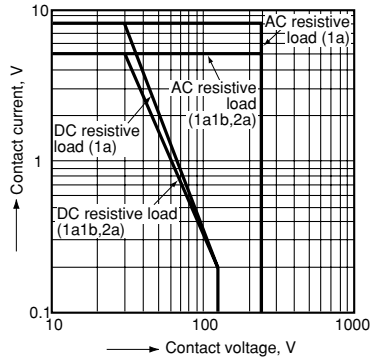
2. Specifications

Characteristics	Item		Specifications		
Contact	Arrangement		1 Form A	1 Form A 1 Form B	2 Form A
	Contact resistance (Initial)		Max. 30 mΩ (By voltage drop 6 V DC 1A)		
	Contact material		Au-flashed $AgSnO_2$ type		
Rating	Nominal switching capacity (resistive load)		8 A 250 V AC, 5A 30V DC	5 A 250 V AC, 5 A 30 V DC	
	Max. switching power (resistive load)		2,000 VA, 150 W	1,250 VA, 150 W	
	Max. switching voltage		250 V AC, 125 V DC (0.2 A)		
	Max. switching current		8 A AC, 5 A DC	5 A AC, DC	
	Nominal operating power		300 mW		
	Min. switching capacity (Reference value)*1		10m A 5 V DC		
Electrical characteristics	Insulation resistance (Initial)		Min. 1,000MΩ (at 500V DC) Measurement at same location as “Breakdown voltage” section.		
	Breakdown voltage (Initial)	Between open contacts	1,000 Vrms for 1min. (Detection current: 10mA.)		
		Between contact sets	2,000 Vrms (1 Form A 1 Form B, 2 Form A) (Detection current: 10mA.)		
		Between contact and coil	3,000 Vrms for 1min. (Detection current: 10mA.)		
	Surge breakdown voltage*2	between contacts and coil	5,000 V		
	Temperature rise (coil) (By resistive method)*4		Max. 55°C 131°F (at 60°C 140°F)	Max. 40°C 104°F (at 65°C 149°F)	Max. 55°C 131°F (at 60°C 140°F)
	Operate time [Set time] (at 20°C 68°F)		Max. 10 ms [10 ms] (Nominal coil voltage applied to the coil, excluding contact bounce time.)		
	Release time [Reset time] (at 20°C 68°F)		Max. 5 ms [10 ms] (Nominal coil voltage applied to the coil, excluding contact bounce time.) (without diode)		
Mechanical characteristics	Shock resistance	Functional	Min. 196 m/s² (Half-wave pulse of sine wave: 11 ms; detection time: 10μs.)		
		Destructive	Min. 980 m/s² (Half-wave pulse of sine wave: 6 ms.)		
	Vibration resistance	Functional	10 to 55 Hz at double amplitude of 2 mm (Detection time: 10μs.)		
		Destructive	10 to 55 Hz at double amplitude of 3.5 mm		
Expected life	Mechanical		Min. 5×10^7 (at 180 times/min.)		
	Electrical		Min. 10^5 (resistive load)		
Conditions	Conditions for operation, transport and storage*3 (Not freezing and condensing at low temperature)		Ambient temperature: –40°C to +60°C –40°F to +140°F	Ambient temperature: –40°C to +65°C –40°F to +149°F	Ambient temperature: –40°C to +60°C –40°F to +140°F
	Max. operating speed		3 cps		
Unit weight			Approx. 4.5 g .16 oz		

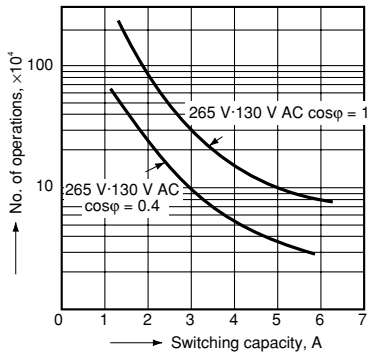
Notes: *1. This value can change due to the switching frequency, environmental conditions, and desired reliability level, therefore it is recommended to check this with the actual load.
*2. Wave is standard shock voltage of ±1.2×50μs according to JEC-212-1981
*3. The upper limit of the ambient temperature is the maximum temperature that can satisfy the coil temperature rise value. Refer to Usage, transport and storage conditions in NOTES.
*4. Single side stable type: at nominal voltage applied to the coil and max. switching current
2 coil latching type: at coil deenergized and max. switching current

