FUJITSU

POWER RELAY 1 POLE - 5A Slim Type

NY Series

FEATURES

- Slim type with 5 mm thickness
- Suited for high density mounting
- Low power consumption and high sensitivity
 - Nominal coil power: 120 mW
- Operating power: 54 mW
- UL and CSA recognized
- Conforms to IEC61010, 61131
- High insulation
- Surge voltage: 5,080V
- Dielectric strength: 3,000VAC (coil and contacts)
- SIL pitch terminals
- Plastic sealed type, RTIII
- Compatible with solid state I/O module type SN in size and pin (terminal) arrangement
- Environmentally friendly cadmium free contact type
- RoHS compliant.
- Please see page 6 for more information

PARTNUMBER INFORMATION

	NY	Р	-	12	W	-	Κ	-	IE
[Example]	(a)	(b)	(*)	(c)	(d)		(e)	(*)	(f)

(a)	Relay type	NY	: NY-Series
(b)	Mounting type	Nil P	: PCB board mounting type : Socket mounting type
(c)	Coil rated voltage	12	: 4.524 VDC Coil rating table at page 3
(d)	Contact design	W	: Bifurcated contact
(e)	Enclosure	К	: Plastic sealed type, RTIII
(f)	Insulation	IE	: Complies with IEC standard, IEC61010, 61131

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



SPECIFICATION

ltem			NY		
Contact Data	Configuration		1 form A (SPST-NO)		
	Construction		Bifurcated		
Material			Gold overlay silver alloy (AgNi + Au)		
	Resistance (initial)		Max. 30 mΩ at 6 VDC, 1 A		
	Contact rating		5A, 250VAC / 30VDC		
	Max. carrying current		5A		
Max. switching volta			270VAC / 150 VDC		
	Max. switching power		750VA / 90W		
	Max. switching current		5A		
	Min. switching load *		1 mA, 5 VDC		
Life	Mechanical		Min. 20 x 10 ⁶ operations		
	Electrical		Min. 100×10^3 operations (at 3A, 250VAC, 30VDC resistive) Min. 50 x 10^3 operations (at 5A, 250VAC, 30VDC resistive)		
Coil Data	Rated power (at 20 °C)		120 mW		
	Operate power (at 20 °C)		54 mW		
	Operating temperature ra	ange	-40 °C to +90 °C (no frost)		
Timing Data	a Operate (at nominal voltage) Release (at nominal voltage)		Max. 10 ms (without bounce)		
			Max. 5 ms (no diode)		
Insulation	Resistance (initial)		Min. 1,000MΩ at 500VDC		
	Dielectric strength	Open contacts	750VAC, 1min		
		Contacts to coil	3,000VAC, 1min		
	Surge strength	Coil to contacts	5,080V / 1.2 x 50µs standard wave		
Other	Vibration resistance	Misoperation	10 to 55Hz double amplitude 1.5 mm		
	VIDIATION LESISTANCE	Endurance	10 to 55Hz double amplitude 5 mm		
	Charle	Misoperation	Min. 100m/s ² (11 ± 1ms)		
	Shock	Endurance	Min. 1,000m/s² (6 ± 1ms)		
	Weight		Approximately 3.5 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	Rated Coil Voltage (VDC)	Coil Resistance +/- 10% (Ohm)	Must Operate Voltage (VDC) *	Must Release- Voltage (VDC) *	Rated Power (mW)
4.5	4.5	169	3	0.45	
5	5	208	3.35	0.5	
6	6	300	4	0.6	120
9	9	675	6	0.9	120
12	12	1,200	8	1.2	
18	18	2,700	12.1	1.8	
24	24	4,800	16.1	2.4	

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

Туре	Compliance	Contact rating
UL	UL 508, UL 1604	Flammability: UL 94-V0 (plastics)
	E56140, E199193	3A (General use) 5A, 250VAC/30 VDC (resistive)
CSA	C22.2 No. 14 LR 35579	1/8 HP, 250VAC /125VAC Pilot duty: C300

Also complies with IEC 61010, 61131

NY SERIES

CHARACTERISTIC DATA





Life curve

AC120 V resistive

DC30

=40ms

0.20.3 0.50.7 1

-DC100~120 \

 $\tau = 7 \sim 40 \text{ms}$

Contact current (A)

Distribution of contact resistance

Z Make

DC30Vt = 7 ms

 $AC120 V COS \phi = 0.4$

AC240 V COS $\phi = 0.4$

3 5

NY-12W-K

60

n=100_

V/AC240 V resistive

3000

2000

1000

500

300 200

100

50

30

20

100

80

0,1

Operation (x10³)



Distribution of operate/release voltage

















DIMENSIONS

NY type

• Dimensions







• PC board mounting hole layout (BOTTOM VIEW)



NYP type

• Dimensions



Socket type JL-5N

• Dimensions



• Schematics

1 2 3 4 9 COM 9 NO 9 11 • PC board mounting hole layout (BOTTOM VIEW)



 PC board mounting hole layout (BOTTOM VIEW)



RoHS Compliance and Lead Free Information

1. General Information

- All relays produced by Fujitsu Components are compliant with RoHS directive 2011/65/EU including amendments.
- Cadmium as used in electrical contacts is exempted from the RoHS directives. As per Annex III of directive 2011/65/EU.
- All relays are lead-free. Please refer to Lead-Free Status Info for older date codes at: http://www.fujitsu.com/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 Condition

• Recommended solder Sn-3.0Ag-0.5Cu.

Flow Solder Condition:

Pre-heating:maximum 120°C
within 9 sec.Soldering:dip within 5 sec. at
255°C ± 5°C solder bathRelay must be cooled by air immediately
after solderingafter soldering

Solder by Soldering Iron:

Soldering Iron 30-60W Temperature: maximum Duration: maximum

maximum 350-360°C 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.

NY SERIES

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