

MINIATURE RELAY

1 POLE—1 to 2A (FOR SIGNAL SWITCHING)

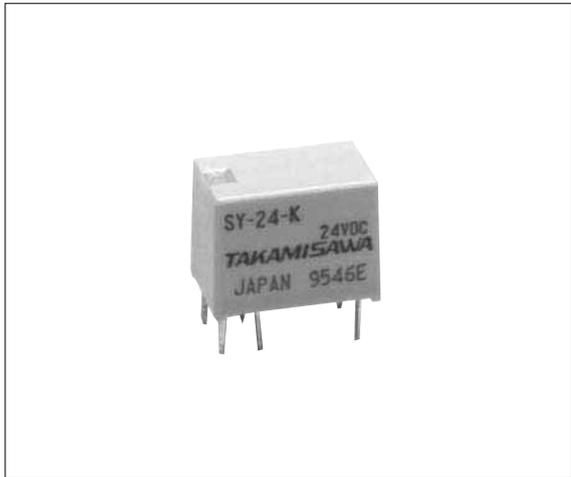
SY SERIES

RoHS compliant



■ FEATURES

- Very small size and light weight
- UL, CSA recognized
- Conforms to FCC rules and regulations part 68
 - Dielectric strength 1000 VAC between coil and contacts
 - Surge strength 1500 V
- High sensitivity
- Wide ambient temperature range (-30°C to +90°C)
- Wide operating range
- DIL pitch terminals
- Plastic sealed type
- Dial-pulse relay available (10pps, 20pps)
- RoHS compliant since date code: 0519
Please see page 5 for more information



■ ORDERING INFORMATION

[Example] $\frac{SY}{(a)} - \frac{12}{(b)} \frac{W}{(c)} - \frac{K}{(d)}$

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(a)	Series Name	SY: SY Series
(b)	Nominal Voltage	Refer to the COIL DATA CHART
(c)	Contact	Nil: Single type W: Bifurcated type
(d)	Enclosure	K: Plastic sealed type

Note: For movable and stationary contact with gold overlay type, add suffix “-OH”

SY SERIES

■ COIL DATA CHART

MODEL		Nominal voltage	Coil resistance (±10%)	Must operate voltage	Must release voltage	Nominal power
Single	Bifurcated					
SY-1.5-K	SY-1.5W-K	1.5 VDC	15 Ω	1.05 VDC	0.08 VDC	150 mW
SY- 3 -K	SY- 3 W-K	3 VDC	60 Ω	2.1 VDC	0.15 VDC	150 mW
SY-4.5-K	SY-4.5W-K	4.5 VDC	135 Ω	3.2 VDC	0.23 VDC	150 mW
SY- 5 -K	SY- 5 W-K	5 VDC	167 Ω	3.5 VDC	0.25 VDC	150 mW
SY- 6 -K	SY- 6 W-K	6 VDC	240 Ω	4.2 VDC	0.3 VDC	150 mW
SY- 9 -K	SY- 9 W-K	9 VDC	540 Ω	6.3 VDC	0.45 VDC	150 mW
SY-12 -K	SY-12 W-K	12 VDC	960 Ω	8.4 VDC	0.6 VDC	150 mW
SY-18 -K	SY-18 W-K	18 VDC	1,940 Ω	12.6 VDC	0.9 VDC	170 mW
SY-24 -K	SY-24 W-K	24 VDC	3,290 Ω	16.8 VDC	1.2 VDC	175 mW

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

SY SERIES

■ SPECIFICATIONS

Item		SY-() -K (Single)	SY-() W - K (Bifurcated)
Contact	Arrangement	1 form C (SPDT)	
	Material	Gold overlay silver palladium	
	Configuration	Single (cross bar)	Bifurcated (cross bar)
	Resistance (initial)	Maximum 100 mΩ (at 1 A 6 VDC)	
	Rating (resistive)	0.5 A 120 VAC or 1 A 24 VDC	
	Maximum Carrying Current	2 A	
	Maximum Switching Power	60 AV, 24 W	
	Maximum Switching Voltage	120 VAC/60 VDC	
	Maximum Switching Current	1 A	
	Minimum Switching Load* ¹	1 mA 1 VDC	0.1 mA 100 mVDC
	Capacitance (at 10 MHz)	Approximately 1.4 pF (between open contacts) Approximately 5.0 pF (between coil and contacts)	
Coil	Nominal Power (at 20°C)	150 to 175 mW	
	Operate Power (at 20°C)	75 to 86 mW	
	Operating Temperature	-30°C to +90°C (no frost)/18 V coil: +85°C, 24 V coil: +80°C	
Time Value	Operate (at nominal voltage)	Maximum 5 ms	
	Release (at nominal voltage)	Maximum 2 ms	
Life	Mechanical	5 × 10 ⁶ operations minimum	
	Electrical (at contact rating)	1 × 10 ⁵ operations minimum	
Other	Vibration Resistance	Misoperation	10 to 55 Hz (double amplitude of 1.5 mm)
		Endurance	10 to 55 Hz (double amplitude of 1.5 mm)
	Shock Resistance	Misoperation	300 m/s ² (11 ±1 ms)
		Endurance	1,000 m/s ² (6 ±1 ms)
	Weight	Approximately 1.7 g	

