勝 特 力 材 料 886-3-5753170
胜特力电子(上海) 86-21-54151736
胜特力电子(深圳) 86-755-83298787
Http://www.100y.com.tw

POWER RELAY

1 POLE—3, 5 A (MEDIUM LOAD CONTROL)

JY SERIES

RoHS compliant

■ FEATURES

- UL, CSA, VDE recognized
- High sensitivity and low power consumption
- High isolation
- Wide operating range
- DIL pitch terminals
- Plastic sealed type
- Socket mounting type and socket available
- Compatible with solid state relays type SJ (see page 365, 366) in size and pin (terminal) arrangement
- RoHS compliant since date code: 0514-
  Please see page 6 for more information

■ ORDERING INFORMATION

[Example] JY – 12 H E – K P*2
(a) (*) (b) (c) (d) (e) (f)

(a)	Series Name	JY : JY Series
(b)	Nominal Voltage	Refer to the COIL DATA CHART
(c)	Contact Style	Nil : 3 A (Single contact) H : 5 A (Single contact) W : 3A (Bifurcated contact)
(d)	Contact Material	Nil : Gold-plate silver cadmium oxide (single type) Nil : Gold overlay silver alloy (bifurcated) E : Silver cadmium oxide (single type)
(e)	Enclosure	K : Plastic sealed type
(f)	Terminal Classification	Nil : PC board mounting type P : Socket mounting type (without JY-W)

Note: 1. Actual marking omits the hyphen (-) of (*)
2. Actual marking omits the P of (*2)

■ SAFETY STANDARD AND FILE NUMBERS

UL508 (FIle No. E56140)
C22.2 No. 14 (File No. LR35579)
VDE 0435 (File No. 11039-4940-1014)
Please request when the approval markings are required on the cover and/or relay recognized by SEV is re-

Type	Nominal voltage	Contact rating
JY-H, JY-HE	4.5 to 48 VDC	1/8 HP 125 VAC/ 250 VAC 5 A 30 VDC/250 VAC, resistive Pilot duty C 150
JY, JY-W, JY-E	4.5 to 48 VDC	1/10 HP 125 VAC/ 250 VAC 3 A 30 VDC/250 VAC, resistive Pilot duty D 150

■ SPECIFICATIONS

Item			3 A Type			5 A Type	
			JY-( ) W-K	JY-( ) -K	JY-( ) E-K	JY-( ) H-K	JY-( ) HE-K
Contact	Arrangement		1 form A (SPST-NO)				
	Material		Gold-overlay silver alloy	Gold-plate silver cadmium oxide	silver cadmium oxide	Gold-plate silver cadmium oxide	silver cadmium oxide
	Style		Bifurcated	Single			
	Resistance (initial) (at 1A 6 VDC)		Maximum 30 m		Max. 100 mΩ	Max. 30 mΩ	Max. 100 mΩ
	Rating (resistive)		3 A 250 VAC or 3 A 30 VDC		5 A 250 VAC or 5 A 30 VDC		
	Maximum Carrying Current		5 A				
	Maximum Switching Power		750 VA, 90 W			1,250 VA, 150 W	
	Maximum Switching Voltage		250 VAC, 150 VDC				
	Maximum Switching Current		3 A			5 A	
	Minimum Switching Load*1		0.1 mA 100 mVDC	10 mA 5 VDC	100 mA 5 VDC	10 mA 5 VDC	100 mA 5 VDC
Coil	Nominal Power (at 20°C)		0.2 W (48 V type: 0.36 W)				
	Operate Power (at 20°C)		0.1 W (48 V type: 0.17 W)				
	Operating Temperature		–40°C to +90°C (no frost) (48V type: +80°C)				
Time Value	Operate (at nominal voltage)		Maximum 6 ms				
	Release (at nominal voltage)		Maximum 3 ms				
Insulation	Resistance (at 500 VDC)		Minimum 1,000 MΩ				
	Dielectric	between open contacts	750 VAC 1 minute				
		between coil and contacts	Standard type 2,000 VAC 1 minute				
	Surge Strength		Standard type 4,000 V (at 1.2 × 50 µs)				
Life	Mechanical		2 × 10^7 operations minimum				
	Electrical		1 × 10^5 operations minimum (contact rating)				
Other	Vibration Resistance	Misoperation	10 to 55 Hz (double amplitude of 1.5 mm)				
		Endurance	10 to 55 Hz (double amplitude of 4.5 mm)				
	Shock Resistance	Misoperation	100 m/s^2 (11±1 ms)				
		Endurance	1,000 m/s^2 (6±1 ms)				
	Weight		Approximately 5 g				

