

POWER RELAY

1 POLE - 3, 5A Medium Load Control JY Series

■ FEATURES

- UL, CSA, VDE recognized
- High sensitivity and low power consumption
- High insulation
- Wide operating range
- DIL pitch terminals
- Plastic sealed type, RTIII
- Socket mounting type and socket available
- Compatible with solid state relays type SJ
- RoHS compliant.

Please see page 7 for more information



■ PARTNUMBER INFORMATION

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

(a)	Relay type	JY	: JY Series
(b)	Coil rated voltage	12	: 4.5...48VDC Coil rating table at page 3
(c)	Contact style	Nil H W	: 3A (Single contact) : 5A (Single contact) : 3A (Bifurcated contact)
(d)	Contact material	Nil Nil E	: Gold-plate silver cadmium oxide (single contact type) : Gold overlay silver alloy (bifurcated contact type) : Silver cadmium oxide (single contact type)
(e)	Enclosure	K	: Plastic sealed type, RTIII
(f)	Terminal type	Nil P	: PC board mounting type : Socket mounting type (without JY-W)

Note: Actual marking omits the hyphen (-) of (*)

JY SERIES

■ SPECIFICATION

Item			3A Type			5A Type		
			JY - () W	JY - ()	JY - () E	JY - () H	JY - () HE	
Contact Data	Configuration		1 form A (SPST-NO)					
	Construction		Bifurcated	Single				
	Material		Gold-over-lay silver alloy AgNi	Gold-plate silver cadmium oxide	Silver cadmium oxide	Gold-plate silver cadmium oxide	Silver cadmium oxide	
	Resistance (initial) (at 6 VDC, 1A)		Max. 30 mOhm		Max. 100 mOhm	Max. 30 mOhm	Max. 100 mOhm	
	Contact rating		3A, 250VAC / 30VDC		5A, 250VAC / 30VDC			
	Max. carrying current		5A					
	Max. switching voltage		250VAC / 150 VDC					
	Max. switching power		750VA, 90W		1,250VA, 150W			
	Max. switching current		3A					
	Min. switching load *		0.1mA 100 mVDC	10mA 5VDC	100mA 5VDC	10mA 5VDC	100mA 5VDC	
Life	Mechanical		Min. 20 x 10 ⁶ operations					
	Electrical		Min. 100 x 10 ³ operations (contact rating)					
Coil Data	Rated power (at 20 °C)		200 mW (48V type: 360 mW)					
	Operate power (at 20 °C)		100 mW (48V type: 170 mW)					
	Operating temperature range		-40 °C to +90 °C (no frost) (48V type: +80 °C)					
Timing Data	Operate (at nominal voltage)		Max. 6 ms (without bounce)					
	Release (at nominal voltage)		Max. 3 ms (no diode)					
Insulation	Resistance (initial)		Min. 1,000MOhm at 500VDC					
	Dielectric strength	Open contacts	750VAC, 1min					
		Contacts to coil	2,000VAC, 1min					
	Surge strength	Coil to contacts	4,000V / 1.2 x 50μs standard wave					
Other	Vibration resistance	Misoperation	10 to 55Hz double amplitude 1.5 mm					
		Endurance	10 to 55Hz double amplitude 4.5 mm					
	Shock	Misoperation	Min. 100m/s ² (11 ± 1ms)					
		Endurance	Min. 1,000m/s ² (6 ± 1ms)					
	Weight		Approximately 5 g					
	Sealing		Plastic sealed, RTIII					

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

■ COIL RATING

Coil Code	Coil Code	Rated Coil Voltage (VDC)	Coil Resistance +/- 10% (Ohm)	Must Operate Voltage (VDC) *	Must Release-Voltage (VDC) *	Rated Power (mW)
5A type	3A type					
4.5	4.5	4.5	100	3.1	0.23	200
5	5	5	125	3.5	0.25	
6	6	6	180	4.2	0.3	
9	9	9	405	6.3	0.45	
12	12	12	720	8.4	0.6	
18	18	18	1,620	12.6	0.9	
24	24	24	2,880	16.8	1.2	
48	48	48	6,400	32.6	2.4	360
101	-	23.5	2,760	15.5	1.18	200
105	-	12	720	8.4	0.6	
107	-	5	125	3.5	0.25	

