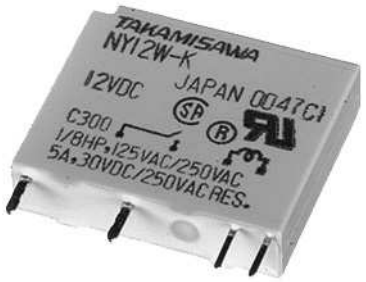
FUJITSU

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, CSA, VDE 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

[Example] NY P - 12 W - K - IE
(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	: 4.5.....24 VDC Coil rating table at page 3
(d)	Contact design	W	: Bifurcated contact
(e)	Enclosure	K	: Plastic sealed type, RTIII
(f)	Insulation	IE	: Complies with IEC standard, IEC61010, 61131

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

■ SPECIFICATION

Item			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 voltage		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 x 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 ℃)		120 mW
	Operate power (at 20 ℃)		54 mW
	Operating temperature range		-40 ℃ to +90 ℃ (no frost)
Timing Data	Operate (at nominal voltage)		Max. 10 ms (without bounce)
	Release (at nominal voltage)		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
		Endurance	10 to 55Hz double amplitude 5 mm
	Shock	Misoperation	Min. 100m/s² (11 ± 1ms)
		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	120
5	5	208	3.35	0.5	
6	6	300	4	0.6	
9	9	675	6	0.9	
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.

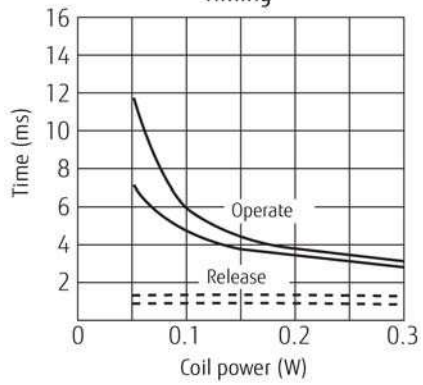
■ SAFETY STANDARDS

Type	Compliance	Contact rating
UL	UL 508, UL 1604 E56140, E199193	Flammability: UL 94-V0 (plastics) 3A (General use) 5A, 250VAC/30 VDC (resistive) 1/8 HP, 250VAC /125VAC Pilot duty: C300
CSA	C22.2 No. 14 LR 35579	
VDE	0435 part 201 40016933	5A, 250VAC, cos φ1, 30K (-40 / 80 °C) 5A, 30VDC, 0msec, 100K (-40 / 80 °C)

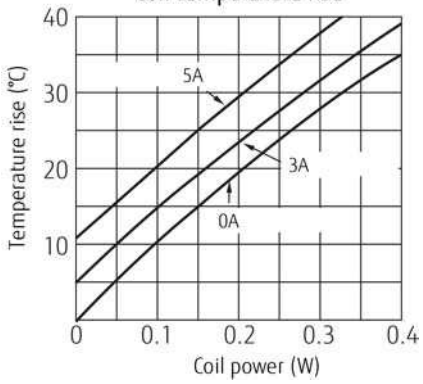
Also complies with VDE, IEC 61010, 61131