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*1 Minimum switching loads mentioned above are reference values. Please perform the confirmation test with the actual load before production since reference values may vary according to switching frequencies, environmental conditions and expected reliability levels.

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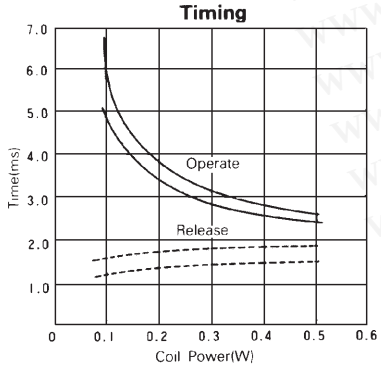
■ COIL DATA CHART

MODEL		Nominal voltage	Coil resistance (±10%)	Must operate voltage*1	Must release voltage*1	Nominal power
5 A Type	3 A Type					
JY-( ) H, JY-( ) HE	JY-( ), JY-( ) W, JY-( )E					
JY- 4.5 H ( )-K	JY- 4.5 ( )-K	4.5 VDC	100 Ω	3.1 VDC	0.23 VDC	200 mW
JY- 5 H ( )-K	JY- 5 ( )-K	5 VDC	125 Ω	3.5 VDC	0.25 VDC	200 mW
JY- 6 H ( )-K	JY- 6 ( )-K	6 VDC	180 Ω	4.2 VDC	0.3 VDC	200 mW
JY- 9 H ( )-K	JY- 9 ( )-K	9 VDC	405 Ω	6.3 VDC	0.45 VDC	200 mW
JY- 12 H ( )-K	JY- 12 ( )-K	12 VDC	720 Ω	8.4 VDC	0.6 VDC	200 mW
JY- 18 H ( )-K	JY- 18 ( )-K	18 VDC	1,620 Ω	12.6 VDC	0.9 VDC	200 mW
JY- 24 H ( )-K	JY- 24 ( )-K	24 VDC	2,880 Ω	16.8 VDC	1.2 VDC	200 mW
JY- 48 H ( )-K	JY- 48 ( )-K	48 VDC	6,400 Ω	32.6 VDC	2.4 VDC	360 mW
JY-101-K		23.5 VDC	2,760 Ω	15.5 VDC	1.18 VDC	200 mW
JY-105-K		12 VDC	720 Ω	8.4 VDC	0.6 VDC	200 mW
JY-107-K		5 VDC	125 Ω	3.5 VDC	0.25 VDC	200 mW

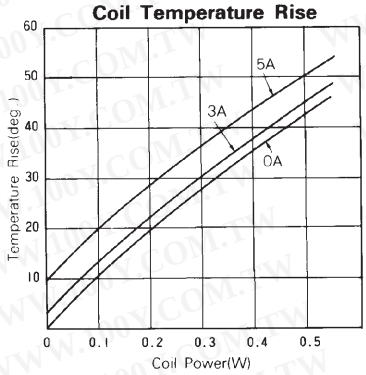
Note: *1 Specified values are subject to pulse wave voltage.
All values in the table are measured at 20°C.