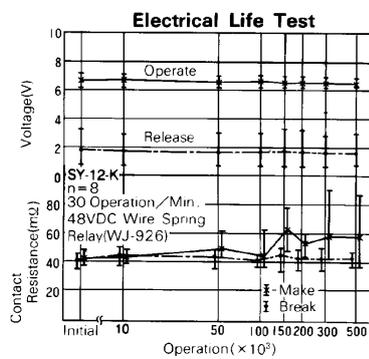
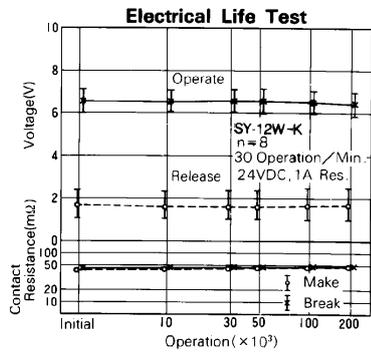
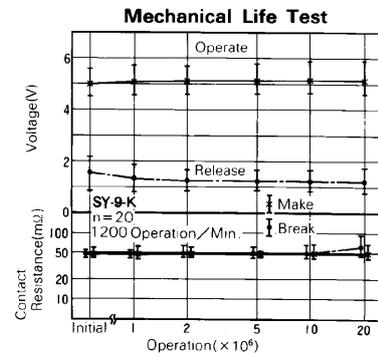
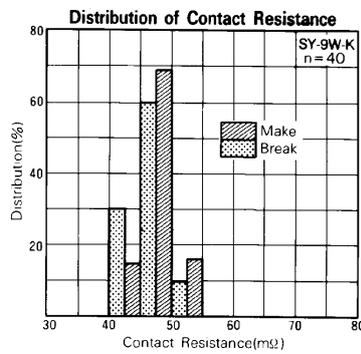
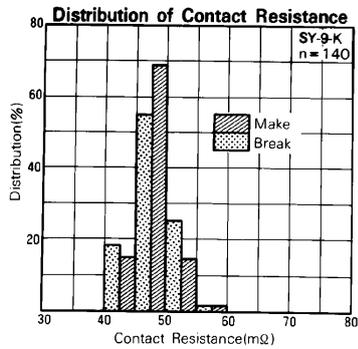
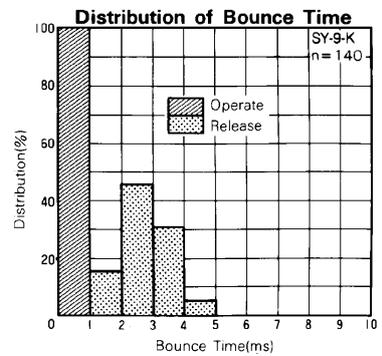
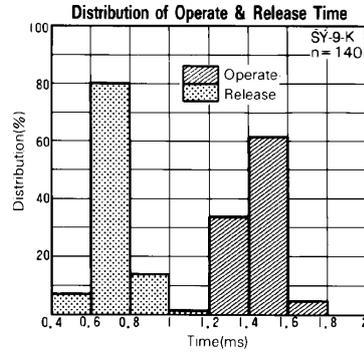
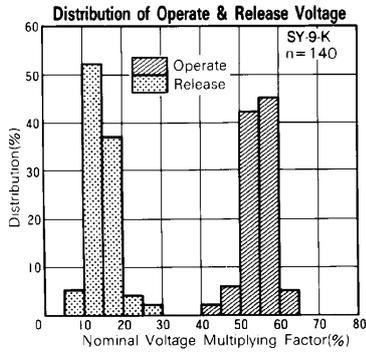
*¹ Minimum switching loads mentioned above are reference values. Please perform the confirmation test with the actual load before production since reference values may vary according to switching frequencies, environmental conditions and expected reliability levels.

■ INSULATION

Item		Single	Bifurcated
Resistance (initial)		Minimum 1,000 MΩ (500VDC)	Minimum 1,000 MΩ (250VDC)
Dielectric Strength	open contacts	400 VAC 1 min.	300 VAC 1 min.
	coil and contacts	1,000 VAC 1 min.	
Surge Voltage		1500V (coil-contact) (10/160 μs standard wave)	

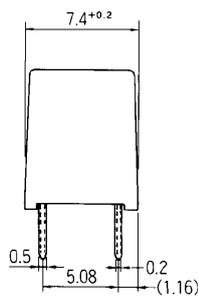
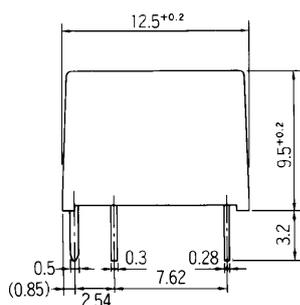
SY SERIES

■ REFERENCE DATA

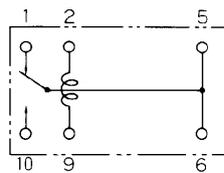


■ DIMENSIONS

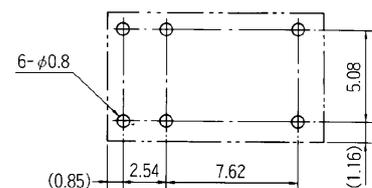
● Dimensions



● Schematics (Bottom View)



● PC board mounting hole layout (Bottom View)



Unit: mm