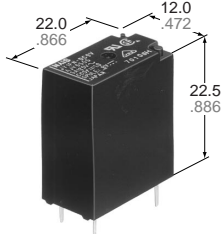


NAIS

COMPACT POWER RELAYS

JY-RELAYS



mm inch

UL File No.: E43028
CSA File No.: LR26550

- Compact-size small mounting space for high density packaging
- 2 contact arrangements: 1 Form A, 1 Form C
- UL class B coil insulation type available

SPECIFICATIONS (at 20°C 68°F)

Contact		Standard F type, 5 A	Power J type, 10 A
Arrangement		1 Form A, 1 Form C	
Initial contact resistance, max. (By voltage drop 6 V DC 1 A)		50 mW	
Contact material		Silver alloy	
Rating (resistive load)	Nominal switching capacity	5 A 125 V AC	10 A 125 V AC
	Max. switching power	625 VA	1,250 VA
	Max. switching voltage	125 V AC, 30 V DC	
	Max. switching current	5 A (AC/DC)	5 A (DC), 10 A (AC)
UL/CSA rating		5 A 1/10 HP 125, 250 V AC 5 A 30 V DC	10 A 125 V AC 8 A 250 V AC 5 A 30 V DC 1/6 HP 125 V AC 1/3 HP 250 V AC
VDE rating		5 A 125 V ~ (cosφ = 1.0) 2 A 250 V ~ (cosφ = 1.0) 5 A 30 V ---	10 A 125 V ~ (cosφ = 1.0) 6 A 250 V ~ (cosφ = 1.0) 5 A 30 V ---
Expected life (min. operations)	Mechanical (at 180 cpm)	Min. 5×10 ⁶	
	Electrical (at 20 cpm) (at rated load)	Min. 1×10 ⁵	
Coil		400 mW	
Nominal operating power		400 mW	

Remarks

- *1 Measurement at same location as "Initial breakdown voltage" section
- *2 Detection current: 10 mA
- *3 Wave 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 5. Conditions for operation, transport and storage mentioned in AMBIENT ENVIRONMENT (Page 49)

Characteristics

Max. operating speed		20 cpm
Initial insulation resistance*1		Min. 100 MΩ (at 500 V DC)
Initial break- down voltage*2	Between open contacts	800 Vrms for 1 min.
	Between contacts and coil	2,000 Vrms for 1 min.
Surge voltage between coil and contacts*3		Min. 5,000 V
Operate time*4 (at nominal voltage)(at 20°C)		Approx. 10 ms
Release time (without diode)*4 (at nominal voltage)(at 20°C)		Approx. 10 ms
Temperature rise(at 50°C)		Max. 65°C with nominal coil voltage across coil and at nominal switching capacity
Shock resistance	Functional*5	Min. 98 m/s ² {10 G}
	Destructive*6	Min. 980 m/s ² {100 G}
Vibration resistance	Functional*7	Approx. 58.8 m/s ² {6 G}, 10 to 55 Hz at double amplitude of 1 mm
	Destructive	Approx. 117.6 m/s ² {12 G}, 10 to 55 Hz at double amplitude of 2 mm
Conditions for operation, transport and storage*8 (Not freezing and condens- ing at low temperature)	Ambient temp.	-40°C to +50°C -40°F to +122°F
	Humidity	5 to 85%R.H.
Unit weight		Standard F type: Approx. 10 g .35 oz Power J type: Approx. 11g .39 oz

TYPICAL APPLICATIONS

- | | | |
|---|---|---|
| 1. Home appliances
Air conditioners, refrigerators, etc. | 2. Office machines
Photocopiers, facsimiles, power source
equipment, etc. | 3. Automotive
Car-stereo, car antenna, car-wiper, etc. |
|---|---|---|

ORDERING INFORMATION

Contact arrangement	Contact capacity	Protective construction	Pick-up voltage	Coil type	Coil voltage
1: 1 Form C 1a: 1 Form A	F: Standard (5 A) J: Power (10 A)	Nil: Flux-resistant type S: Sealed type	N: 70% of nominal voltage	Nil: Class A type B: Class B type	DC 5, 6, 9, 12, 24, 48 V

Note: Standard packing: Carton 100 pcs. Case 500 pcs.

