

JS1AF-B-9V-F Datasheet

www.digi-electronics.com



<https://www.DiGi-Electronics.com>

| | |
|------------------------------|---|
| DiGi Electronics Part Number | JS1AF-B-9V-F-DG |
| Manufacturer | Panasonic Electric Works |
| Manufacturer Product Number | JS1AF-B-9V-F |
| Description | RELAY GEN PURPOSE SPST 10A 9V |
| Detailed Description | General Purpose Relay SPST-NO (1 Form A) 9VDC C oil Through Hole |

This model JS1AF-B-9V-F is available at DiGi Electronics.

DiGi Electronics offers a global database of semiconductor and electronic component datasheets.

We welcome your inquiries regarding pricing, lead time, or other product-related questions.

 [Request a Quote](#)

 [Datasheet Search](#)



Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

DiGi is a global authorized distributor of electronic components.

Purchase and inquiry

Manufacturer Product Number:

JS1AF-B-9V-F

Series:

JS

Mounting Type:

Through Hole

Contact Form:

SPST-NO (1 Form A)

Switching Voltage:

250VAC, 100VDC - Max

Coil Type:

Non Latching

Termination Style:

PC Pin

Coil Insulation:

Class B

Must Release Voltage:

0.9 VDC

Release Time:

10 ms

Contact Material:

Silver Tin Oxide (AgSnO)

Coil Resistance:

225 Ohms

Manufacturer:

Panasonic Electric Works

Product Status:

Obsolete

Coil Voltage:

9VDC

Contact Rating (Current):

10 A

Coil Current:

40 mA

Features:

-

Seal Rating:

Sealed - Flux Protection

Must Operate Voltage:

6.3 VDC

Operate Time:

10 ms

Operating Temperature:

-40°C ~ 85°C

Relay Type:

General Purpose

Base Product Number:

JS1AF

Environmental & Export classification

RoHS Status:

RoHS Compliant

ECCN:

EAR99

Moisture Sensitivity Level (MSL):

1 (Unlimited)

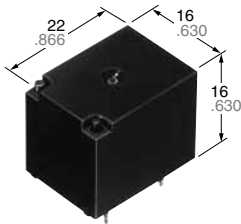
HTSUS:

8536.41.0050



Cubic type 1a/1c 10A power relays

JS RELAYS



RoHS compliant

Protective construction: Flux-resistant type/Sealed type

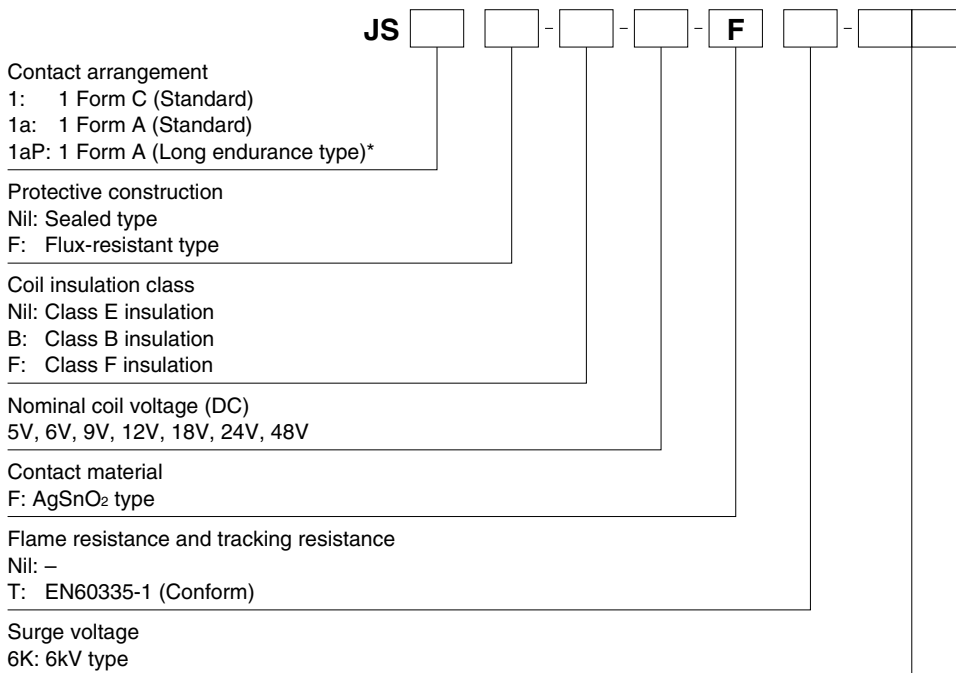
FEATURES

1. Miniature size with universal terminal footprint
2. High contact capacity: 10 A
3. TV-5 type available (Standard type)
1 Form A type → TV-5
1 Form C type → TV-5 (N.O. side only)
4. VDE, TÜV also approved
5. Sealed construction for automatic cleaning (Standard type)
6. Class B and F coil insulation type also available
7. EN60335-1 GWT compliant (Tested by VDE) type available
8. Surge voltage 6 kV type also available

TYPICAL APPLICATIONS

1. Home appliances
Air conditioner, heater, etc.
2. Office machines
PPC, facsimile, etc.
3. Vending machines

ORDERING INFORMATION



* 1 Form A long endurance type is Flux-resistant type only (Class B insulation only).

TYPES

| Contact arrangement | Nominal coil voltage | Sealed type | Flux-resistant type |
|---------------------------------|----------------------|-------------|---------------------|
| | | Part No. | Part No. |
| 1 Form A (Standard) | 5V DC | JS1a-5V-F | JS1aF-5V-F |
| | 6V DC | JS1a-6V-F | JS1aF-6V-F |
| | 9V DC | JS1a-9V-F | JS1aF-9V-F |
| | 12V DC | JS1a-12V-F | JS1aF-12V-F |
| | 18V DC | JS1a-18V-F | JS1aF-18V-F |
| | 24V DC | JS1a-24V-F | JS1aF-24V-F |
| | 48V DC | JS1a-48V-F | JS1aF-48V-F |
| 1 Form A Long endurance type | 5V DC | – | JS1aPF-B-5V-F |
| | 6V DC | – | JS1aPF-B-6V-F |
| | 9V DC | – | JS1aPF-B-9V-F |
| | 12V DC | – | JS1aPF-B-12V-F |
| | 18V DC | – | JS1aPF-B-18V-F |
| | 24V DC | – | JS1aPF-B-24V-F |
| | 48V DC | – | JS1aPF-B-48V-F |
| 1 Form C (Standard) | 5V DC | JS1-5V-F | JS1F-5V-F |
| | 6V DC | JS1-6V-F | JS1F-6V-F |
| | 9V DC | JS1-9V-F | JS1F-9V-F |
| | 12V DC | JS1-12V-F | JS1F-12V-F |
| | 18V DC | JS1-18V-F | JS1F-18V-F |
| | 24V DC | JS1-24V-F | JS1F-24V-F |
| | 48V DC | JS1-48V-F | JS1F-48V-F |

Standard packing Carton: 100 pcs. Case: 500 pcs.

Notes: 1. Class B and F coil insulation types available.

Ex) JS1aF-B-12V-F, JS1aF-F-12V-F

2. 1 Form A long endurance type is Flux-resistant type only (Class B insulation only).

3. EN60335-1 GWT compliant types available. When ordering, please add suffix "T".

Ex) JS1aF-B-12V-F-T

4. Surge voltage 6kV types available. When ordering, please add suffix "6K" (except for Long endurance type and EN60335-1 GWT compliant type).

Ex) JS1aF-B-12V-F-6K

RATING

1. Coil data

| 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 (at 20°C 68°F) | Max. applied voltage (at 70°C 158°F) |
|----------------------|---|---|---|---------------------------------------|--|--|
| 5V DC | 70%V or less of nominal voltage (Initial) | 10%V or more of nominal voltage (Initial) | 72 mA | 69.4Ω | 360mW | 130%V of nominal voltage [When using relays at 85°C 185°F, see Note*] |
| 6V DC | | | 60 mA | 100 Ω | | |
| 9V DC | | | 40 mA | 225 Ω | | |
| 12V DC | | | 30 mA | 400 Ω | | |
| 18V DC | | | 20 mA | 900 Ω | | |
| 24V DC | | | 15 mA | 1,600 Ω | | |
| 48V DC | | | 7.5mA | 6,400 Ω | | |

Note: * When using relays in a high ambient temperature, consider the pick-up voltage rise due to the high temperature (a rise of approx. 0.4% V for each 1°C 33.8°F with 20°C 68°F as a reference) and use a coil impressed voltage that is within the maximum applied voltage range.

