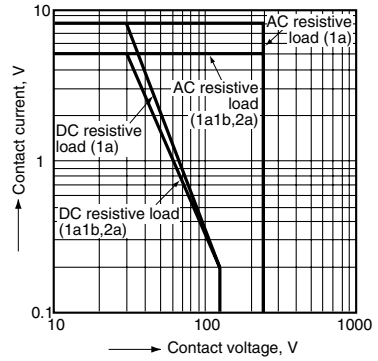
2. Specifications

Characteristics	Item		Specifications		
Contact	Arrangement		1 Form A	1 Form A 1 Form B	2 Form A
	Initial contact resistance, max.		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		380 V AC, 125 V DC		
	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 "Initial 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 (at 65°C 149°F)		Max. 55°C	Max. 40°C	Max. 55°C
	Operate time [Set time] (at 20°C 68°F)		Max. 10 ms [10 ms] (Nominal voltage applied to the coil, excluding contact bounce time.)		
	Release time [Reset time] (at 20°C 68°F)		Max. 5 ms [10 ms] (Nominal 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 cpm)		
	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
	Solder heating		250°C 482°F (10s), 300°C 572°F (5s), 350°C 662°F (3s) (Soldering depth: 2/3 terminal pitch)		
	Max. operating speed (at rated load)		30 cps		
Unit weight			Approx. 4.5 g .16 oz		

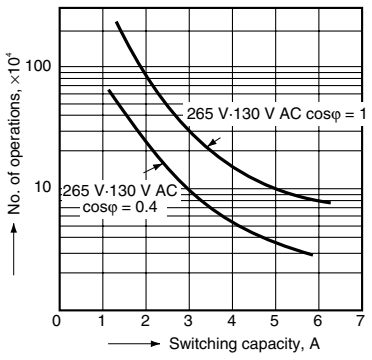
Notes: *1 This value can change due to the switching frequency, environmental conditions, and desired reliability level, therefore it is recommended to check this with the actual load.
*2 Wave is standard shock voltage of ±1.2×50μs according to JEC-212-1981
*3 Refer to 6. Conditions for operation, transport and storage mentioned in AMBIENT ENVIRONMENT.

REFERENCE DATA

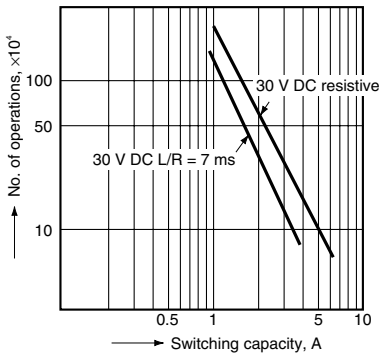
1. Max. switching capacity



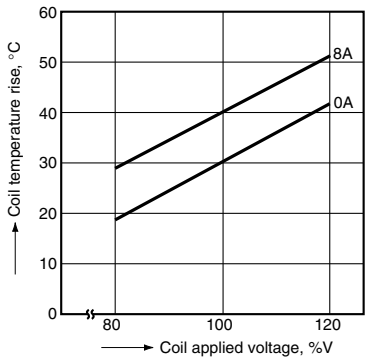
2.-(1) Life curve (1 Form A 1 Form B)



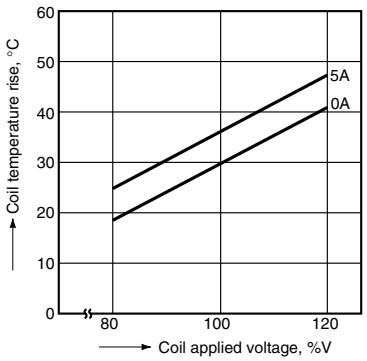
2.-(2) Life curve (1 Form A 1 Form B)



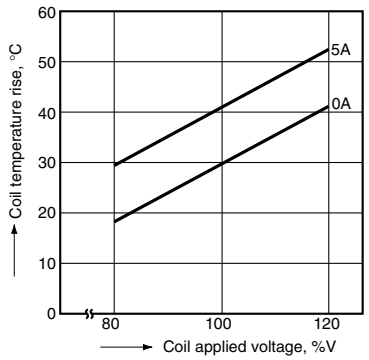
3.-(1) Coil temperature rise (1 Form A)
Tested sample: DSP1a-DC12V, 5 pcs.



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

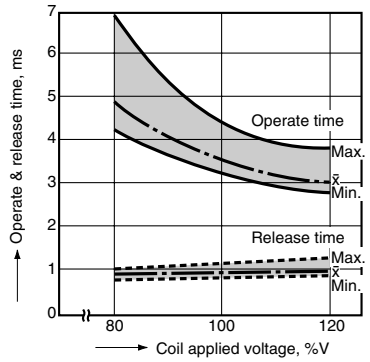


3.-(3) Coil temperature rise (2 Form A)
Tested sample: DSP2a-DC12V, 5 pcs.

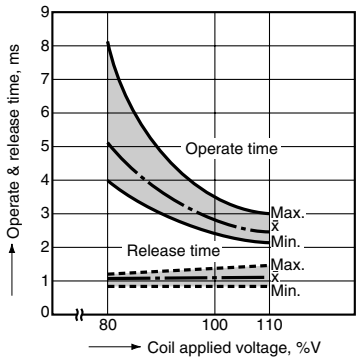


All Rights Reserved © COPYRIGHT Matsushita Electric Works, Ltd.

