



PCB type



TMP type

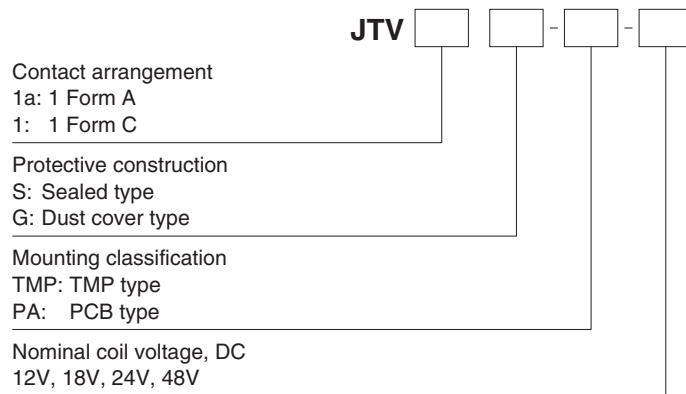
FEATURES

- Surge withstand voltage: 6,000 V
- High switching capacity — 30 A for 1 Form A
- 2 contact arrangements — 1 Form A or 1 Form C
- “TMP” types available
- UL/C-UL recognized
- Class F types standard
- Clearance, contact to coil: min. 6.4mm
- Creepage, contact to coil: min. 9.5mm

TYPICAL APPLICATIONS

- Oven
- Heating & ventilation
- Home appliance

ORDERING INFORMATION



Notes: 1. Certified by UL/C-UL
2. 5 V, 6 V, 9 V DC types are also available. Please contact us for details.

TYPES

1. 1 Form A Dust cover type

Nominal coil voltage	Part No.	
	PCB type	TMP type
12V DC	JTV1aG-PA-12V	JTV1aG-TMP-12V
18V DC	JTV1aG-PA-18V	JTV1aG-TMP-18V
24V DC	JTV1aG-PA-24V	JTV1aG-TMP-24V
48V DC	JTV1aG-PA-48V	JTV1aG-TMP-48V

Standard packing: PCB type: Carton: 50 pcs.; Case: 500 pcs.
TMP type: Carton: 50 pcs.; Case: 300 pcs.

2. 1 Form C Dust cover type

Nominal coil voltage	Part No.	
	PCB type	TMP type
12V DC	JTV1G-PA-12V	JTV1G-TMP-12V
18V DC	JTV1G-PA-18V	JTV1G-TMP-18V
24V DC	JTV1G-PA-24V	JTV1G-TMP-24V
48V DC	JTV1G-PA-48V	JTV1G-TMP-48V

Standard packing: PCB type: Carton: 50 pcs.; Case: 500 pcs.
TMP type: Carton: 50 pcs.; Case: 300 pcs.

3. 1 Form A Sealed type

Nominal coil voltage	Part No.	
	PCB type	TMP type
12V DC	JTV1aS-PA-12V	JTV1aS-TMP-12V
18V DC	JTV1aS-PA-18V	JTV1aS-TMP-18V
24V DC	JTV1aS-PA-24V	JTV1aS-TMP-24V
48V DC	JTV1aS-PA-48V	JTV1aS-TMP-48V

Standard packing: PCB type: Carton: 50 pcs.; Case: 500 pcs.
TMP type: Carton: 50 pcs.; Case: 300 pcs.

4. 1 Form C Sealed type

Nominal coil voltage	Part No.	
	PCB type	TMP type
12V DC	JTV1S-PA-12V	JTV1S-TMP-12V
18V DC	JTV1S-PA-18V	JTV1S-TMP-18V
24V DC	JTV1S-PA-24V	JTV1S-TMP-24V
48V DC	JTV1S-PA-48V	JTV1S-TMP-48V

Standard packing: PCB type: Carton: 50 pcs.; Case: 500 pcs.
TMP type: Carton: 50 pcs.; Case: 300 pcs.

