

2. Specifications

Characteristics	Item	Specifications		
		1 Form A	1 Form A 1 Form B	2 Form A
Contact	Arrangement	1 Form A		
	Initial contact resistance, max.	Max. 30 mΩ (By voltage drop 6 V DC 1A)		
Rating	Contact material	Au-flashed AgSnO ₂ type		Au-flashed AgNi type
	Nominal switching capacity (resistive load)	10 A 250 V AC, 10 A 30 V DC	8 A 250 V AC, 8 A 30 V DC	8 A 250 V AC, 8 A 30 V DC
	Max. switching power (resistive load)	2,500VA, 300 W	2,000 VA, 240 W	2,000 VA, 240 W
	Max. switching voltage	250 V AC, 125 V DC	250 V AC, 125 V DC	250 V AC, 125 V DC
	Max. switching current	10 A	8 A	8 A
	Nominal operating power	200 mW		
Electrical characteristics	Min. switching capacity (Reference value)*1	10m A 5 V DC		
	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 and coil	4,000 Vrms for 1min. (Detection current: 10mA.)	
	Surge breakdown voltage*2	between contacts and coil	10,000 V (Initial)	
	Temperature rise (at 65°C 149°F)	Max. 40°C (By resistive method, nominal voltage applied to the coil; max. switching current)		
	Operate time [Set time] (at 20°C 68°F)	Max. 10 ms (Approx. 5 ms) [10 ms (Approx. 5 ms)] (Nominal voltage applied to the coil, excluding contact bounce time.)		
Release time [Reset time] (at 20°C 68°F)	Max. 8 ms (Approx. 3 ms) [10 ms (Approx. 3 ms)] (Nominal voltage applied to the coil, excluding contact bounce time.) (without diode)			
Mechanical characteristics	Shock resistance	Functional	Min. 98 m/s ² (Half-wave pulse of sine wave: 11 ms; detection time: 10μs.)	
		Destructive	Min. 980 m/s ² (Half-wave pulse of sine wave: 6 ms.)	
	Vibration resistance	Functional	10 to 55 Hz at double amplitude of 1.5 mm (Detection time: 10μs.)	
		Destructive	10 to 55 Hz at double amplitude of 3 mm	
Expected life	Mechanical	Min. 5×10 ⁷ (at 300 cpm)		
	Electrical	Min. 10 ⁵ (resistive load, at 20 cpm, at rated capacity)		
Conditions	Conditions for operation, transport and storage*3	Ambient temperature: -40°C to +65°C -40°F to +149°F, Humidity: 5 to 85% R.H. (Not freezing and condensing at low temperature)		
	Max. operating speed (at rated load)	20 cpm		
Unit weight		Approx. 5 g .18 oz	Approx. 6 g .21 oz	Approx. 6 g .21 oz

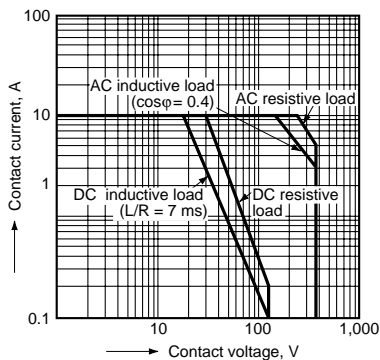
Notes: *1 This value can change due to the switching frequency, environmental conditions, and desired reliability level, therefore it is recommended to check this with the actual load.

*2 Wave is standard shock voltage of ±1.2×50μs according to JEC-212-1981

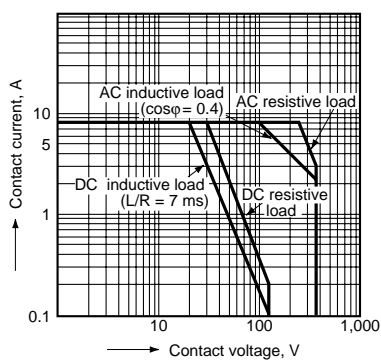
*3 Refer to 6. Conditions for operation, transport and storage mentioned in AMBIENT ENVIRONMENT.

REFERENCE DATA

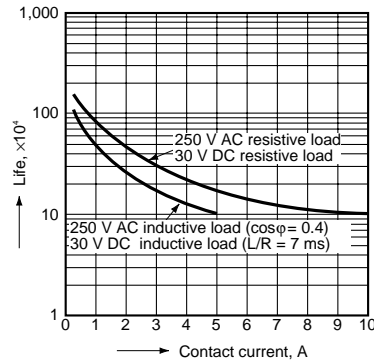
1-(1). Maximum operating power (1 Form A)



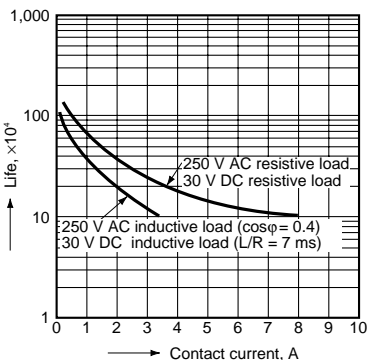
1-(2). Maximum operating power (1 Form A 1 Form B, 2 Form A)