■ CHARACTERISTIC DATA

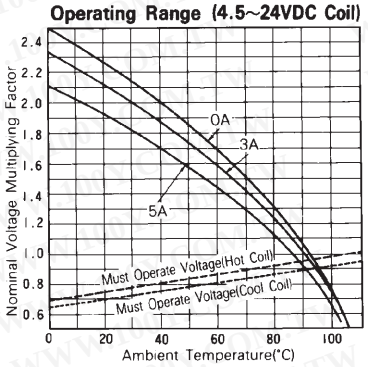
Timing



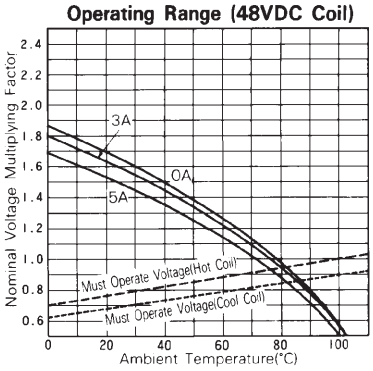
Coil Temperature Rise



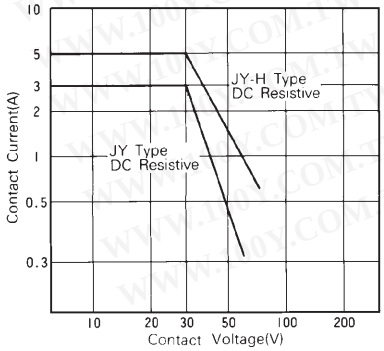
Operating Range (4.5~24VDC Coil)



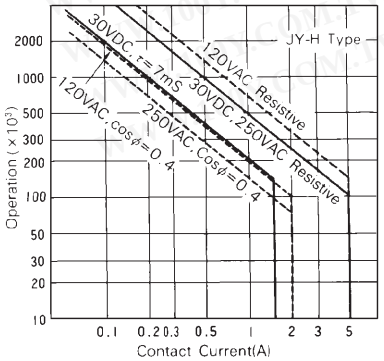
Operating Range (48VDC Coil)



Maximum Switching Power



Life Curves



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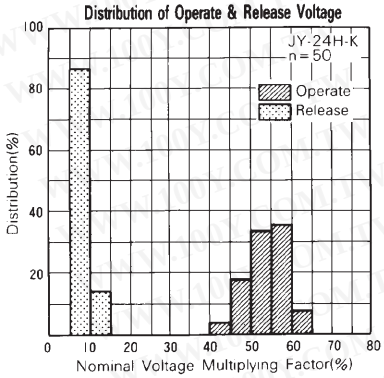
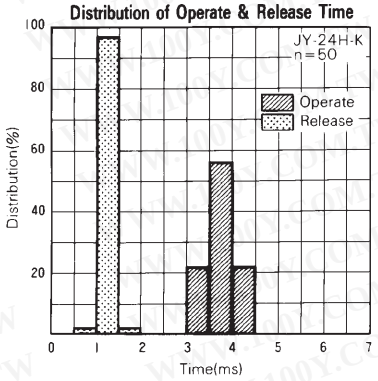
■ REFERENCE DATA

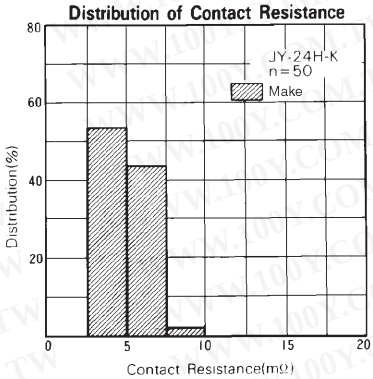
Distribution of Operate & Release Voltage



