



COMPACT ECONOMICAL POWER RELAYS





FEATURES

- Compact size Height Max. 18.7 mm .736 inch lower than JY relay (22.5 mm) (.886 inch)
- High contact capacity 5A 125 V AC
- · Safety-oriented between coil and contact terminals
- All plastic materials: UL flame retardance 94V-0
- VDE, TÜV also approved

mm inch

TERMINAL LAYOUT

Distance of 9.16 mm .360 inch between common and coil terminals and 8.9 mm .350 inch between contacts give room to the land diameter width when the relay is mounted on PC board, and allow design of patterns with insulation distances of 6 mm .236 inch between common and coil and 5.9 mm .232 inch between contacts.



3 mm .118 inch or more insulation distance for close mounting can be kept easily with JE-X relays.



SPECIFICATIONS

Contact

t	1 Form A	1 Form C
t resistance, max. drop 6 V DC 1A)	100 mΩ	
erial	Silver alloy	
Nominal switching capacity	5 A 30 V DC, 5 A 125 V AC, 3A 250 V AC	
Max. switching power	750 VA, 150 W	
Max. switching voltage	250 V AC	30 V DC
Max. switching current	5	A
Mechanical (at 180 cpm)	5× ⁻	106
Electrical (at 20 cpm) (at rated load)	1()5
	t resistance, max. frop 6 V DC 1A) erial Nominal switching capacity Max. switching power Max. switching voltage Max. switching current Mechanical (at 180 cpm) Electrical (at 20 cpm)	t resistance, max. drop 6 V DC 1A) arial Silver Nominal switching capacity 5 A 30 V DC, 8 3A 250 Max. switching power 750 VA, Max. switching voltage 250 V AC, Max. switching current 5 Mechanical (at 180 cpm) 5× Electrical (at 20 cpm)

Coil

Minimum operating power	196 mW
Nominal operating power	400 mW

Remarks

Specifications will vary with foreign standards certification ratings. Measurement at same location as "Initial breakdown voltage" section

- *2 Detection current: 10 mA
- \star_3 Wave is standard shock voltage of $\pm 1.2 \times 50 \mu s$ according to JEC-212-1981
- *4 Excluding contact bounce time
- *5 Half-wave pulse of sine wave: 6ms; 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.

Characteristics

Max. operating speed			20 cpm (at 70°C)		
Initial insulation resistance*1			Min. 100 M Ω (at 500 V DC)		
Initial	Between open contacts		contacts	750 Vrms	
breakdown voltage*2	Between contacts and coil			1,500 Vrms	
Surge voltage between coil and contact*3			Min. 5,000 V		
Operate time*4 (at nominal voltage)			Approx. 10 ms		
Release time (without diode)*4 (at nominal voltage)			Approx. 2 ms		
Temperature rise (at 70°C)			Max. 45°C with nominal coil voltage and at nominal switching capacity		
Shock resistance		Functional*5		Min. 98 m/s² {10 G}	
		Destructive*6		Min. 980 m/s ² {100 G}	
Vibration resistance		Functional*7		98 m/s ² {10 G}, 10 to 55 Hz at double amplitude of 1.6 mm	
		Destructive		117.6 m/s² {12 G}, 10 to 55 Hz at double amplitude of 2.0 mm	
transport and storage*8 te		Ambient temp.	−40°C to +70°C −40°F to +158°F		
(Not freezing and condens- ing at low temperature)		Humidity	5 to 85% R.H.		
Unit weight	Unit weight		Approx. 9.2g .32 oz		

ORDERING INFORMATION



Automotive

TYPICAL

- Garage door opener
- Personal computer
- Programmable controller

TYPES

Ex. JE	1 X N — DC	12V [Н
Contact arrangement	Pick-up voltage	Coil voltage	Protective construction
1a: 1 Form A 1:1 Form C	N:70% of nominal voltage	DC 5, 6, 9, 12, 24, 48 V	H: Flux-resistant type

(Note) Standard packing: Carton 100 pcs. Case 500 pcs. UL/CSA, VDE approved type is standard.

0	O all such as a	Pick-up 70% V type
Contact arrangement	Coil voltage	Flux-resistant type
1 Form A	5 V DC	JE1aXN-DC5V-H
	6 V DC	JE1aXN-DC6V-H
	9 V DC	JE1aXN-DC9V-H
	12 V DC	JE1aXN-DC12V-H
	24 V DC	JE1aXN-DC24V-H
	48 V DC	JE1aXN-DC48V-H
1 Form C	5 V DC	JE1XN-DC5V-H
	6 V DC	JE1XN-DC6V-H
	9 V DC	JE1XN-DC9V-H
	12 V DC	JE1XN-DC12V-H
	24 V DC	JE1XN-DC24V-H
	48 V DC	JE1XN-DC48V-H

COIL DATA (at 20°C 68°F)

	-	-				
Nominal voltage, V DC	Pick-up voltage, V DC (max.)	Drop-out voltage, V DC (min.)	Nominal operating currrent, mA (±10%)	Coil resistance, $\Omega(\pm 10\%)$	Nominal operating power, mW	Maximum allowable voltage, V DC (at 70°C)
5	3.5	0.5	80	62.5	400	6.5
6	4.2	0.6	67	90	400	7.8
9	6.3	0.9	44	202	400	11.7
12	8.4	1.2	33	360	400	15.6
24	16.8	2.4	17	1,440	400	31.2
48	33.6	4.8	8.3	5,760	400	62.4

DIMENSIONS





PC board pattern (Bottom view)



Tolerance: ±0.1 ±.004

Schematic (Bottom view)



Note: The above shows 1 Form C type, and No. 5 terminal is eliminated on the 1 Form A type.

Dimension:	General tolerance
Max. 1mm .039 inch:	±0.2 ±.008
1 to 5mm .039 to .197 inch:	±0.3 ±.012
Min. 5mm .197 inch:	±0.4 ±.016

All Rights Reserved © COPYRIGHT Matsushita Electric Works, Ltd.

mm inch

JE-X REFERENCE DATA



Contact current, A

NOTE

Soldering should be carried out within 3 s at 350°C 662°F or within 5 s at 250°C 482°F.

Coil applied voltage, %V

For Cautions for Use, see Relay Technical Information.