Panasonic
ideas for life

SURGE VOLTAGE 6,000 V
30 AMP. RELAY

JT-V RELAYS

PCB type

TMP type

FEATURES

- **Surge withstand voltage: Min. 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**

Compliance with RoHS Directive

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		$AgSnO_2$ 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#1	100 mA, 5 V DC	
Expected life	Mechanical	Min. 1×10^7	
	Electrical (Resistive load)	20 A 277 V AC Min. 1×10^5*	N.O.: 20 A 277 V AC Min. 1×10^5* N.C.: 10 A 277 V AC Min. 1×10^5*

* 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*1		Min. 100 MΩ at 500 V DC
Initial breakdown voltage*2	Between contacts	1,200 Vrms
	Between contacts and coil	3,500 Vrms
Initial surge voltage between contact and coil		Min. 6,000 V*3
Operate time*4 (at nominal voltage)		Max. 15 ms
Release time (without diode)*4 (at nominal voltage)		Max. 10 ms
Shock resistance	Functional*5	Min. 98 m/s² {10 G}
	Destructive*6	Min. 980 m/s² {100 G}
Vibration resistance	Functional*7	Max. 88.2 m/s² {9 G}, 10 to 55 Hz at double amplitude of 1.5 mm
	Destructive	Max. 117.6 m/s² {12 G}, 10 to 55 Hz at double amplitude of 2 mm
Conditions for operation, transport and storage*8 (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 ±1.2 × 50μs 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)

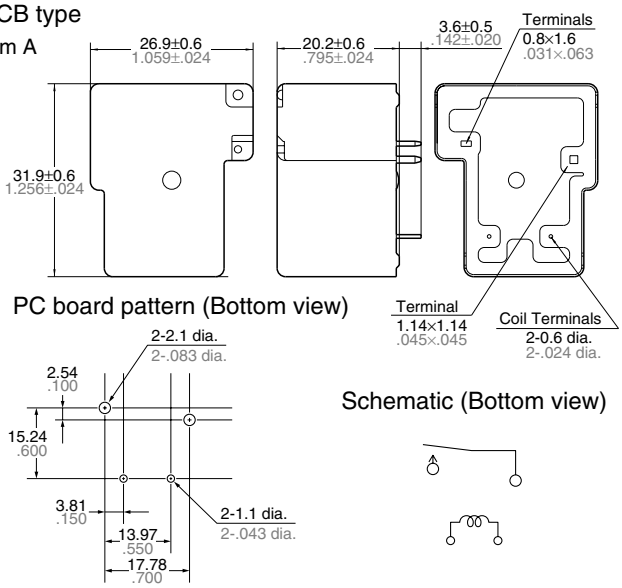
Nominal voltage, V DC	Pick-up voltage, V DC (max.) (Initial)	Drop-out voltage, V DC (min.) (Initial)	Coil resistance, Ω (±10%)	Nominal operating power, mW	Max. allowable voltage, V DC (at 70°C 158°F)
			PCB & TMP	PCB & TMP	
12	9.0	1.2	144	1000	14.4
18	13.5	1.8	324	1000	21.6
24	18.0	2.4	576	1000	28.8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

DIMENSIONS

mm inch

1. PCB type

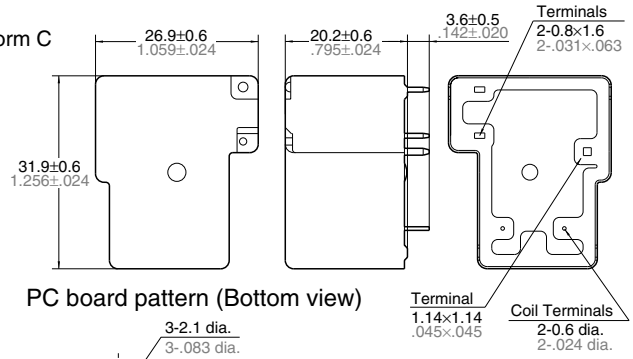
1 Form A



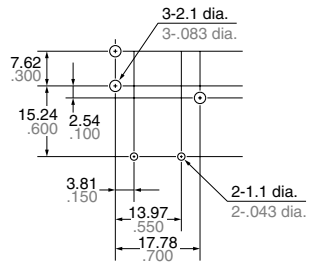
PC board pattern (Bottom view)

Schematic (Bottom view)

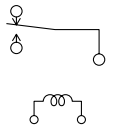
1 Form C



PC board pattern (Bottom view)



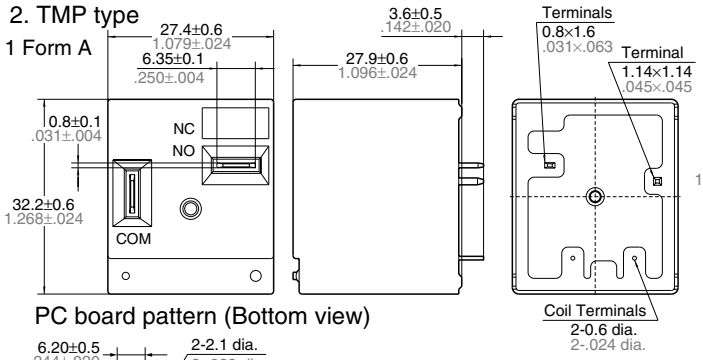
Schematic (Bottom view)