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	Max. applied voltage (at 20°C 68°F)
12V DC	75%V or less of nominal voltage (Initial)	10%V or more of nominal voltage (Initial)	83.3mA	144Ω	1,000mW	120%V of nominal voltage
18V DC			55.6mA	324Ω		
24V DC			41.7mA	576Ω		
48V DC			20.8mA	2,304Ω		

2. Specifications

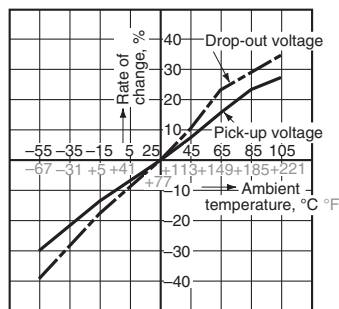
Characteristics	Item		Specifications	
Contact	Contact material		AgSnO ₂ type	
	Arrangement		1 Form A	1 Form C
	Contact resistance (Initial)		Max. 50 mΩ (By voltage drop 6 V DC 1A)	
Rating	Nominal switching capacity (resistive load)		20A 277V AC	N.C.: 10A 277V AC, N.O.: 20A 277V AC
	Max. switching power (resistive load)		8,310VA (30A 277V AC)	N.C.: 2,770VA, N.O.: 5,540VA
	Max. switching voltage		277V AC	
	Max. switching current		30A	N.C.: 10A, N.O.: 20A
	Nominal operating power		Approx. 1,000mW	
	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	1,200 Vrms for 1 min. (Detection current: 10 mA)	
		Between contact and coil	3,500 Vrms for 1 min. (Detection current: 10 mA)	
Surge breakdown voltage*2 (Between contact and coil) (Initial)		6,000 V		
Operate time (at nominal voltage) (at 20°C 68°F)		Max. 15 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	Min. 98 m/s ² (Half-wave pulse of sine wave: 11 ms; detection time: 10μs.)	
		Destructive	Min. 980 m/s ² (Half-wave pulse of sine wave: 6 ms.)	
	Vibration resistance	Functional	10 to 55 Hz at double amplitude of 1.5 mm (Detection time: 10μs.)	
		Destructive	10 to 55 Hz at double amplitude of 2 mm	
Expected life	Mechanical		Min. 1×10 ⁷	
	Electrical (at 20 times/min.)*3		Min. 1×10 ⁵ (20A 277V AC at resistive load)	N.O.: Min. 1×10 ⁵ (20A 277V AC at resistive load) N.C.: Min. 1×10 ⁵ (10A 277V AC at resistive load)
Conditions	Conditions for operation, transport and storage*4		Ambient temperature: -55°C to +85°C -67°F to +185°F, Humidity: 5 to 85% R.H. (Not freezing and condensing at low temperature)	
	Max. operating speed		20 times/min. (at nominal switching capacity)	
Unit weight			PCB type: Approx. 25 g .88 oz TMP type: Approx. 30 g 1.06 oz	

* Specifications will vary with foreign standards certification ratings.
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. Wave is standard shock voltage of ±1.2×50μs according to JEC-212-1981
*3. In order to obtain the full rated life cycles, the relay should be properly vented by removing the vent nib. More detail, please look at caution for NOTES.
*4. The upper limit of the ambient temperature is the maximum temperature that can satisfy the coil temperature rise value. Refer to "6. Usage, Storage and Transport Conditions" in [AMBIENT ENVIRONMENT section in Relay Technical Information](#).

REFERENCE DATA

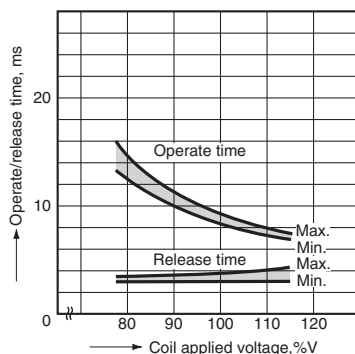
1. Change of rate of pick-up and drop-out voltage (at 20°C 68°F)

Sample: JTV1S-TMP-24V (6 pcs.)



