

### 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

RoHS Directive compatibility information  
<http://www.nais-e.com/>

## SPECIFICATIONS

### Contacts

		PCB & TMP type	
Arrangement		1 Form A	1 Form C
Initial contact resistance, max. (By voltage drop method, 6 V DC 1 A)		50 mΩ	
Contact material		AgSnO <sub>2</sub> type	
Rating	Max. switching power	8310 VA	N.C.: 2770 VA N.O.: 5540 VA
	Max. switching voltage	277 V AC	
	Max. switching current	30 A	N.C.: 10 A N.O.: 20 A
	Min. switching capacity <sup>#1</sup> (Reference value)	100 mA, 5 V DC	
Expected life	Mechanical	Min. 1×10 <sup>7</sup>	
	Electrical (Resistive load)	20 A 277 V AC Min. 1×10 <sup>5</sup> *	N.O.: 20 A 277 V AC Min. 1×10 <sup>5</sup> * N.C.: 10 A 277 V AC Min. 1×10 <sup>5</sup> *

\* The life is for open venting-hole condition.

### Coil at 20°C 68°F

	PCB & TMP type
Nominal operating power	Approx. 1,000 mW

### Characteristics

		PCB & TMP type
Initial insulation resistance <sup>*1</sup>		Min. 100 MΩ at 500 V DC
Initial breakdown voltage <sup>*2</sup>	Between contacts	1,200 Vrms
	Between contacts and coil	3,500 Vrms
Initial surge voltage between contact and coil		6,000 V <sup>*3</sup>
Operate time <sup>*4</sup> (at nominal voltage)		Max. 15 ms
Release time (without diode) <sup>*4</sup> (at nominal voltage)		Max. 10 ms
Shock resistance	Functional <sup>*5</sup>	98 m/s <sup>2</sup> {10 G}
	Destructive <sup>*6</sup>	980 m/s <sup>2</sup> {100 G}
Vibration resistance	Functional <sup>*7</sup>	10 to 55 Hz at double amplitude of 1.5 mm
	Destructive	10 to 55 Hz at double amplitude of 2 mm
Conditions for operation, transport and storage <sup>*8</sup> (Not freezing and condensing at low temperature)	Ambient temp.	-55°C to +85°C -67°F to +185°F
	Humidity	5 to 85% R.H.
Unit weight		PCB type: Approx. 25 g (.88 oz) TMP type: Approx. 30 g (1.06 oz)

#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.

### Remarks

- \* Specifications will vary with foreign standards certification ratings.
- \*1 Measurement at same location as “Initial breakdown voltage” section
- \*2 Detection current: 10 mA
- \*3 Ware is standard shock voltage of  $\pm 1.2 \times 50\mu\text{s}$  according to JEC-212-1981.
- \*4 Excluding contact bounce time
- \*5 Half-wave pulse of sine wave: 11ms; detection time: 10μs
- \*6 Half-wave pulse of sine wave: 6ms
- \*7 Detection time: 10μs
- \*8 Refer to 6. Conditions for operation, transport and storage mentioned in AMBIENT ENVIRONMENT

## TYPICAL APPLICATIONS

- Oven
- Heating & ventilation
- Home appliance

# ORDERING INFORMATION

JT-V Relays (PCB and TMP type)

JTV		1a	S	TMP	12V
Contact arrangement	Protective construction	Mounting classification	Coil voltage		
1a: 1 Form A 1: 1 Form C	S: Sealed type G: Dust cover type	PA: PCB type TMP: TMP type	DC 12, 18, 24, 48 V		

- Notes: 1. UL/C-UL approved type is standard.  
 2. 5 V, 6 V, 9 V DC types are also available. Please contact us for details.  
 3. Standard packing: PCB type: Carton: 50 pcs. Case: 500 pcs.  
 TMP type: Carton: 50 pcs. Case: 300 pcs.