REFERENCE DATA

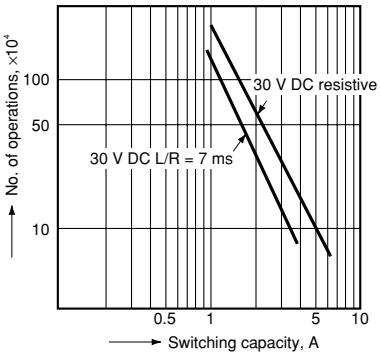
1. Max. switching capacity



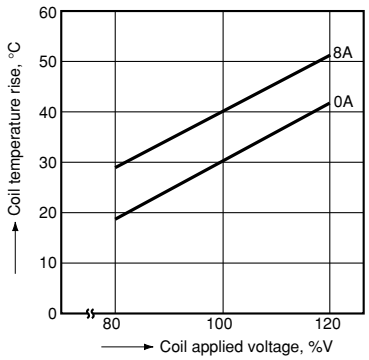
2.-(1) Life curve (1 Form A 1 Form B)



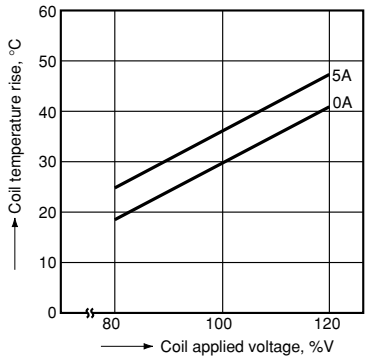
2.-(2) Life curve (1 Form A 1 Form B)



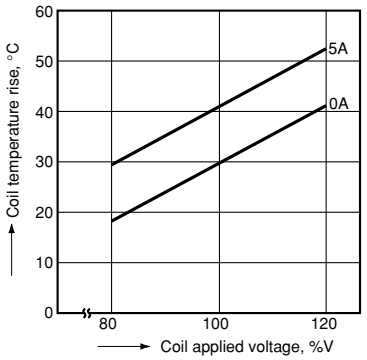
3.-(1) Coil temperature rise (1 Form A)
Tested sample: DSP1a-DC12V, 5 pcs.



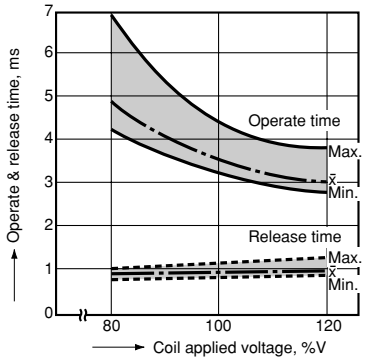
3.-(2) Coil temperature rise (1 Form A 1 Form B)
Tested sample: DSP1-DC12V, 5 pcs.



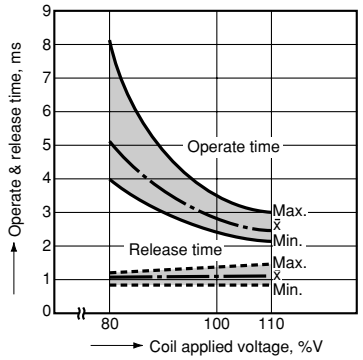
3.-(3) Coil temperature rise (2 Form A)
Tested sample: DSP2a-DC12V, 5 pcs.



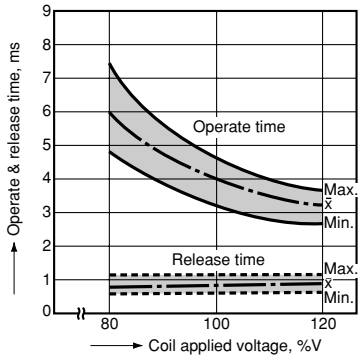
4.-(1) Operate & release time
(without diode, 1 Form A)
Tested sample: DSP1a-DC12V, 5 pcs.



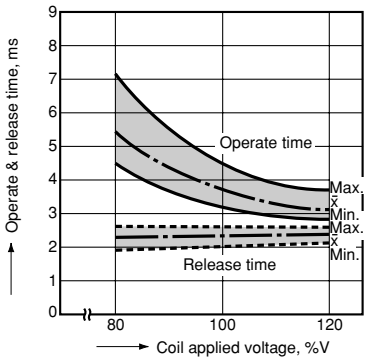
4.-(2) Operate & release time
(without diode, 1 Form A 1 Form B)
Tested sample: DSP1-DC12V, 5 pcs.



