

POWER RELAY

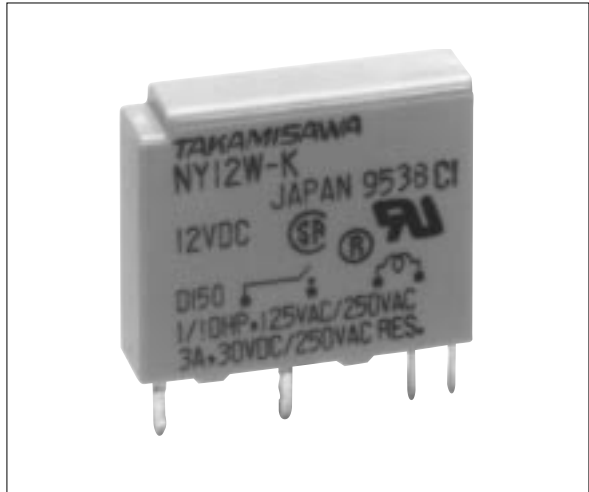
1 POLE—5 A (CADMIUM FREE CONTACTS TYPE)

NY SERIES

RoHS compliant

■ FEATURES

- Ultra slim type with 5 mm thickness
—Good 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 IEC 1010-1 and 1131-2
- Wide operating range
- SIL pitch terminals
- Plastic sealed type
- Compatible with solid state I/O module type SN (see page 376) in size and pin (terminal) arrangement
- Environmentally friendly cadmium free contact type is available.
- RoHS compliant since date code: 0439C1
Please see page 6 for more information



■ ORDERING INFORMATION

[Example] $\frac{NY}{(a)} \frac{P}{(b)} - \frac{12}{(*)} \frac{W}{(c)} - \frac{K}{(e)}$

(a)	Series Name	NY: NY Series
(b)	Terminal Classification	Nil : PC board mounting type P : Socket mounting type
(c)	Nominal Voltage	Refer to the COIL DATA CHART
(d)	Contact	W : Bifurcated type
(e)	Enclosure	K : Plastic sealed type

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

■ SAFETY STANDARD AND FILE NUMBERS

UL508 (File No. E56140)

C22.2 No. 14 (File No. LR35579)

VDE0435 (File No. 11039-4940-1013)

Please note that UL/CSA ratings may differ from the standard ratings.

Nominal voltage	Contact rating
4.5 to 24 VDC	1/8 HP 125 VAC/250 VAC 5 A 30 VDC/250 VAC resistive Pilot duty C 300

■ SPECIFICATIONS

Item		NY	
Contact	Arrangement	1 form A (SPST-NO)	
	Material	Gold overlay silver alloy	
	Style	Bifurcated	
	Resistance (initial)	Maximum 30 mΩ (at 1 A 6 VDC)	
	Rating (resistive)	3 A 250 VAC or 3 A 30 VDC	
	Maximum Carrying Current	5 A	
	Maximum Switching Power	750 VA, 90 W	
	Maximum Switching Voltage	270 VAC, 125 VDC	
	Maximum Switching Current	5 A	
	Minimum Switching Load* ¹	1mA 5 VDC	
Coil	Nominal Power (at 20°C)	0.12W	
	Operate Power (at 20°C)	0.054 W	
	Operating Temperature	-40°C to +90°C (no frost) (refer to the CHARACTERISTIC DATA)	
Time Value	Operate (at nominal voltage)	Maximum 10 ms	
	Release (at nominal voltage)	Maximum 5 ms	
Insulation	Resistance (at 500 VDC)	Minimum 1,000 MΩ	
	Dielectric Strength	between open contacts	750 VAC 1 minute
		between coil and contacts	3,000 VAC 1 minute
Surge Strength	5,080 V (at 1.2 × 50 μs)		
Life	Mechanical	2 × 10 ⁷ operations minimum	
	Electrical	1.5 × 10 ⁵ operations minimum (at 5A 30VDC) 1.5 × 10 ⁵ operations minimum (at 3 A 120 VAC) 3 × 10 ⁴ operations minimum (at 5 A 250 VAC)	
Other	Vibration Resistance	Misoperation	10 to 55 Hz (double amplitude of 1.5 mm)
		Endurance	10 to 55 Hz (double amplitude of 5.0 mm)
	Shock Resistance	Misoperation	100 m/s ² (11 ± 1 ms)
		Endurance	1,000 m/s ² (6 ± 1 ms)
	Weight	Approximately 3.5 g	