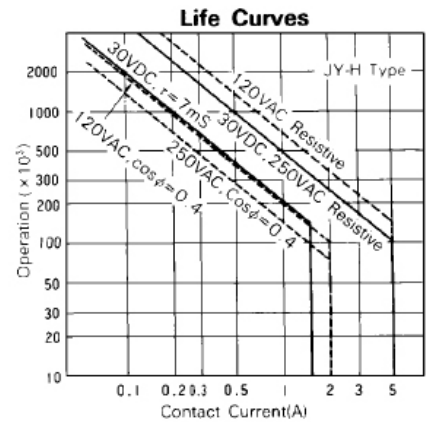
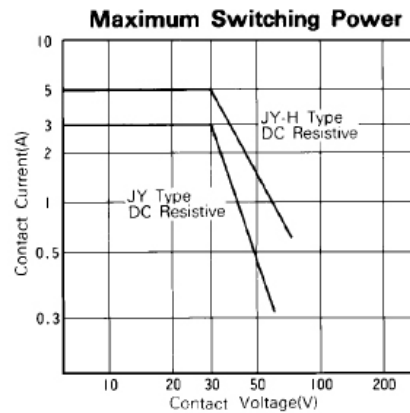
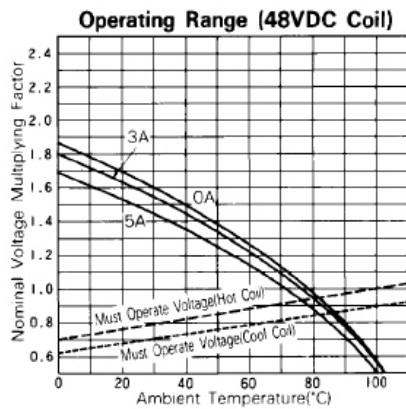
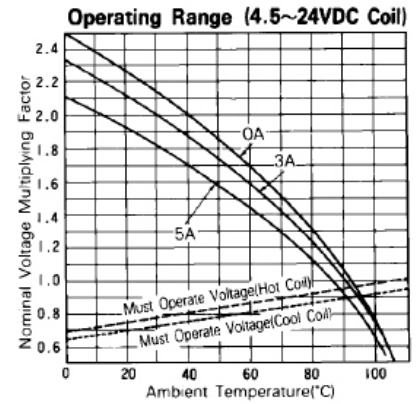
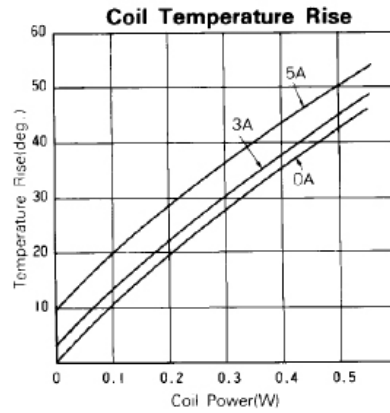
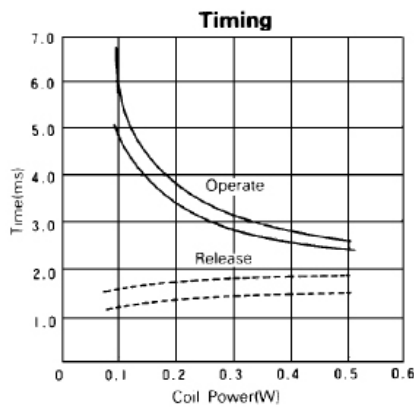
Note: All values in the table are valid for 20°C and zero contact current.

* Specified operate values are valid for pulse wave voltage.

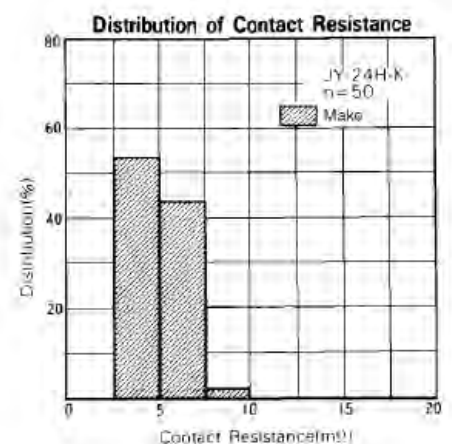
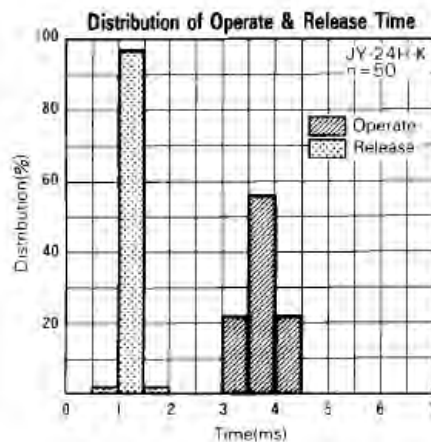
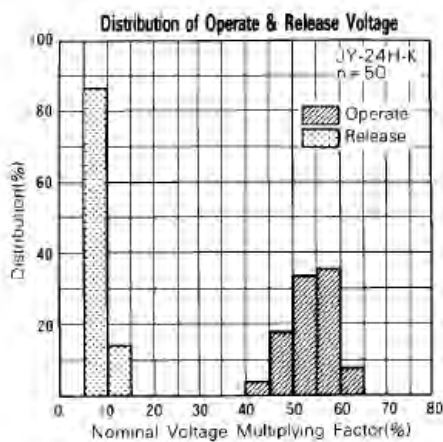
■ SAFETY STANDARDS