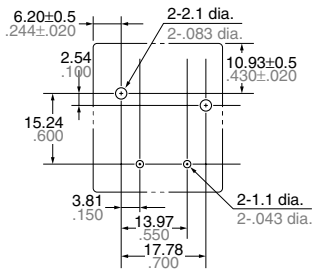
Tolerance: ±0.1 ±.004

2. TMP type

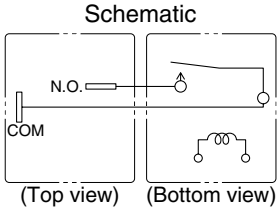
1 Form A



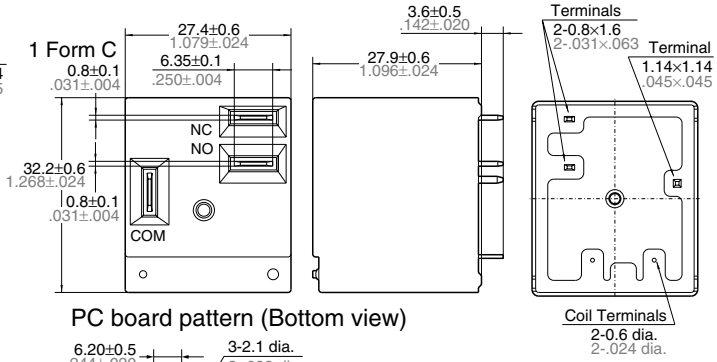
PC board pattern (Bottom view)



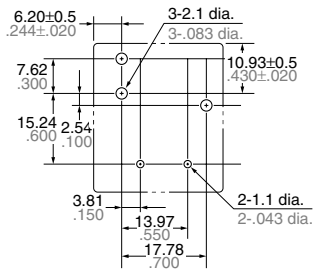
Schematic



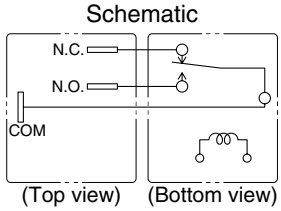
1 Form C



PC board pattern (Bottom view)



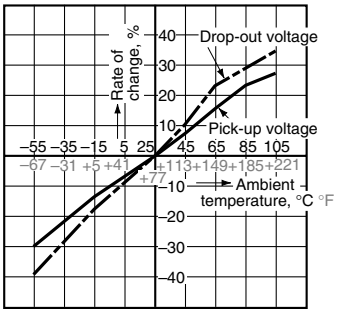
Schematic



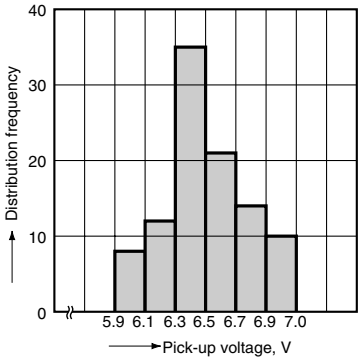
Tolerance: ±0.1 ±.004

REFERENCE DATA

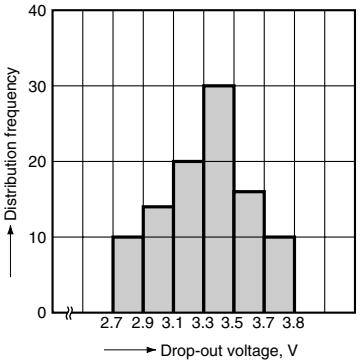
1. Change of rate of pick-up and drop-out voltage (at 20°C 68°F)
Sample: JTV1S-TMP-24V (6 pcs.)



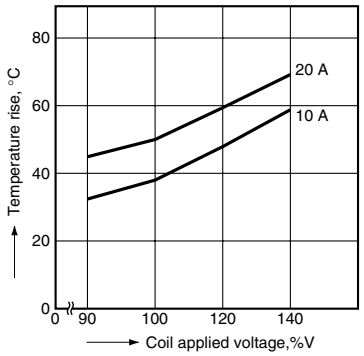
2. Distribution frequency of pick-up voltage (at 20°C 68°F)
Sample: JTV1S-TMP-12V (100 pcs.)



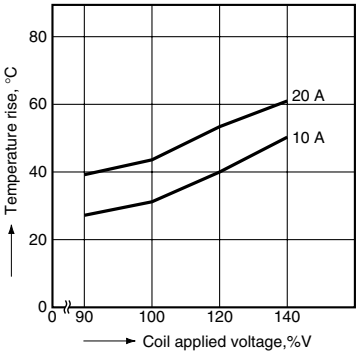
3. Distribution frequency of drop-out voltage (at 20°C 68°F)
Sample: JTV1S-TMP-12V (100 pcs.)



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 .