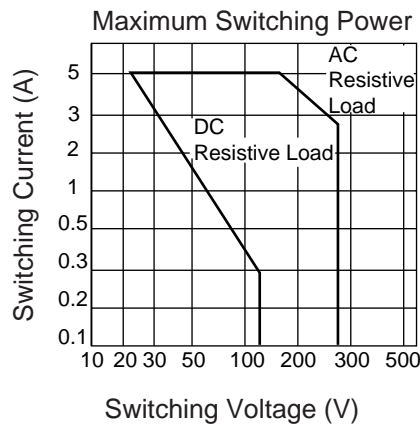
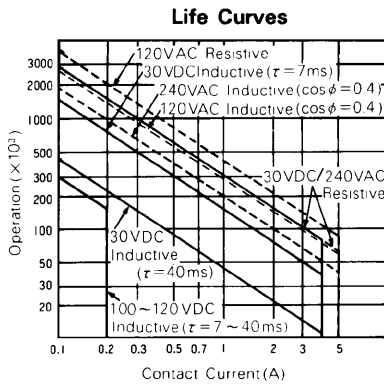
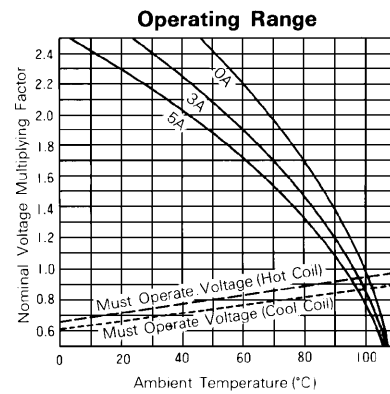
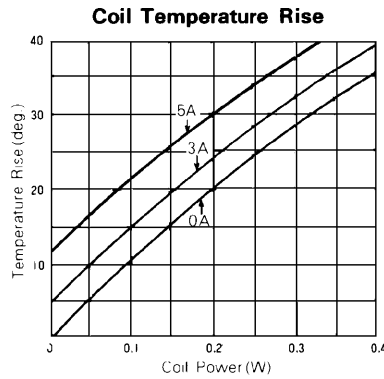
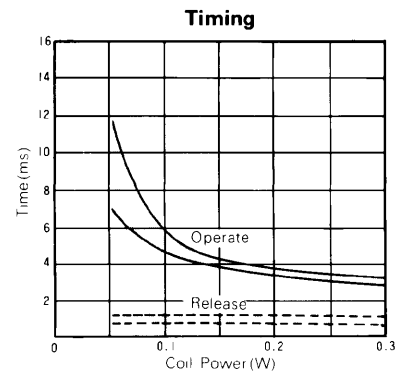
*¹ Minimum switching loads mentioned above are reference values. Please perform the confirmation test with the actual load before production since reference values may vary according to switching frequencies, environmental conditions and expected reliability levels.

COIL DATA CHART

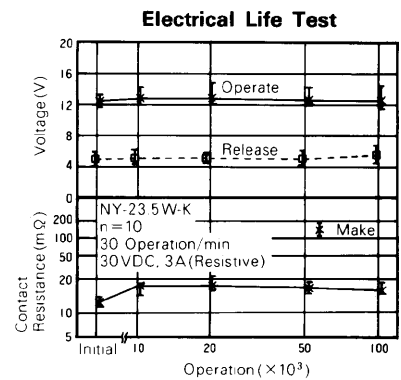
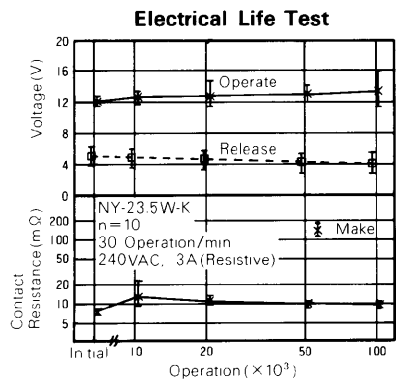
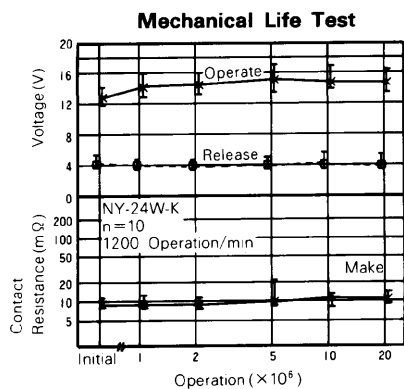
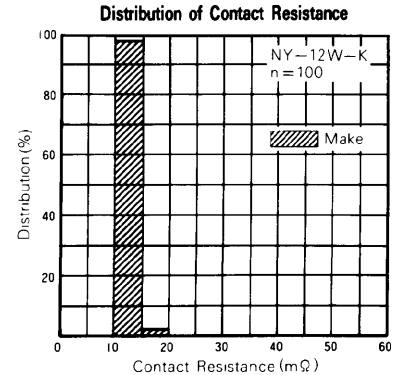
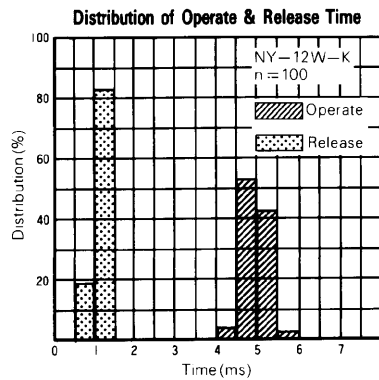
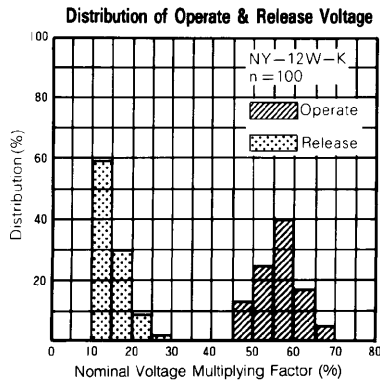
MODEL	Nominal voltage	Coil resistance ($\pm 10\%$)	Must operate voltage	Must release voltage	Nominal power
NY- 4.5 W-K	4.5 VDC	169 Ω	3 VDC	0.45 VDC	120 mW
NY- 5 W-K	5 VDC	208 Ω	3.35 VDC	0.5 VDC	120 mW
NY- 6 W-K	6 VDC	300 Ω	4 VDC	0.6 VDC	120 mW
NY- 9 W-K	9 VDC	675 Ω	6 VDC	0.9 VDC	120 mW
NY- 12 W-K	12 VDC	1,200 Ω	8 VDC	1.2 VDC	120 mW
NY- 18 W-K	18 VDC	2,700 Ω	12.1 VDC	1.8 VDC	120 mW
NY- 24 W-K	24 VDC	4,800 Ω	16.1 VDC	2.4 VDC	120 mW