■ CHARACTERISTIC DATA

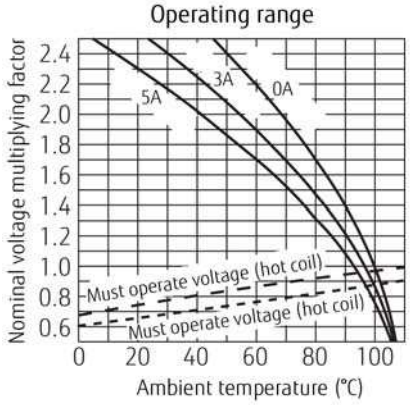
Timing



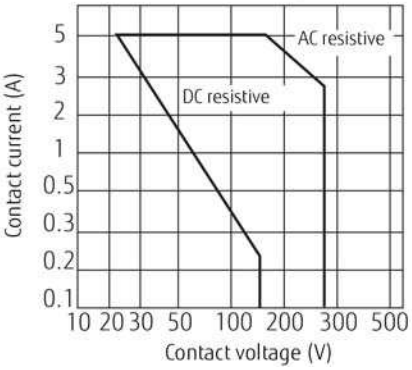
Coil temperature rise



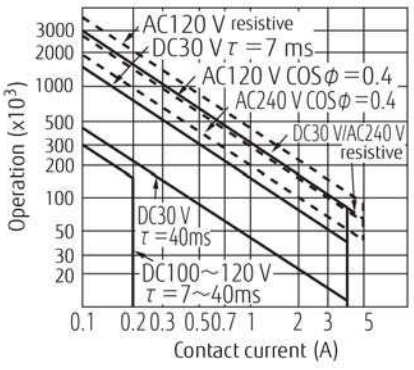
Operating range



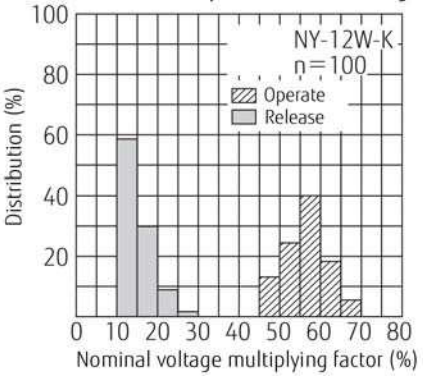
Maximum switching power



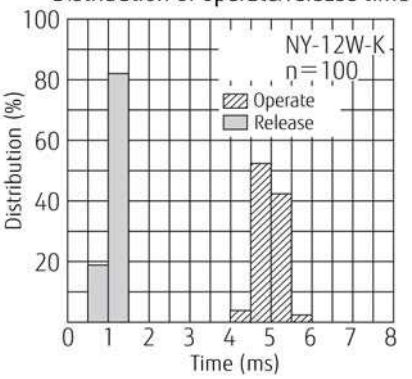
Life curve



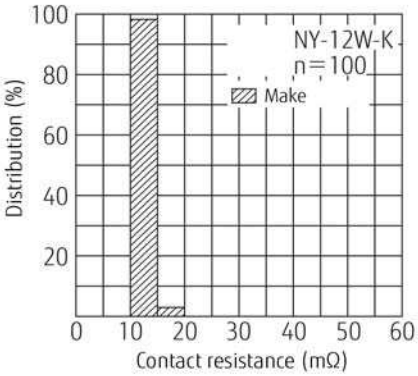
Distribution of operate/release voltage



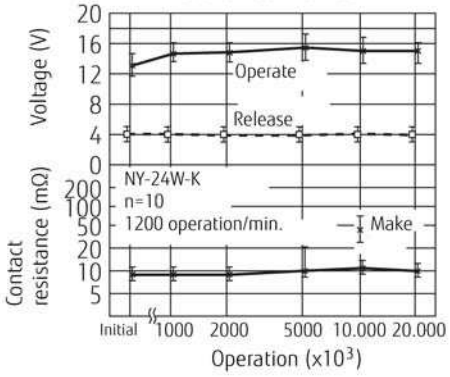
Distribution of operate/release time



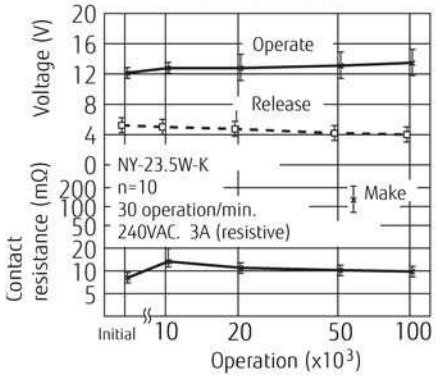
Distribution of contact resistance



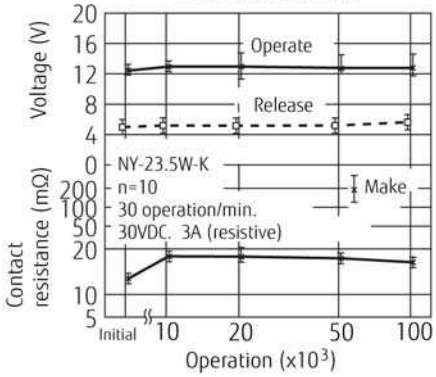
Mechanical life test



Electrical life test



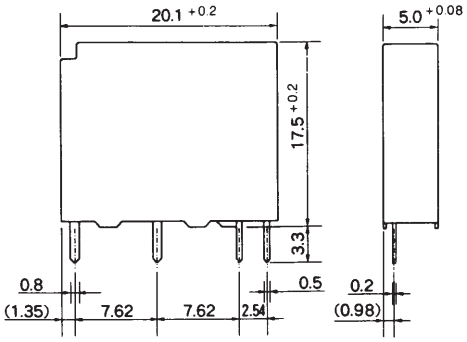
Electrical life test



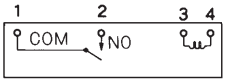
■ DIMENSIONS

NY type

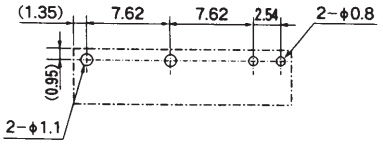
- **Dimensions**



- **Schematics**

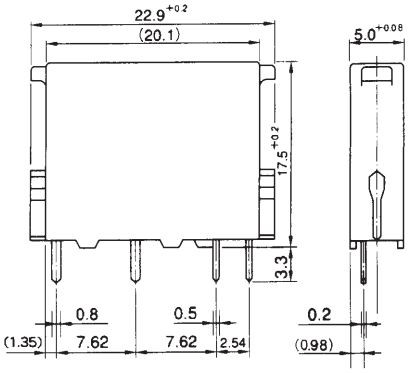


- **PC board mounting hole layout**
(BOTTOM VIEW)

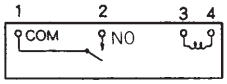


NYP type

- **Dimensions**



- **Schematics**



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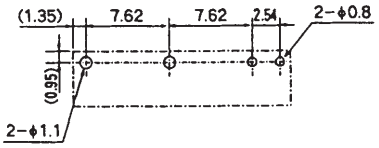
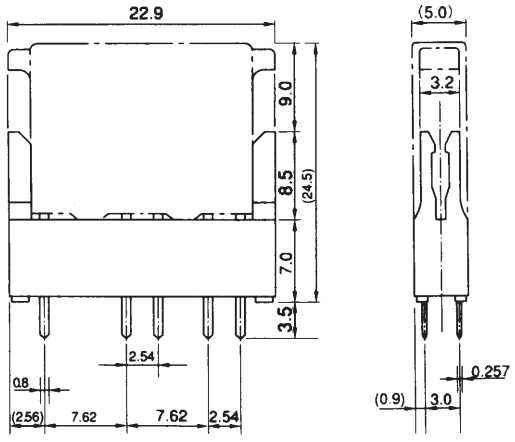
(BOTTOM VIEW)



Socket type JL-5N

- **Dimensions**



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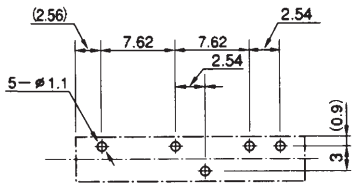
(BOTTOM VIEW)



RoHS Compliance and Lead Free Information

1. General Information

- All signal and power relays produced by Fujitsu Components are compliant with RoHS directive 2002/95EC 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.

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