TYPES AND COIL DATA (at 20°C 68°F)

1. Standard F type

Contact arrangement	Part No.		Nominal voltage, V DC	Pick-up voltage, V DC (max.)	Drop-out voltage, V DC (min.)	Coil resistance Ω ($\pm 10\%$)	Nominal operating current mA ($\pm 10\%$)	Max. allowable impressed voltage (at 50°C)
	Sealed type	Flux resistant type						
1 Form A	JY1aFSN-DC5V	JY1aFN-DC5V	5	3.5	0.5	62.5	80	5.5
	JY1aFSN-DC6V	JY1aFN-DC6V	6	4.2	0.6	90.0	67	6.6
	JY1aFSN-DC9V	JY1aFN-DC9V	9	6.3	0.9	202.0	45	9.9
	JY1aFSN-DC12V	JY1aFN-DC12V	12	8.4	1.2	360.0	33	13.2
	JY1aFSN-DC24V	JY1aFN-DC24V	24	16.8	2.4	1,440.0	17	26.4
	JY1aFSN-DC48V	JY1aFN-DC48V	48	33.6	4.8	5,760.0	8.3	52.8
1 Form C	JY1FSN-DC5V	JY1FN-DC5V	5	3.5	0.5	62.5	80	5.5
	JY1FSN-DC6V	JY1FN-DC6V	6	4.2	0.6	90.0	67	6.6
	JY1FSN-DC9V	JY1FN-DC9V	9	6.3	0.9	203.0	44	9.9
	JY1FSN-DC12V	JY1FN-DC12V	12	8.4	1.2	360.0	33	13.2
	JY1FSN-DC24V	JY1FN-DC24V	24	16.8	2.4	1,440.0	17	26.4
	JY1FSN-DC48V	JY1FN-DC48V	48	33.6	4.8	5,760.0	8.3	52.8

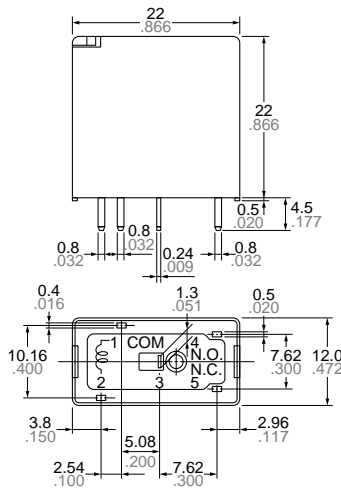
2. Power J types

Contact arrangement	Part No.		Nominal voltage, V DC	Pick-up voltage, V DC (max.)	Drop-out voltage, V DC (min.)	Coil resistance Ω ($\pm 10\%$)	Nominal operating current mA ($\pm 10\%$)	Max. allowable impressed voltage (at 50°C)
	Sealed type	Flux resistant type						
1 Form A	JY1aJSN-DC5V	JY1aJN-DC5V	5	3.5	0.5	62.5	80	5.5
	JY1aJSN-DC6V	JY1aJN-DC6V	6	4.2	0.6	90.0	67	6.6
	JY1aJSN-DC9V	JY1aJN-DC9V	9	6.3	0.9	202.0	45	9.9
	JY1aJSN-DC12V	JY1aJN-DC12V	12	8.4	1.2	360.0	33	13.2
	JY1aJSN-DC24V	JY1aJN-DC24V	24	16.8	2.4	1,440.0	17	26.4
	JY1aJSN-DC48V	JY1aJN-DC48V	48	33.6	4.8	5,760.0	8.3	52.8
1 Form C	JY1JSN-DC5V	JY1JN-DC5V	5	3.5	0.5	62.5	80	5.5
	JY1JSN-DC6V	JY1JN-DC6V	6	4.2	0.6	90.0	67	6.6
	JY1JSN-DC9V	JY1JN-DC9V	9	6.3	0.9	203.0	44	9.9
	JY1JSN-DC12V	JY1JN-DC12V	12	8.4	1.2	360.0	33	13.2
	JY1JSN-DC24V	JY1JN-DC24V	24	16.8	2.4	1,440.0	17	26.4
	JY1JSN-DC48V	JY1JN-DC48V	48	33.6	4.8	5,760.0	8.3	52.8