Note: All values in the table are measured at 20°C

CHARACTERISTIC DATA



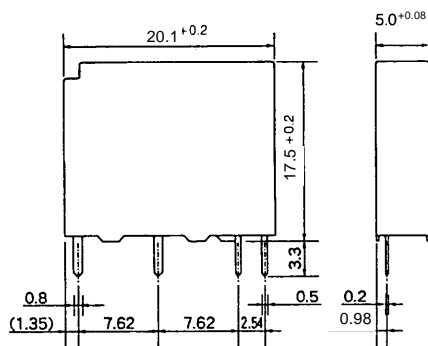
REFERENCE DATA



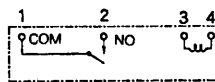
DIMENSIONS

Dimensions

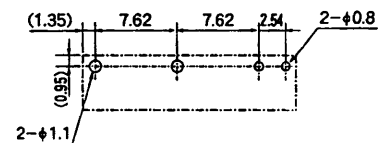
NY type



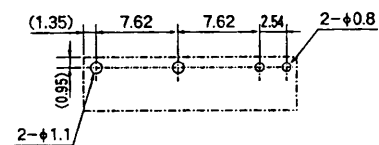
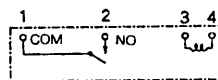
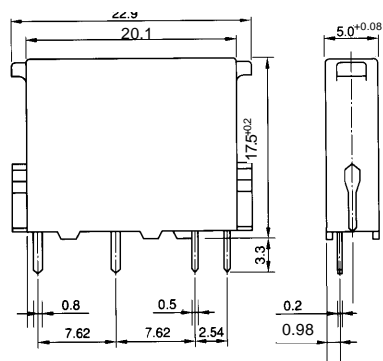
Schematics (BOTTOM VIEW)



PC board mounting hole layout (BOTTOM VIEW)