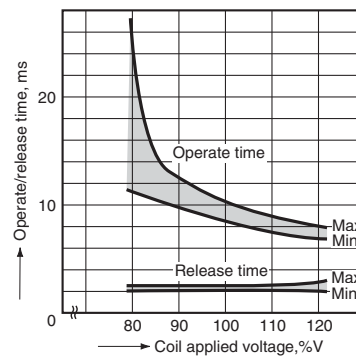
2. Operate/release time

Sample: JTV1S-TMP-24V



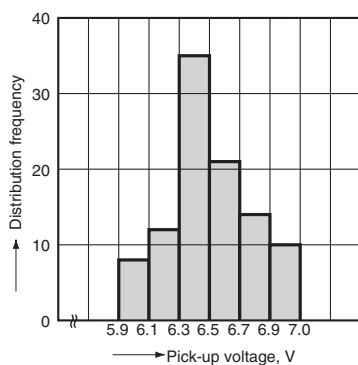
3. Operate/release time

Sample: JTV1aS-PA-24V



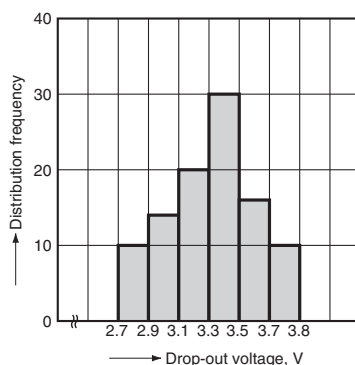
4. Distribution frequency of pick-up voltage (at 20°C 68°F)

Sample: JTV1S-TMP-12V (100 pcs.)



5. Distribution frequency of drop-out voltage (at 20°C 68°F)

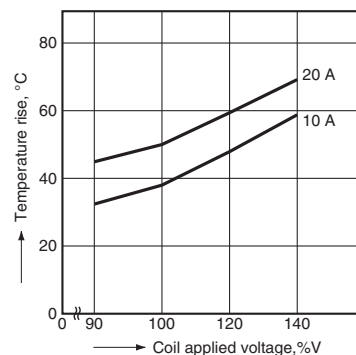
Sample: JTV1S-TMP-12V (100 pcs.)



6.-(1) Coil temperature rise (TMP type)*

Ambient temperature: 25°C 77°F

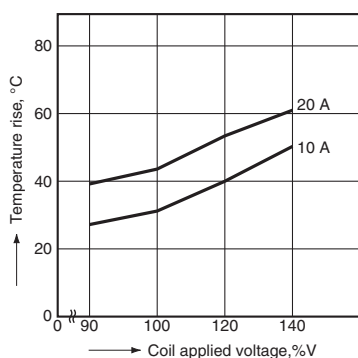
Sample: JTV1aS-TMP-12V (6 pcs.)



6.-(2) Coil temperature rise (TMP type)*

Ambient temperature: 85°C 185°F

Sample: JTV1aS-TMP-12V (6 pcs.)

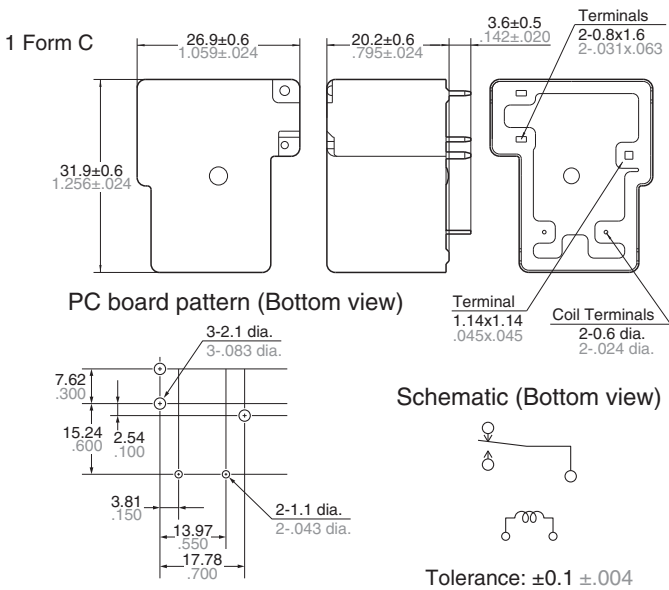
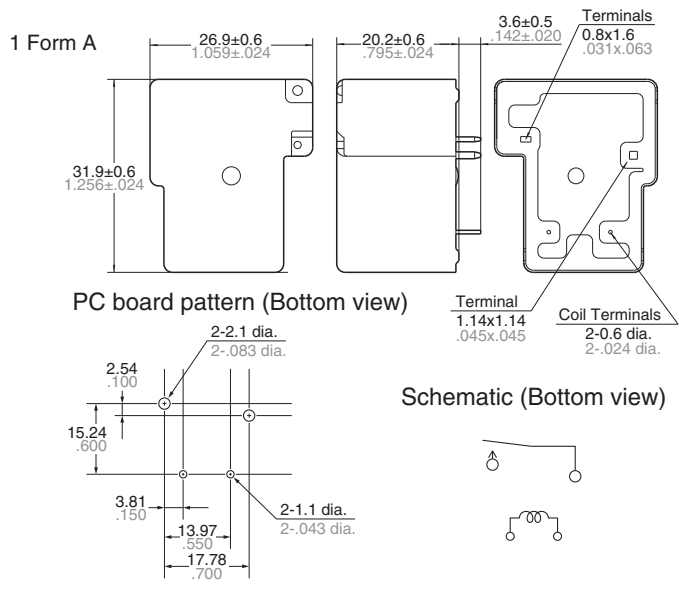


DIMENSIONS (mm inch)

Download [CAD Data](#) from our Web site.