Type	Compliance	Contact rating
UL	UL 508	Flammability: UL 94-V0 (plastics)
	E56140	[JY-H, JY-HE] 5A, 250 VAC / 30 VDC (resistive)
CSA	C22.2 No. 14	1/8 HP, 125VAC, 250 VAC
	LR 35579	Pilot duty code C150 [JY, JY-W, JY-E] 3A, 250 VAC / 30 VDC (resistive)
VDE (JY..W-K type)	VDE 0435 part 201	1/10 HP, 125VAC, 250 VAC
		Pilot duty: C150
VDE (JY..W-K type)	VDE 0435 part 201	3A, 250VAC, cos φ1, 100K
		3A, 30VDC, 0msec. 100K

CHARACTERISTIC DATA

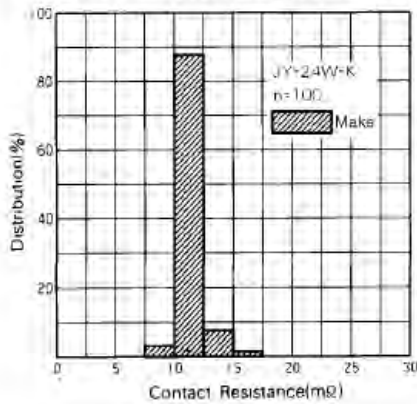


REFERENCE DATA

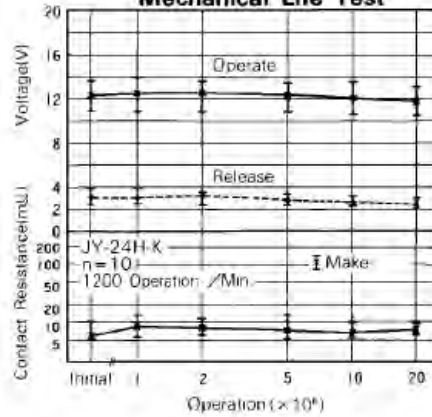


JY SERIES

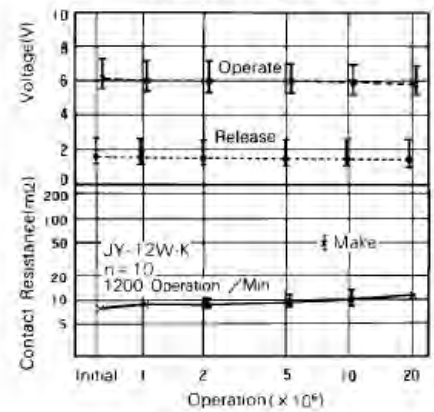
Distribution of Contact Resistance



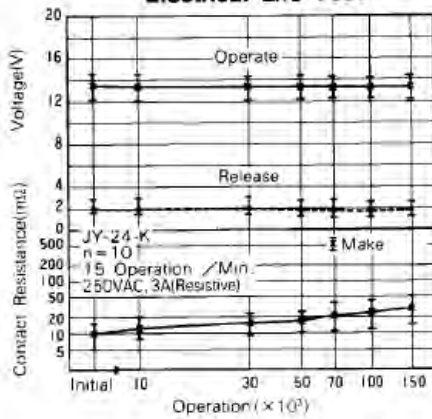