## COIL DATA (at 20°C 68°F)

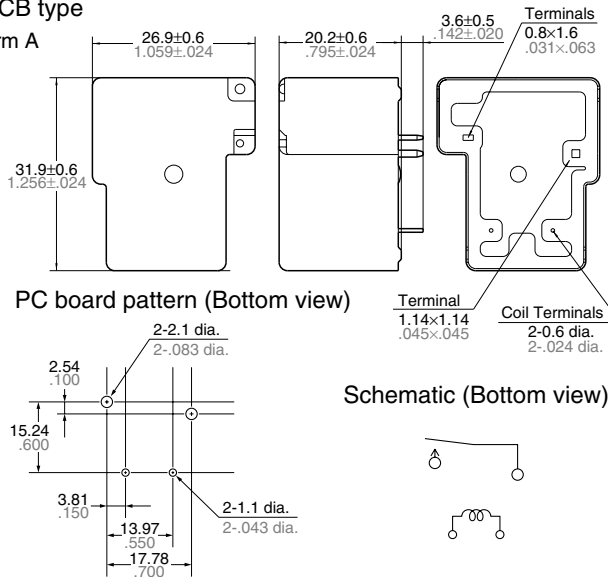
Nominal voltage, V DC	Pick-up voltage, V DC (max.) (Initial)	Drop-out voltage, V DC (min.) (Initial)	Coil resistance, Ω (±10%)	Nominal operating power, mW	Max. allowable voltage, V DC (at 70°C 158°F)
			PCB & TMP	PCB & TMP	
12	9.0	1.2	144	1000	14.4
18	13.5	1.8	324		21.6
24	18.0	2.4	576		28.8
48	36.0	4.8	2304		57.6