2. Specifications

| Characteristics | Item | Specifications | |
|----------------------------|---|--|--|
| Contact | Contact material | AgSnO ₂ type | |
| | Contact resistance (Initial) | Max. 100 mΩ (By voltage drop 6 V DC 1A) | |
| | Arrangement | 1 Form A, 1 Form C 1 Form A Long endurance type | |
| Rating | Nominal switching capacity (resistive load) | 10 A 250 V AC (NO), 10 A 125 V AC, 6 A 277 V AC, 5 A 30 V DC 10 A 250 V AC, 10 A 277 V AC, 5 A 30 V DC | |
| | Max. switching power (resistive load) | 2,500VA 150W (NO), 1,662VA 150W (NC) 2,770VA 150W | |
| | Max. switching voltage | 250V AC, 100V DC (0.5A) | |
| | Max. switching current | 10A (AC), 5A (DC) | |
| | Min. switching capacity (reference value)*1 | 100mA, 5V DC | |
| Electrical characteristics | Insulation resistance (Initial) | Min. 100MΩ (at 500V DC) Measurement at same location as "Breakdown voltage" section. | |
| | Breakdown voltage (Initial) | Between open contacts | 750 Vrms for 1 min. (Detection current: 10 mA) |
| | | Between contact and coil | 1,500 Vrms for 1 min. (Detection current: 10 mA) |
| | Operate time (at nominal voltage) (at 20°C 68°F) | Max. 10 ms (excluding contact bounce time.) | |
| | Release time (at nominal voltage) (at 20°C 68°F) | Max. 10 ms (excluding contact bounce time) (Without diode) | |
| Mechanical characteristics | Shock resistance | Functional | 98 m/s ² (Half-wave pulse of sine wave: 11 ms; detection time: 10μs.) |
| | | Destructive | 980 m/s ² (Half-wave pulse of sine wave: 6 ms.) |
| | Vibration resistance | Functional | 10 to 55 Hz at double amplitude of 1.6 mm (Detection time: 10μs.) |
| | | Destructive | 10 to 55 Hz at double amplitude of 2 mm |
| Expected life | Mechanical (at 180 times/min.) | Min. 10 ⁷ | |
| Conditions | Conditions for operation, transport and storage*2 | -40°C to +70°C -40°F to +158°F (Class E insulation) -40°C to +85°C -40°F to +185°F (Class B insulation)*3 -40°C to +105°C -40°F to +221°F (Class F insulation)*3 Humidity: 5 to 85% R.H. (Not freezing and condensing at low temperature) | |
| Unit weight | | Approx. 12 g .423 oz | |

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.
 *2. The upper limit of the ambient temperature is the maximum temperature that can satisfy the coil temperature rise value. Refer to Usage, transport and storage conditions in NOTES.
 *3. When using relays in a high ambient temperature, consider the pick-up voltage rise due to the high temperature (a rise of approx. 0.4% V for each 1°C 33.8°F with 20°C 68°F as a reference) and use a coil impressed voltage that is within the maximum applied voltage range.

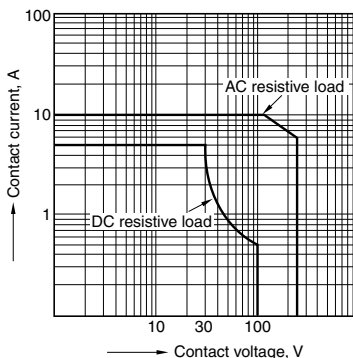
3. Electrical life

Condition: Resistive load, at 20°C 68°F, at 20 times/min.