Mechanical Life Test



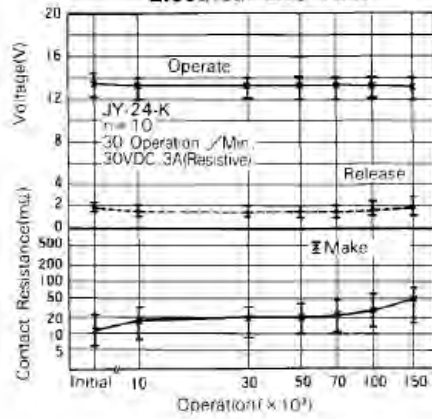
Mechanical Life Test



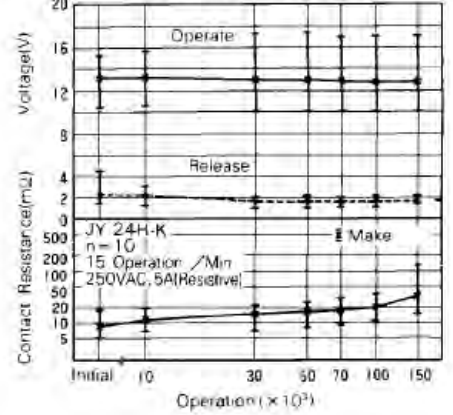
Electrical Life Test



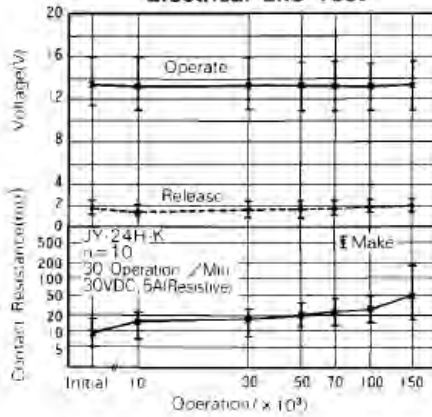
Electrical Life Test



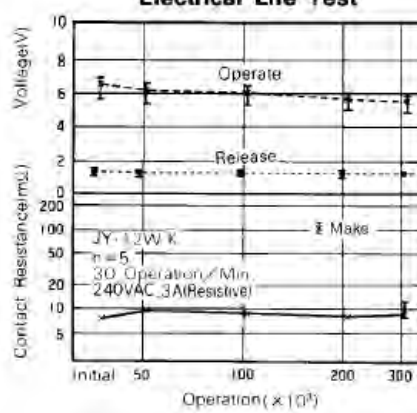
Electrical Life Test



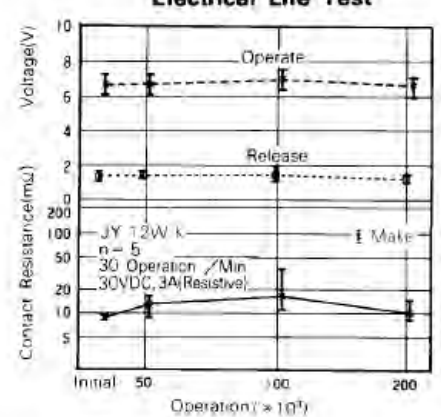
Electrical Life Test



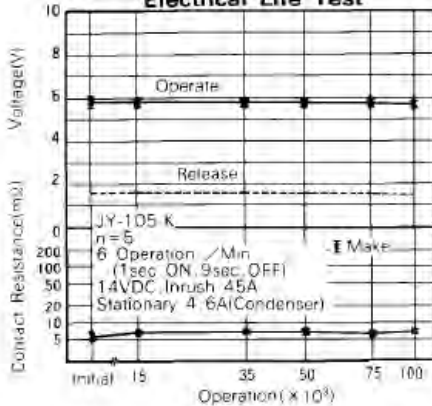
Electrical Life Test



Electrical Life Test



Electrical Life Test

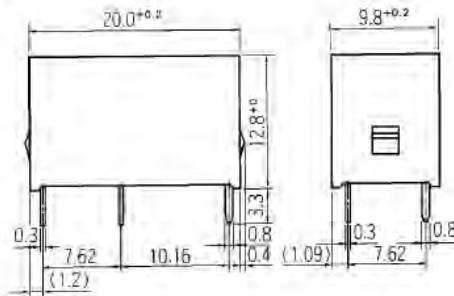


JY SERIES

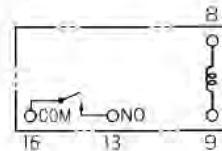
■ DIMENSIONS

• Dimensions

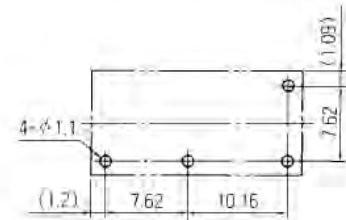
JY Type



• Schematics (BOTTOM VIEW)