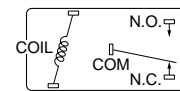
DIMENSIONS



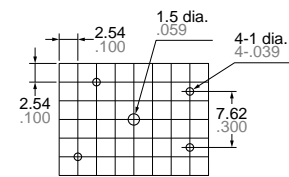
Common for JY1F and JY1J types



Schematic (Bottom view)



PC board pattern (Copper-side view)



mm inch

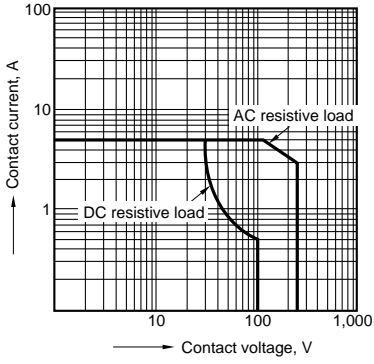
Tolerance: $\pm 0.1 \pm .004$

Dimension	General tolerance
Max. 1mm .039 inch	$\pm 0.1 \pm .004$
1 to 3mm .039 to .118 inch	$\pm 0.2 \pm .008$
Min. 3mm .118 inch	$\pm 0.3 \pm .012$

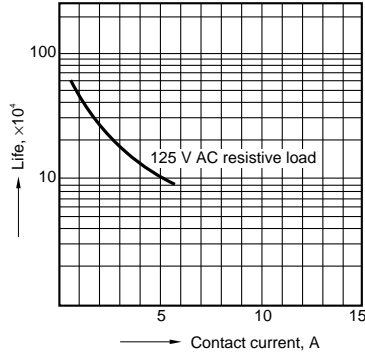
REFERENCE DATA

F type

1. Maximum switching capacity

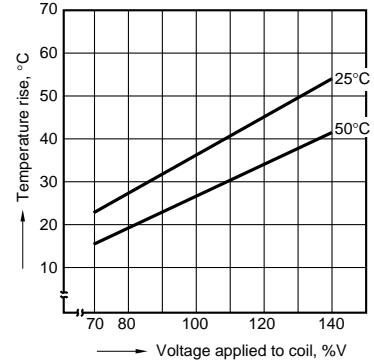


2. Life curve



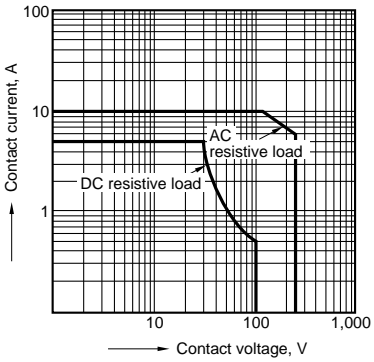
3. Coil temperature rise

Point measured: Inside the coil
Contact current: 5 A

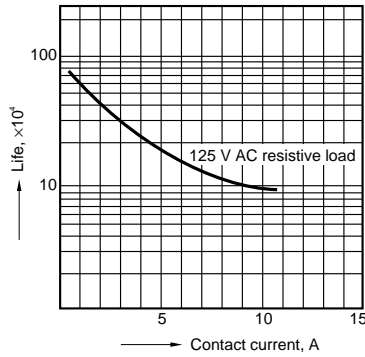


J Type

1. Maximum switching capacity

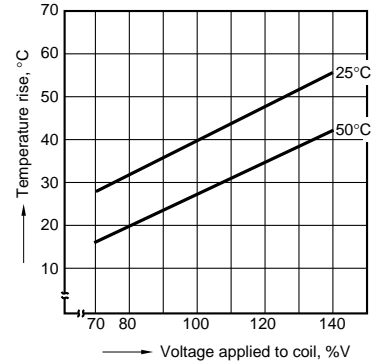


2. Life curve



3. Coil temperature rise

Point measured: Inside the coil
Contact current: 10 A



4. Operate/release time

(Common for JY1F and JY1J type)