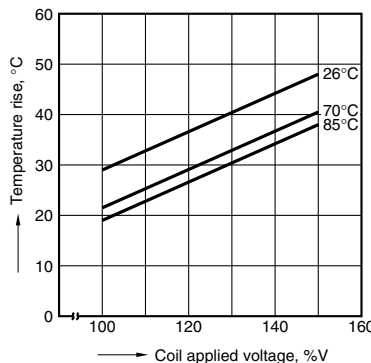
| Type | Switching capacity | No. of operations |
|---------------------------------|--------------------|---|
| 1 Form A, 1 Form C | 10A 125V AC | min. 1×10 ⁵ |
| | 6A 277V AC | |
| | 5A 30V DC | |
| N.O. | 10A 250V AC | min. 5×10 ⁴ |
| 1 Form A Long endurance type | 10A 277V AC | min. 2×10 ⁵ |
| | 10A 277V AC | min. 1.5×10 ⁵ (at 105°C 221°F) |
| | 5A 30V DC | min. 1×10 ⁵ |

REFERENCE DATA

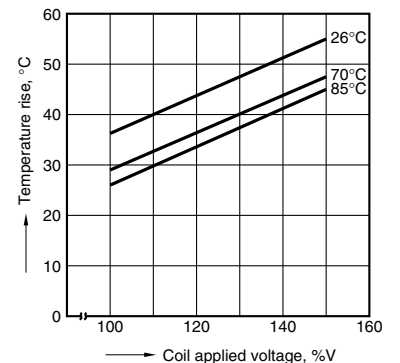
1. Maximum value for switching capacity



2.-(1) Coil temperature rise
 Sample: JS1a-24V-F
 Measured portion: Inside the coil
 Contact current: 5 A

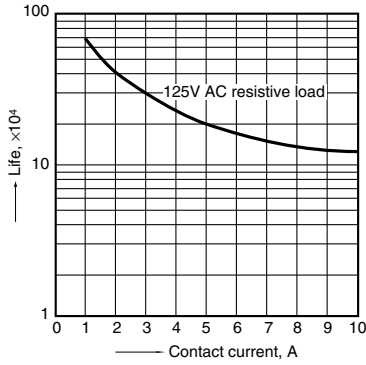


2.-(2) Coil temperature rise
 Sample: JS1a-24V-F
 Measured portion: Inside the coil
 Contact current: 10 A



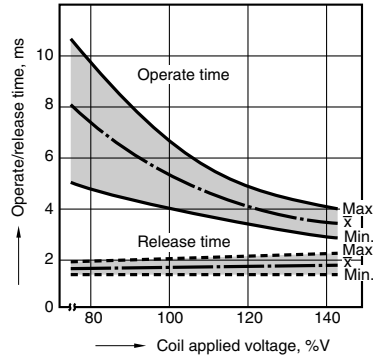
3. Life curve

Ambient temperature: Room temperature



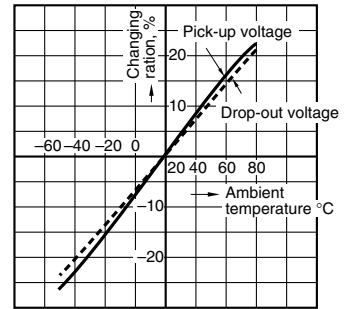
4. Operate/release time

Sample: JS1-12V-F, 25 pcs.



5. Ambient temperature characteristics

Sample: JS1-12V-F, 6 pcs.



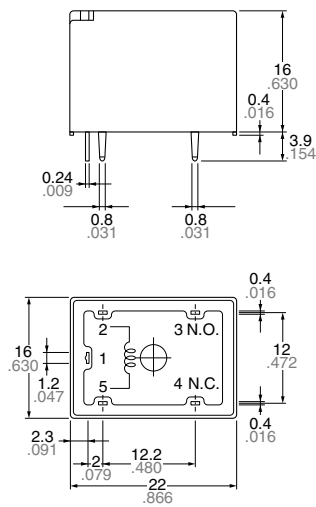
DIMENSIONS (mm inch)

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

CAD Data



External dimensions



Note: Terminal No. 4 is only for Standard 1 Form C type

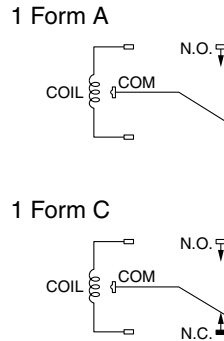
Dimension:

- Less than 1mm .039inch:
- Min. 1mm .039inch less than 3mm .118 inch: $\pm 0.2 \pm 0.08$
- Min. 3mm .118 inch: $\pm 0.3 \pm 0.12$

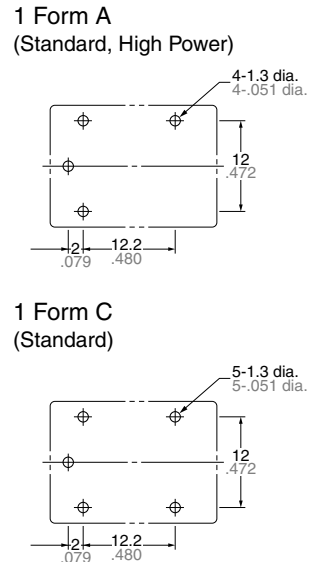
General tolerance

- $\pm 0.1 \pm 0.04$
- $\pm 0.2 \pm 0.08$
- $\pm 0.3 \pm 0.12$

Schematic (Bottom view)



PC board pattern (Bottom view)



Tolerance: $\pm 0.1 \pm 0.04$

SAFETY STANDARDS

| Type | UL/C-UL (Recognized) | | | | CSA (Certified) | | |
|---------------|----------------------|--------------------------|-------------|-------------------|-----------------|----------------|-----------------|
| | File No. | Contact rating | Tempreture | Cycles | File No. | Contact rating | Cycles |
| Standard type | E43028 | 10A 125V AC (N.C.) | – | – | LR26550 | 10A 125V AC | 10 ⁵ |
| | | 6A 277V AC | – | 10 ⁵ | | 12A 125V AC | 10 ⁵ |
| | | 5A 30V DC | – | 10 ⁵ | | 6A 277V AC | 10 ⁵ |
| | | 1/8HP 125V AC | – | 10 ⁵ | | 5A 30V DC | 10 ⁵ |
| | | 1/8HP 277V AC | – | 10 ⁴ | | 1/8HP 125V AC | 10 ⁵ |
| | | 12A 125V AC | 70°C 158°F | 10 ⁵ | | 1/8HP 277V AC | 10 ⁵ |
| | | 10A 125V AC (N.O.) | 85°C 185°F | 10 ⁵ | | – | – |
| | | 4FLA/4LRA 240V AC (N.O.) | 105°C 221°F | 10 ⁵ | | – | – |
| | | 2FLA/4LRA 240V AC (N.C.) | 105°C 221°F | 3×10 ⁴ | | – | – |
| | | 1/3HP 277V AC (N.O.) | 75°C 167°F | 10 ⁵ | | – | – |

| Type | VDE (Certified) | | | | TUV (Certified) | | |
|---------------|-----------------|------------------------|------------|-----------------|-----------------|------------------------|-----------------|
| | File No. | Contact rating | Tempreture | Cycles | File No. | Contact rating | Cycles |
| Standard type | 40011475 | 10A 125V AC (cosφ=1.0) | 70°C 158°F | 10 ⁴ | B 12 09 | 10A 125V AC (cosφ=1.0) | 10 ⁵ |
| | | 6A 250V AC (cosφ=1.0) | 70°C 158°F | 10 ⁵ | 13461 336 | 6A 250V AC (cosφ=1.0) | 10 ⁵ |

* Standard: UL, CSA, VDE (Long endurance type and EN60335-1 GWT compliant type)
 UL, CSA (Surge voltage 6kV type)

NOTES

1. For cautions for use, please read “GENERAL APPLICATION GUIDELINES”.

Please contact

Panasonic Corporation

Electromechanical Control Business Division

■ 1006, Oaza Kadoma, Kadoma-shi, Osaka 571-8506, Japan
industrial.panasonic.com/ac/e/

Panasonic[®]

©Panasonic Corporation 2016

OUR CERTIFICATE

DiGi provide top-quality products and perfect service for customer worldwide through standardization, technological innovation and continuous improvement. DiGi through third-party certification, we stricly control the quality of products and services. Welcome your RFQ to

Email: Info@DiGi-Electronics.com



Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

DiGi is a global authorized distributor of electronic components.