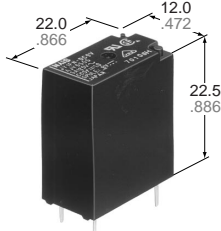


NAIS

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	

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

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)

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 (±10%)	Nominal operating current mA (±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

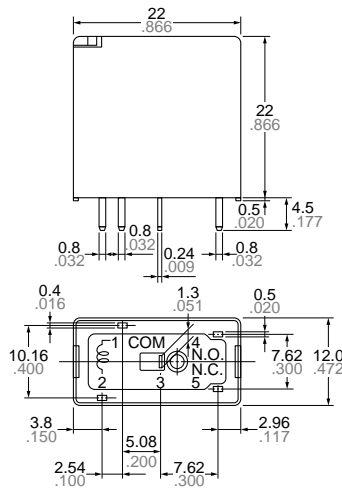
2. Power J types

Contact arrangement	Part No.		Nominal voltage, V DC	Pick-up voltage, V DC (max.)	Drop-out voltage, V DC (min.)	Coil resistance Ω (±10%)	Nominal operating current mA (±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

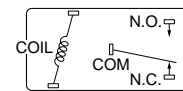
DIMENSIONS



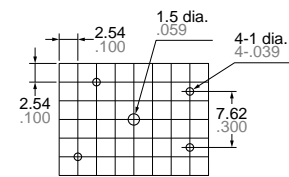
Common for JY1F and JY1J types



Schematic (Bottom view)



PC board pattern (Copper-side view)



mm inch

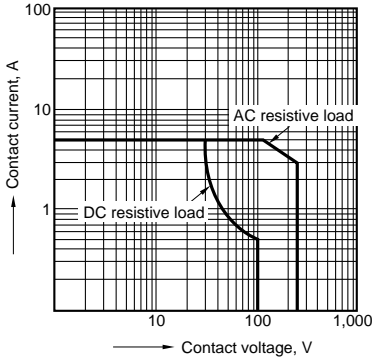
Tolerance: ±0.1 ±.004

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

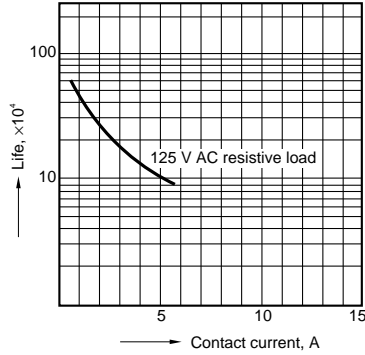
REFERENCE DATA

F type

1. Maximum switching capacity

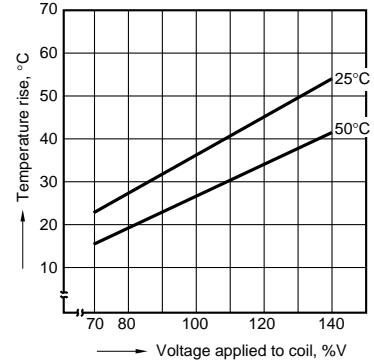


2. Life curve



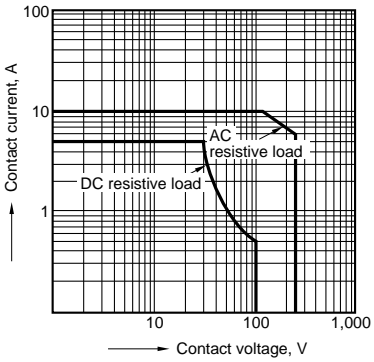
3. Coil temperature rise

Point measured: Inside the coil
Contact current: 5 A

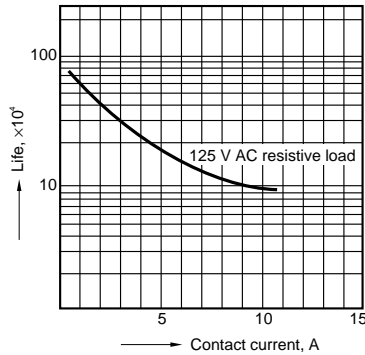


J Type

1. Maximum switching capacity

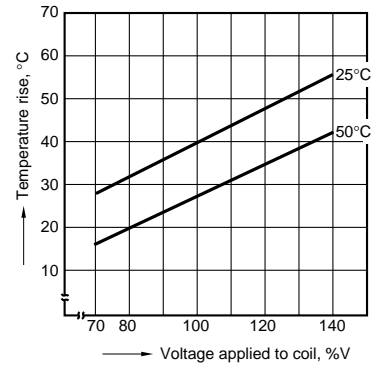


2. Life curve



3. Coil temperature rise

Point measured: Inside the coil
Contact current: 10 A



4. Operate/release time

(Common for JY1F and JY1J type)