Distribution of Operate & Release Time



Distribution of Contact Resistance



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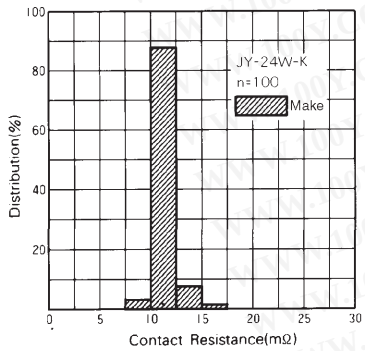
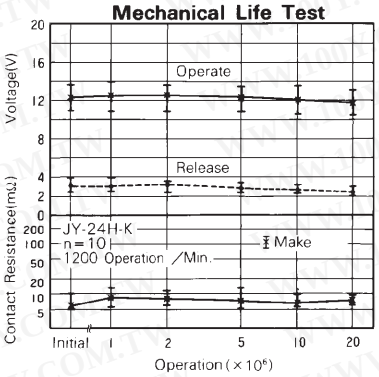
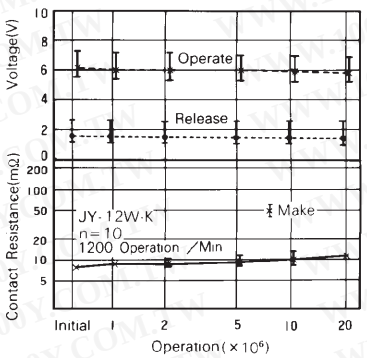


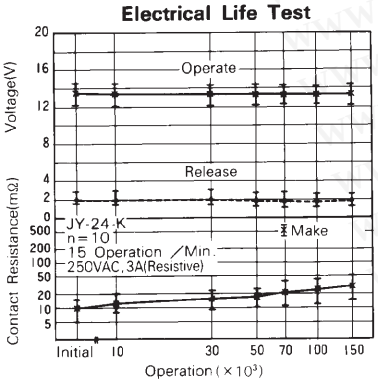
Mechanical Life Test



Mechanical Life Test



Electrical Life Test



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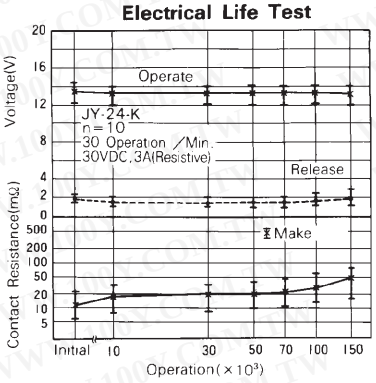

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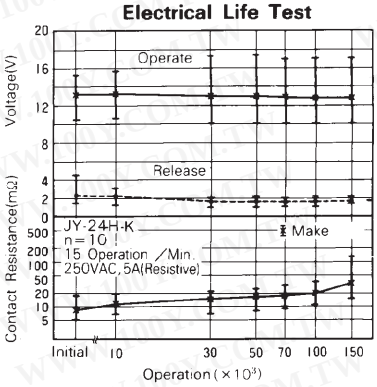

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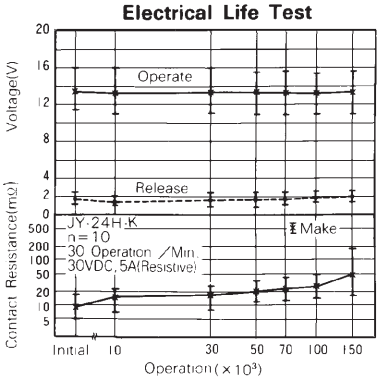

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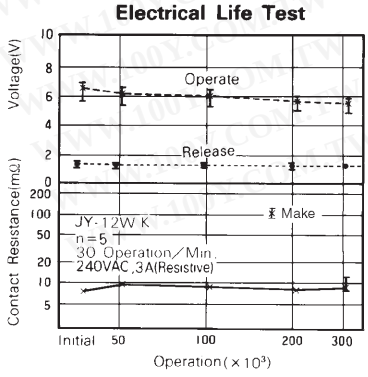
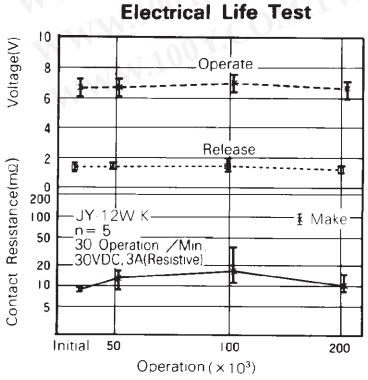


