | |
| | Vibration resistance | Destructive | 10 to 55 Hz at double amplitude of 5 mm | |
| Expected life | Mechanical | | Min. 10 ⁸ | |
| | Electrical | | Min. 5×10 ⁵ (1 A 30 V DC), Min. 10 ⁵ (2 A 30 V DC) | |
| Conditions | Conditions for operation, transport and storage* | | Ambient temperature: -40°C to +70°C -40°F to +158°F Humidity: 5 to 85% R.H. (Not freezing and condensing at low temperature) | |
| | Max. operating speed (at rated load) | | 60 cpm | |
| Jnit weight | | | Approx. 4g .14oz | |

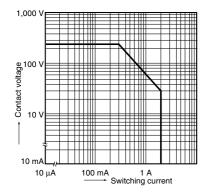
Notes: *1 This value can change due to the switching frequency, environmental conditions, and desired reliability level, therefore it is recommended to check this with the actual load: TX/TX-S/TX-D relay AgPd contact type are available for low level load switching (10V DC, 10mA max. level).

*2 Half-wave pulse of sine wave: 11ms; detection time: 10µs
*3 Refer to "AMBIENT ENVIRONMENT" in GENERAL APPLICATION GUIDELINES.

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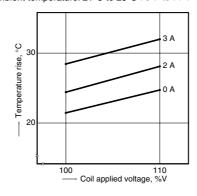
REFERENCE DATA

1. Maximum switching capacity



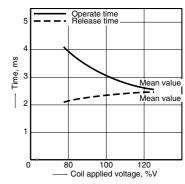
2. Coil temperature rise (Single side stable) Tested sample: DS2Y-S-DC12V, 5 pcs. Measured portion: Inside the coil

Ambient temperature: 21°C to 25°C 70°F to 77°F



3. Operate/release time for single side stable (Without diode)

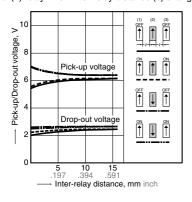
Tested sample: DS2Y-S-DC12V, 10 pcs. Ambient temperature: 20°C 68°F



4-(1) Influence of adjacent mounting Tested sample: DS2Y-S-DC12V, 10 pcs. Ambient temperature: 20°C 68°F

TEST METHOD

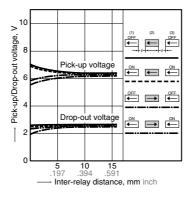
- 1. Apply nominal voltage to No. (1) and (3) DS2Y relays.
- 2. Measure pick-up voltage and drop-out voltage of No. (2) relay when inter-relay distance (ℓ) changes.



4-(2) Influence of adjacent mounting Tested sample: DS2Y-S-DC12V, 10 pcs. Ambient temperature: 20°C 68°F

TEST METHOD

- Apply nominal voltage to No. (1) and (3) DS2Y relays.
- 2. Measure pick-up voltage and drop-out voltage of No. (2) relay when inter-relay distance (ℓ) changes.



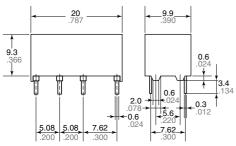
DIMENSIONS (mm inch)

The CAD data of the products with a CAD Data mark can be downloaded from: http://industrial.panasonic.com/ac/e/

Single side stable

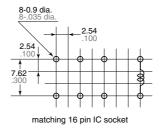
CAD Data

External dimensions



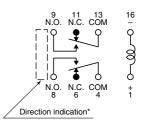
General tolerance: ±0.3 ±.012

PC board pattern (Copper-side view)



Tolerance: ±0.1 ±.004

Schematic (Bottom view) (Deenergized position)



*A polarity bar shows the relay direction.

For general cautions for use, please refer to the "Cautions for use of Signal Relays" or "General Application Guidelines".

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Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Panasonic:

<u>DS2Y-S-DC5V</u> <u>DS2Y-S-DC12V</u> <u>DS2Y-S-DC24V</u> <u>DS2Y-S-DC3V</u> <u>DS2Y-S-DC1.5V</u> <u>DS2Y-S-DC6V</u> <u>DS2Y-S-DC9V</u> DS2Y-S-DC48V <u>DS2Y-S-DC12V-TB</u> <u>DS2Y-S-DC24V-TB</u> <u>DS2Y-S-DC48V-TB</u> <u>DS2Y-S-DC5V-TB</u>