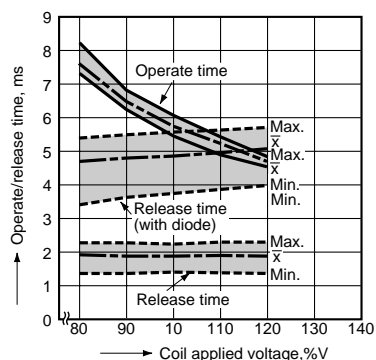
2-(1). Life curve (1 Form A)



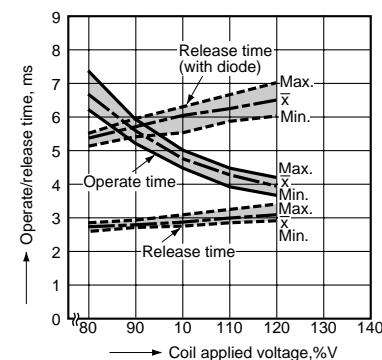
2-(2). Life curve (1 Form A 1 Form B, 2 Form A)



3-(1). Operate/Release time (1 Form A)
Tested sample: DK1a-24V, 5 pcs.

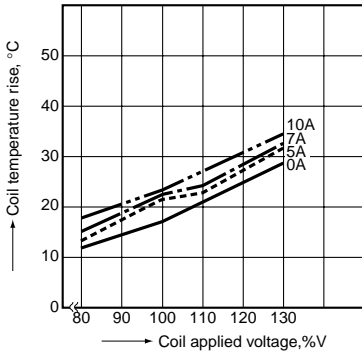


3-(2). Operate/Release time (1 Form A 1 Form B, 2 Form A)
Tested sample: DK1a1b-12V, 5 pcs.



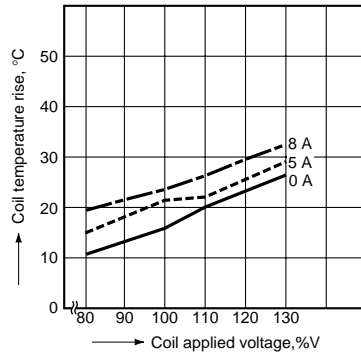
4-(1). Coil temperature rise (1 Form A)

Tested sample: DK1a-12V, 5 pcs.
Ambient temperature: 30°C 86°F



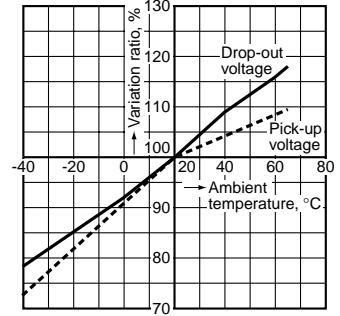
4-(2). Coil temperature rise (1 Form A 1 Form B, 2 Form A)

Tested sample: DK1a1b-12V, 5 pcs.
Ambient temperature: 20°C 68°F

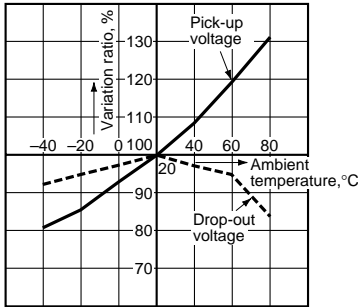


5-(1). Ambient temperature characteristics (1 Form A)

Tested sample: DK1a-24V, 6 pcs
Ambient temperature: -40°C to +80°C
-40°F to +176°F



5-(2). Ambient temperature characteristics (1 Form A 1 Form B, 2 Form A)

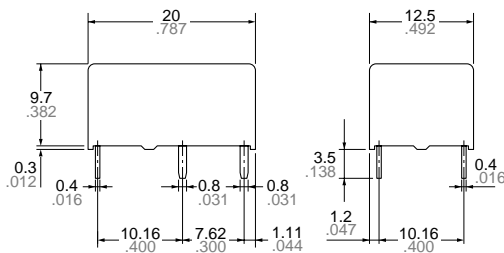


DIMENSIONS (Unit: mm inch)

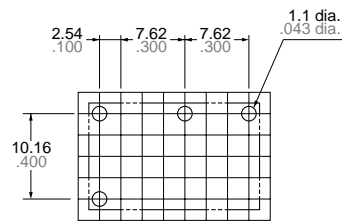
1.1 Form A type



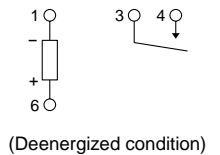
External dimensions
Single side stable type



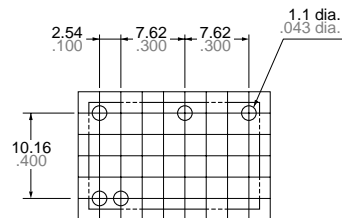
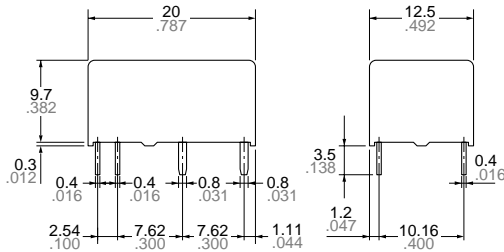
PC board pattern (Bottom view)



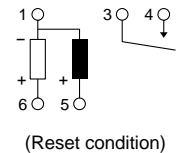
Schematic (Bottom view)
Single side stable



2 coil latching type



2 coil latching



General tolerance: $\pm 0.3 \pm 0.012$

Tolerance: $\pm 0.1 \pm 0.004$

Since this is a polarized relay, the connection to the coil should be done according to the above schematic.