Electrical Life Test



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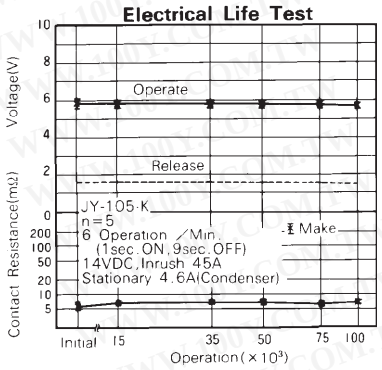
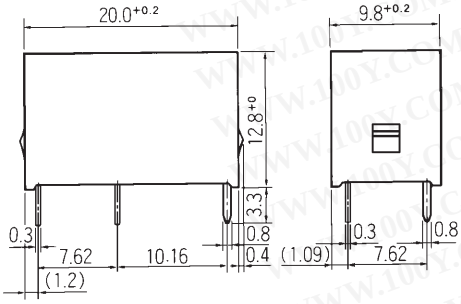


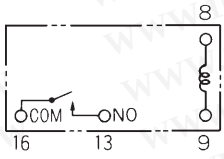
■ DIMENSIONS

- **Dimensions**

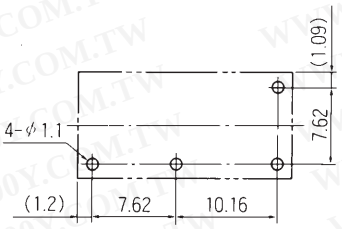
JY Type



- **Schematics** (BOTTOM VIEW)

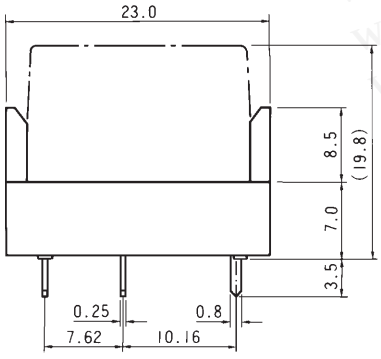


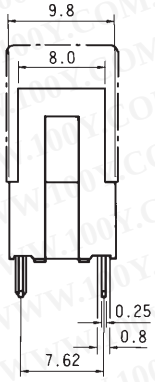
- **PC board mounting hole layout** (BOTTOM VIEW)



Unit: mm

■ SOCKET DIMENSIONS





■ NOTES

1. Socket ordering code : JK-4N
2. Standard IC socket is not recommended. Please use socket "JK-4N".

Unit: mm

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RoHS Compliance and Lead Free Relay Information

1. General Information

- Relays produced after the specific date code that is indicated on each data sheet are lead-free now. Most of our signal and power relays are lead-free. Please refer to Lead-Free Status Info. (http://www.fujitsu.com/us/downloads/MICRO/fcai/relays/lead-free-letter.pdf)
- Lead free solder paste currently used in relays is Sn-3.0Ag-0.5Cu.
- All signal and most power relays also comply with RoHS. Please refer to individual data sheets. Relays that are RoHS compliant do not contain the 5 hazardous materials that are restricted by RoHS directive (lead, mercury, chromium IV, PBB, PBDE).
- It has been verified that using lead-free relays in leaded assembly process will not cause any problems (compatible).
- “LF” is marked on each outer and inner carton. (No marking on individual relays).
- To avoid leaded relays (for lead-free sample, etc.) please consult with area sales office.
- We will ship leaded relays as long as the leaded relay inventory exists.

Note: Cadmium was exempted from RoHS on October 21, 2005. (Amendment to Directive 2002/95/EC)

2. Recommended Lead Free Solder Profile

- Recommended solder paste Sn-3.0Ag-0.5Cu.

Reflow Solder condtion

Flow Solder condtion:

Pre-heating:	maximum 120˚C
Soldering:	dip within 5 sec. at 260˚C soler bath

Solder by Soldering Iron:

Soldering Iron Temperature:	maximum 360˚C
Duration:	maximum 3 sec.

We highly recommend that you confirm your actual solder conditions

3. Moisture Sensitivity

Moisture Sensitivity Level standard is not applicable to electromechanical realys.

4. Tin Whisker

- Dipped SnAgCu solder is known as low risk tin whisker. No considerable length whisker was found by our in house test.

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