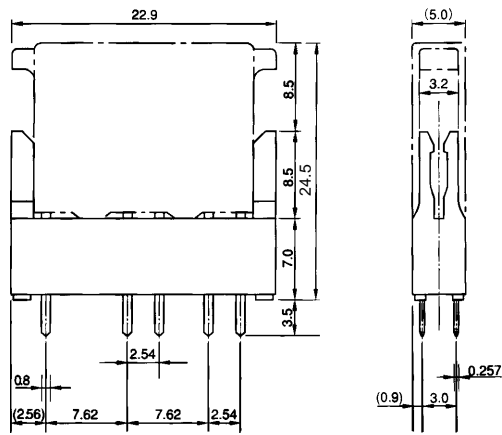
NYP type



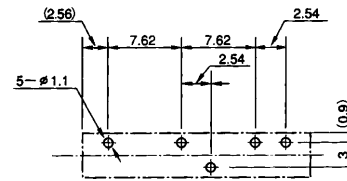
Unit: mm

NY SERIES

■ SOCKET DIMENSIONS



■ SOCKET DRILLING PLANT



Unit: mm

■ NOTES

1. Socket ordering code. JL-5N
2. Standard IC socket is not recommended.
Please use socket JL-5N.

RoHS Compliance and Lead Free Relay Information

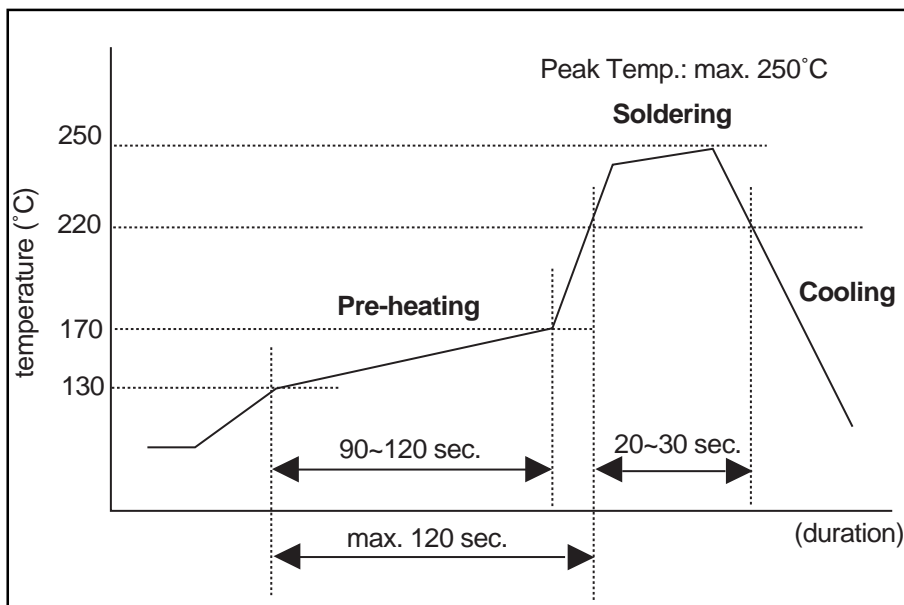
1. General Information

- Relays produced after the specific date code that is indicated on each data sheet are lead-free now. Most of our signal and power relays are lead-free. Please refer to Lead-Free Status Info. (<http://www.fcai.fujitsu.com/pdf/LeadFreeLetter.pdf>)
- Lead free solder paste currently used in relays is Sn-3.0Ag-0.5Cu. From February 2005 forward Sn-3.0Cu-Ni will be used for FTRB3 and FTR-B4 series relays.
- Most signal and some power relays also comply with RoHS. Please refer to individual data sheets. Relays that are RoHS compliant do not contain the 6 hazardous materials that are restricted by RoHS directive (lead, mercury, cadmium, chromium IV, PBB, PBDE).
- It has been verified that using lead-free relays in leaded assembly process will not cause any problems (compatible).
- "LF" is marked on each outer and inner carton. (No marking on individual relays).
- To avoid leaded relays (for lead-free sample, etc.) please consult with area sales office. We will ship leaded relays as long as the leaded relay inventory exists.

2. Recommended Lead Free Solder Profile

- Recommended solder paste Sn-3.0Ag-0.5Cu and Sn-3.0 Cu-Ni (only FTR-B3 and FTR-B4 from February 2005)

Reflow Solder condition



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.

4. Tin Whisker

- SnAgCu solder is known as low risk of tin whisker. No considerable length whisker was found by our in-house test.

5. Solid State Relays

- Each lead terminal will be changed from solder plating to Sn plating and Nickel plating. A layer of Nickel plating is between the terminal and the Sn plating to avoid whisker.

Fujitsu Components International Headquarter Offices

Japan

Fujitsu Component Limited
Gotanda-Chuo Building
3-5, Higashigotanda 2-chome, Shinagawa-ku
Tokyo 141, Japan
Tel: (81-3) 5449-7010
Fax: (81-3) 5449-2626
Email: promothq@ft.ed.fujitsu.com
Web: www.fcl.fujitsu.com

North and South America

Fujitsu Components America, Inc.
250 E. Caribbean Drive
Sunnyvale, CA 94089 U.S.A.
Tel: (1-408) 745-4900
Fax: (1-408) 745-4970
Email: marcom@fcai.fujitsu.com
Web: www.fcai.fujitsu.com

Europe

Fujitsu Components Europe B.V.
Diamantlaan 25
2132 WV Hoofddorp
Netherlands
Tel: (31-23) 5560910
Fax: (31-23) 5560950
Email: info@fceu.fujitsu.com
Web: www.fceu.fujitsu.com

Asia Pacific

Fujitsu Components Asia Ltd.
102E Pasir Panjang Road
#04-01 Citilink Warehouse Complex
Singapore 118529
Tel: (65) 6375-8560
Fax: (65) 6273-3021
Email: fcal@fcal.fujitsu.com
www.fcal.fujitsu.com

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