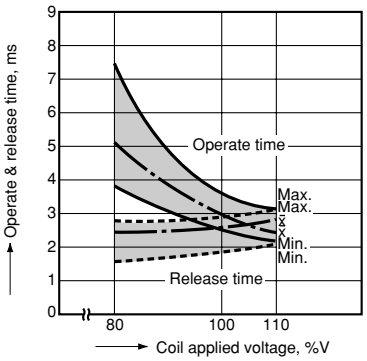
4.-(3) Operate & release time
(without diode, 2 Form A)
Tested sample: DSP2a-DC12V, 5 pcs.)



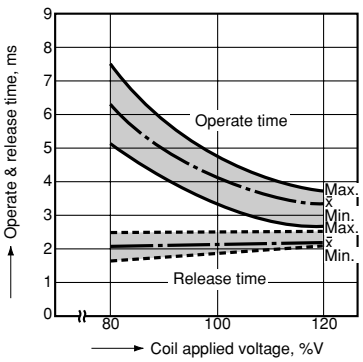
4.-(4) Operate & release time
(with diode, 1 Form A)
Tested sample: DSP1a-DC12V, 5 pcs.



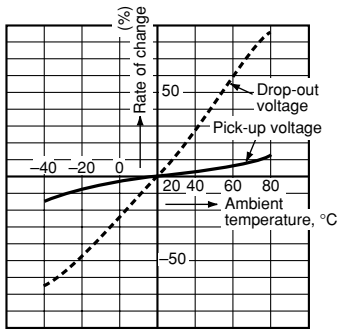
4.-(5) Operate & release time
(with diode, 1 Form A 1 Form B)
Tested sample: DSP1-DC12V, 5 pcs.



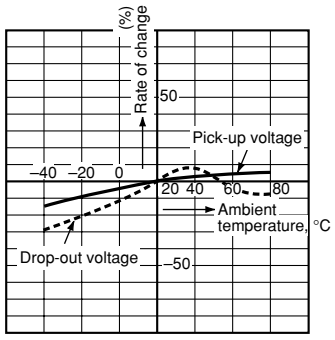
4.-(6) Operate & release time
(with diode, 2 Form A)
Tested sample: DSP2a-DC12V, 5 pcs.



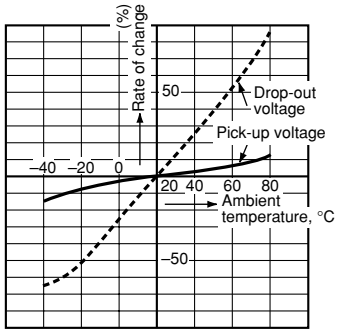
5.-(1) Change of pick-up and drop-out voltage
(1 Form A)
Tested sample: DSP1a-DC12V, 5 pcs.



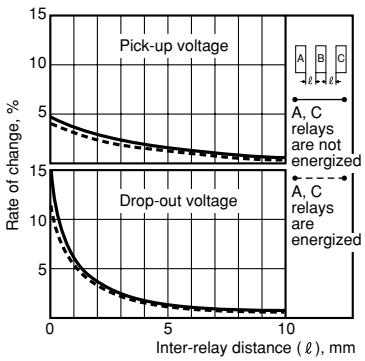
5.-(2) Change of pick-up and drop-out voltage
(1 Form A 1 Form B)
Tested sample: DSP1-DC12V, 5 pcs.



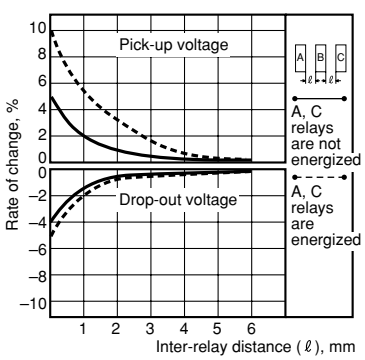
5.-(3) Change of pick-up and drop-out voltage
(2 Form A)
Tested sample: DSP2a-DC12V, 5 pcs.



6.-(1) Influence of adjacent mounting
(1 Form A)
Tested sample: DSP1a-DC12V, 5 pcs.



6.-(2) Influence of adjacent mounting
(1 Form A 1 Form B)
Tested sample: DSP1-DC12V, 5 pcs.



6.-(3) Influence of adjacent mounting
(2 Form A)
Tested sample: DSP2a-DC12V, 5 pcs.