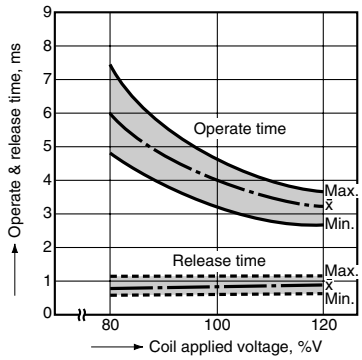
4.-(1) Operate & release time
(without diode, 1 Form A)
Tested sample: DSP1a-DC12V, 5 pcs.



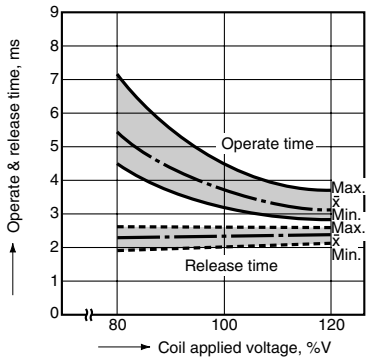
4.-(2) Operate & release time
(without diode, 1 Form A 1 Form B)
Tested sample: DSP1-DC12V, 5 pcs.



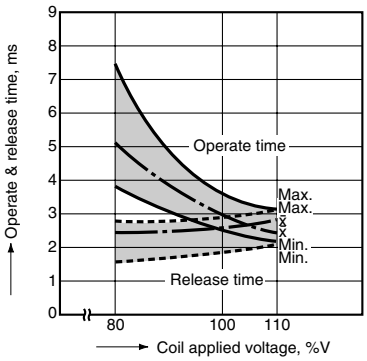
4.-(3) Operate & release time
(without diode, 2 Form A)
Tested sample: DSP2a-DC12V, 5 pcs.)



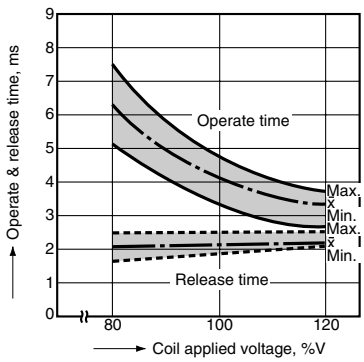
4.-(4) Operate & release time
(with diode, 1 Form A)
Tested sample: DSP1a-DC12V, 5 pcs.



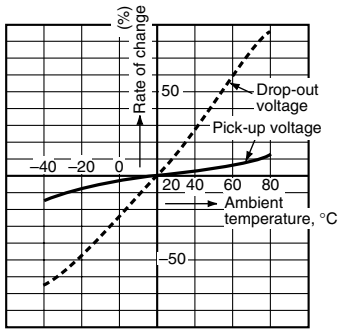
4.-(5) Operate & release time
(with diode, 1 Form A 1 Form B)
Tested sample: DSP1-DC12V, 5 pcs.



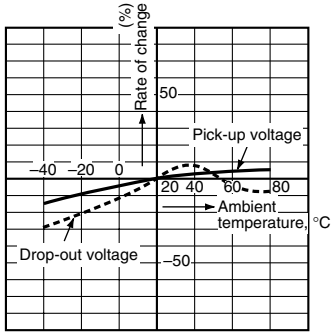
4.-(6) Operate & release time
(with diode, 2 Form A)
Tested sample: DSP2a-DC12V, 5 pcs.



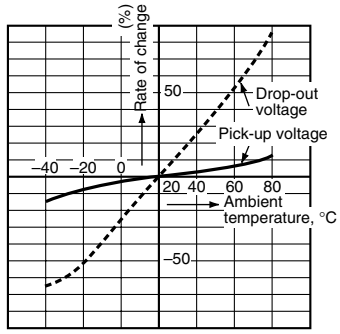
5.-(1) Change of pick-up and drop-out voltage
(1 Form A)
Tested sample: DSP1a-DC12V, 5 pcs.



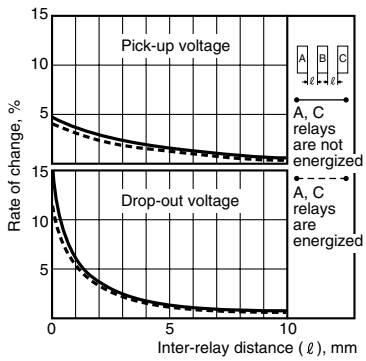
5.-(2) Change of pick-up and drop-out voltage
(1 Form A 1 Form B)
Tested sample: DSP1-DC12V, 5 pcs.



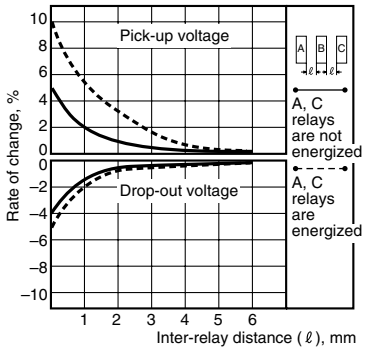
5.-(3) Change of pick-up and drop-out voltage
(2 Form A)
Tested sample: DSP2a-DC12V, 5 pcs.



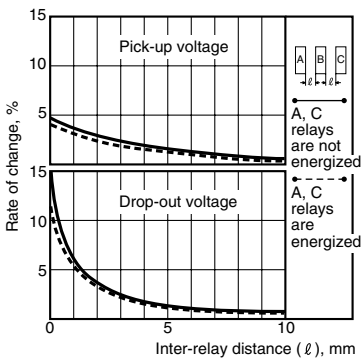
6.-(1) Influence of adjacent mounting
(1 Form A)
Tested sample: DSP1a-DC12V, 5 pcs.



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.



All Rights Reserved © COPYRIGHT Matsushita Electric Works, Ltd.