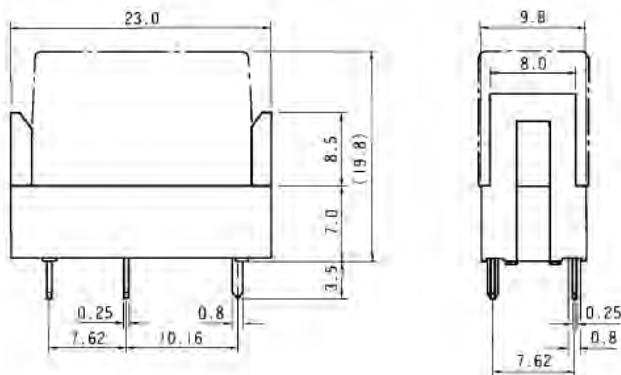


• PC board mounting hole layout (BOTTOM VIEW)

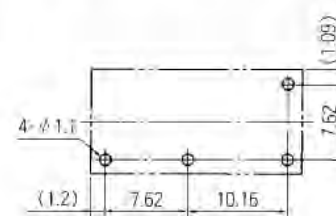


Unit: mm

■ SOCKET DIMENSIONS



• PC board mounting hole layout



Unit: mm

■ NOTES

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

RoHS Compliance and Lead Free Information

1. General Information

- All signal and power relays produced by Fujitsu Components are compliant with RoHS directive 2002/95/EC including amendments.
- Cadmium as used in electrical contacts is exempted from the RoHS directives on October 21st, 2005. (Amendment to Directive 2002/95/EC)
- All of our signal and power relays are lead-free. Please refer to Lead-Free Status Info for older date codes at: <http://www.fujitsu.com/us/downloads/MICRO/fcai/relays/lead-free-letter.pdf>
- Lead free solder plating on relay terminals is Sn-3.0Ag-0.5Cu, unless otherwise specified. This material has been verified to be compatible with PbSn assembly process.

2. Recommended Lead Free Solder Profile

- Recommended solder Sn-3.0Ag-0.5Cu.

Flow Solder condition:

Pre-heating: maximum 120°C
Soldering: dip within 5 sec. at
260°C solder 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 relays, unless otherwise indicated.

4. Tin Whiskers

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

Fujitsu Components International Headquarter Offices

Japan

Fujitsu Component Limited
Gotanda-Chuo Building
3-5, Higashigotanda 2-chome, Shinagawa-ku
Tokyo 141, Japan
Tel: (81-3) 5449-7010
Fax: (81-3) 5449-2626
Email: promothq@ft.ed.fujitsu.com
Web: www.fcl.fujitsu.com

North and South America

Fujitsu Components America, Inc.
250 E. Caribbean Drive
Sunnyvale, CA 94089 U.S.A.
Tel: (1-408) 745-4900
Fax: (1-408) 745-4970
Email: components@us.fujitsu.com
Web: <http://us.fujitsu.com/components>

Europe

Fujitsu Components Europe B.V.
Diamantlaan 25
2132 WV Hoofddorp
Netherlands
Tel: (31-23) 5560910
Fax: (31-23) 5560950
Email: info@fceu.fujitsu.com
Web: emea.fujitsu.com/components/

Asia Pacific

Fujitsu Components Asia Ltd.
102E Pasir Panjang Road
#01-01 Citilink Warehouse Complex
Singapore 118529
Tel: (65) 6375-8560
Fax: (65) 6273-3021
Email: fcal@fcal.fujitsu.com
Web: <http://www.fujitsu.com/sg/services/micro/components/>

©2010 Fujitsu Components Europe B.V. All rights reserved. All trademarks or registered trademarks are the property of their respective owners.

The contents, data and information in this datasheet are provided by Fujitsu Component Ltd. as a service only to its user and only for general information purposes.

The use of the contents, data and information provided in this datasheet is at the users' own risk.

Fujitsu has assembled this datasheet with care and will endeavor to keep the contents, data and information correct, accurate, comprehensive, complete and up to date.

Fujitsu Components Europe B.V. and affiliated companies do however not accept any responsibility or liability on their behalf, nor on behalf of its employees, for any loss or damage, direct, indirect or consequential, with respect to this datasheet, its contents, data, and information and related graphics and the correctness, reliability, accuracy, comprehensiveness, usefulness, availability and completeness thereof.

Nor do Fujitsu Components Europe B.V. and affiliated companies accept on their behalf, nor on behalf of its employees, any responsibility or liability for any representation or warrant of any kind, express or implied, including warranties of any kind for merchantability or fitness for particular use, with respect to these datasheets, its contents, data, information and related graphics and the correctness, reliability, accuracy, comprehensiveness, usefulness, availability and completeness thereof. Rev. August 6, 2010.