

MINIATURE RELAY 1 POLE - 1 to 2A (For Signal Switching)

SY Series

■ 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
- RoHS compliant.
 Please see page 7 for more information



■ Part Numbers

[Example]	SY	_	12	-	W	_	0H	-	K	-	UL	
	(a)		(b)		(c)		(d)		(e)		(f)	_

(a)	Relay type	SY	: SY series
(b)	Coil rated voltage	012	: 5 24VDC Coil rating table at page 3
(c)	Contact style		: Single type : Bifurcated type
(d)	Options		: Standard : OH (zeroH), gold overlay on mov- able and stationary contact : Marking on top of relay
(e)	Enclosure	K	: Plastic sealed type
(f)	Approvals		: No UL/CSA marking on relay : UL, CSA marking on relay

Note: For movable and stationary contact with gold overlay type, add suffix "-OH" (zeroH)

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■ Specifications

Item	Specifications		SY - () - K	SY - () W - K	Remarks / conditions
			Single type Bifurcated type		
Contact	t Configuration		1 form ((SPDT)	
data	Construction		Single (cross bar)	Bifurcated (cross bar)	
	Material		Gold overlay si	lver palladium	
	Resistance		Max. 100m0h	m at 1A, 6VDC	Initial
	Contact rating		0.5A, 120VAC	or 1A, 24VDC	Resistive
	Max. carrying cu	ırrent	2	A	
	Max. switching	current	1	A	
	Max. switching	voltage	120VAC	/ 60VDC	
	Max. switching power		60AV	/ 24W	
	Min. switching l	oad *	1mA, 1VDC	0.1mA, 100mVDC	
	Capacitance (at 10 MHz)		Approx. 1.4 pF (between Approx. 5.0 pF (between Approx		
Coil	Rated power (20°C)		150 to 1	75 mW	
	Operate power (20°C)		75 to 8	86 mW	
	Operating temperature range		-30°C ^ (18V coil: +85°C,		No frost
Timing	Operate		Max. 5ms (wil	:hout bounce)	At rated voltage
data	Release		Max. 2ms (wil	hout bounce)	At rated voltage
Life	Mechanical		Min. 5 x 10 ⁶	operations	
	Electrical		Min. 100 x 10 ³ ops.		At contact rating
Insula- tion	Insulation resistance		Min. 1000MΩ at 500VDC	Min. $1000M\Omega$ at $250VDC$	Initial
	Dielectric strength	Open contacts	400VAC, 1 minute	300VAC, 1 minute	
		Coil contact	1000VAC, 1 minute		
	Surge strength	Coil to contacts	1,500V / 10 x 160µs standard wave		
Other Vibration resistance		Misoperation ≥1us	10 to 55Hz to 10hz Single amplitude 0.75mm, 3 axis, 6 cycles		
		Endurance	10 to 55Hz to 10hz Single amplitude 0.75mm, 3 axis, 6 hours		
	Shock resis-	Misoperation ≥1us	Min. 300m/s² (11 ± 1ms)		
	tance	Endurance	Min. $1,000$ m/s ² (6 ± 1ms)		
	Dimensions / we	eight	7.4 x 12.5 x 9.5 n	nm / approx. 1.7g	

^{*:} 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 contions.

■ Coil Data

Coil code	Rated Coil Voltage (VDC)	Coil Resistance +/-10% (Ω)	Must Operate Voltage* (VDC)	Must Release Voltage* (VDC)	Rated Power (mW)
1.5	1.5	15	1.05	0.08	
3	3	60	2.1	0.15	
4.5	4.5	135	3.2	0.23	
5	5	167	3.5	0.25	150
6	6	240	4.2	0.3	
9	9	540	6.3	0.45	
12	12	960	8.4	0.6	
18	18	1,940	12.6	0.9	170
24	24	3,290	16.8	1.2	175

Note: All values in the table are valid at 20°C and zero contact current, unless otherwise specified.

*: Specified operated values are valid for pulse wave voltage.

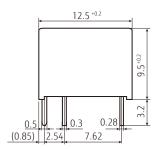
Please use at rated coil voltage. Please refer to characteristic data and set up adequate voltage in case of use at over voltage.