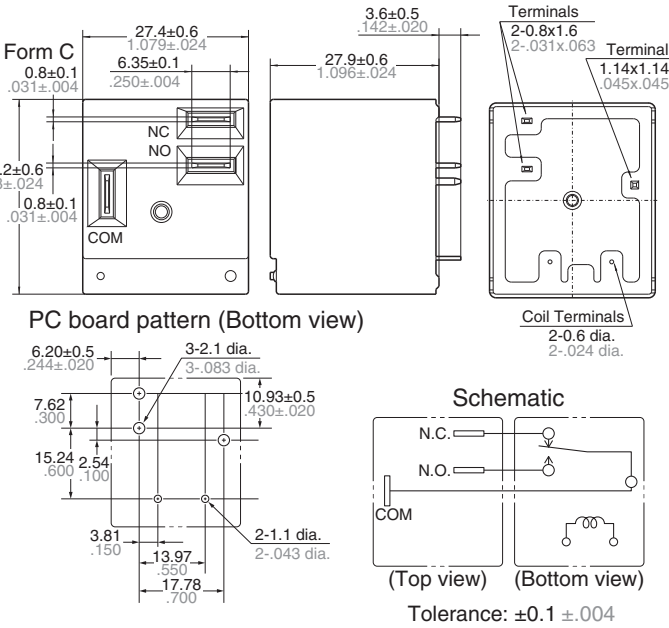
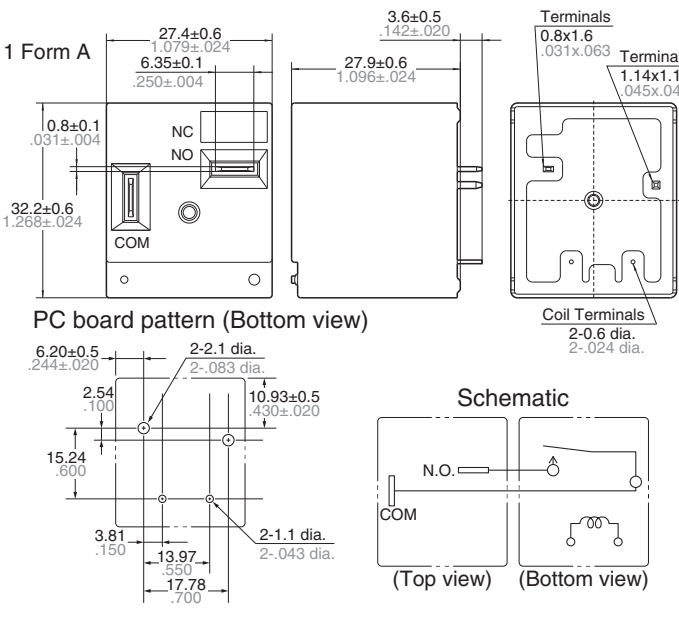
1. PCB type

[CAD Data](#)



2. TMP type

[CAD Data](#)



SAFETY STANDARDS

Item	UL/C-UL (Recognized)	
	File No.	Contact rating
1 Form A	E43028	30A 277V AC, 30A 28V DC, 2HP 250V AC
	N.O.	20A 277V AC, 20A 28V DC, 2HP 250V AC
1 Form C	N.C.	10A 277V AC, 10A 28V DC, 1/2HP 250V AC
	E43028	10A 277V AC, 10A 28V DC, 1/2HP 250V AC

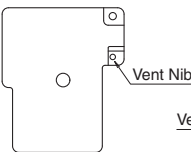
* CSA standard: Certified by C-UL

NOTES

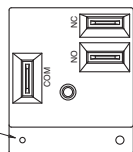
1. Electrical life

In order to obtain the full rated life cycles, the relay should be properly vented by removing the vent nib after the soldering/washing process.

• PCB type



• TMP type



For Cautions for Use, see [Relay Technical Information](#).