## DIMENSIONS

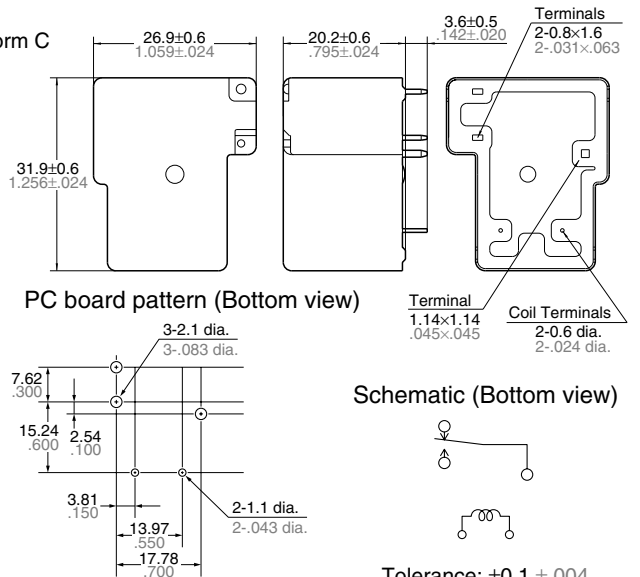
mm inch

### 1. PCB type

#### 1 Form A



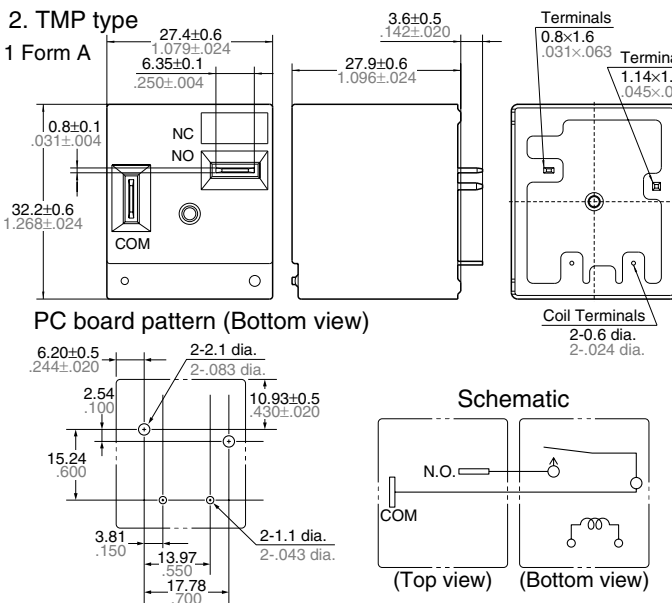
#### 1 Form C



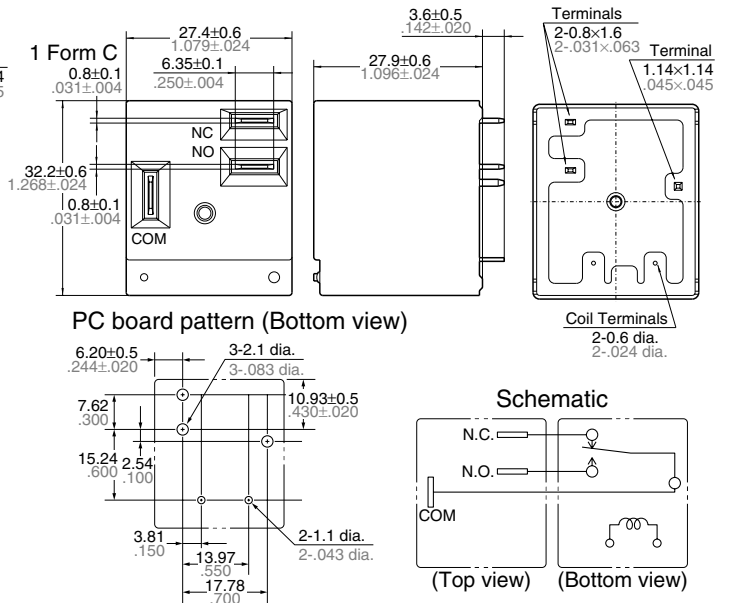
Tolerance: ±0.1 ±.004

### 2. TMP type

#### 1 Form A



#### 1 Form C

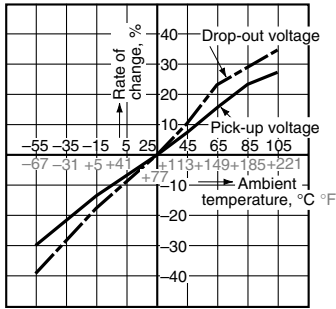


Tolerance: ±0.1 ±.004

## REFERENCE DATA

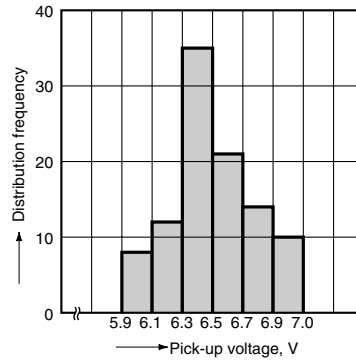
1. Change of rate of pick-up and drop-out voltage (at 20°C 68°F)

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



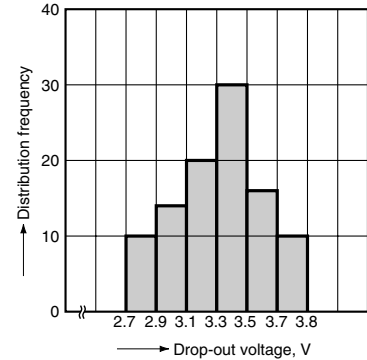
2. Distribution frequency of pick-up voltage (at 20°C 68°F)

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



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

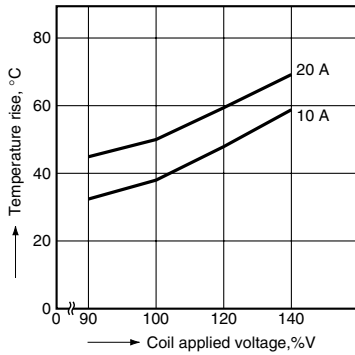
Sample: JTV1S-TMP-12V (100 pcs.)



4.-(1) Coil temperature rise (TMP type)\*

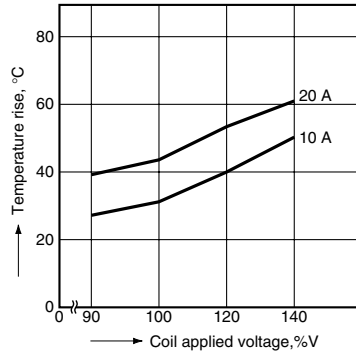
Ambient temperature: 25°C 77°F

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



Ambient temperature: 85°C 185°F

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



\* Coil temperature rise of sealed types are same as data of the dust cover type.

**For Cautions for Use, see Relay Technical Information**