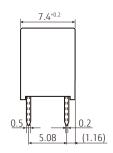
■ Safety Standards

Туре	Compliance	Contact rating
UL	UL 478	Flammability: UL 94-V0 (plastics)
	UL 508	0.5A, 120VAC (resistive) 1A, 30VDC (resistive)
	E 45026	0.15A 48VDC (resistive)
CSA	C22.2 No. 14	
	LR 35579	

Dimensions

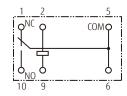
Dimensions



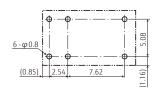


^{*}Dimensions of the terminals do not include thickness of pre-solder.

Schematics (BOTTOM VIEW)



PC Board Mounting Hole Layout (BOTTOM VIEW)

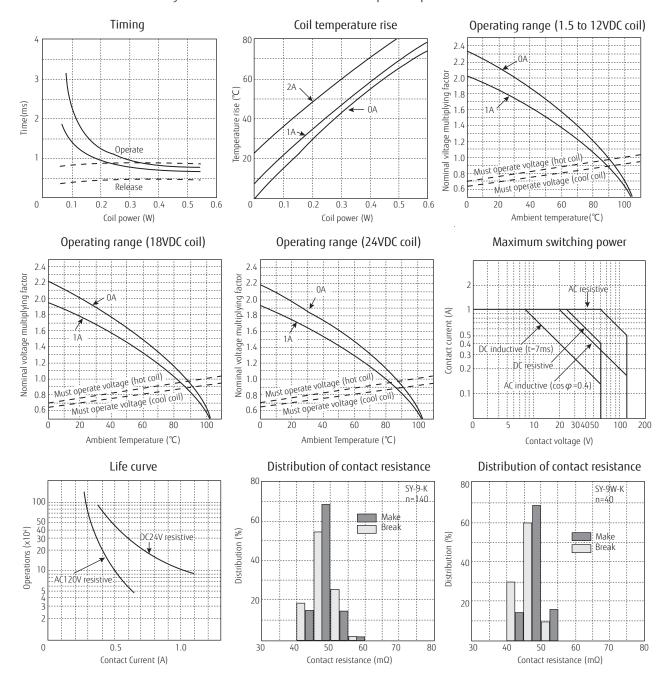


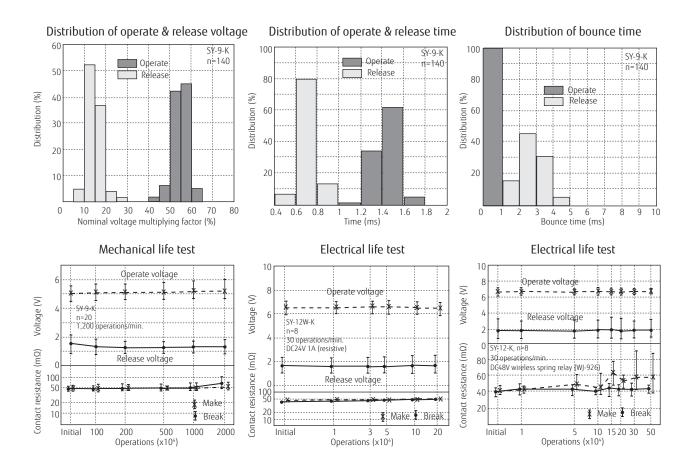
^{*}Tolerance of PC board mounting hole layout: ±0.1 unless otherwise specified.

(): Reference value

■ Characteristic Data (Reference)

* Characteristic data is not guaranteed value but measured values of samples from production line.





GENERAL INFORMATION

1. ROHS Compliance

- All relays produced by Fujitsu Components are compliant with RoHS directive 2011/65/EU including amendments.
- Use of Cadmium in electrical contacts is exempted as per Annex III of the RoHS directive 2001/65/EU.
 Please consider expiry date of exemption. Relays with Cadmium containing contacts are not to be used for new designs.
- 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
- Characteristic data is not guaranteed values, but measured values of samples from production line.

2. Recommended lead free solder condition

- 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.
- Recommended solder for assembly: Sn-3.0Ag-0.5Cu.

Flow Solder Condition:

Pre-Heating: maximum 120°C

within 90 sec.

Soldering: dip within 5 sec. at

255°C ± 5°C solder bath

Relay must be cooled by air immediately

after soldering

Solder by Soldering Iron:

Soldering Iron: 30-60W

Temperature: maximum 340-360°C Duration: maximum 3 sec.

We highly recommend that you confirm your actual solder conditions

3. Moisture Sensitivity

• Moisture Sensitivity Level 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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