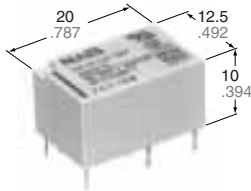


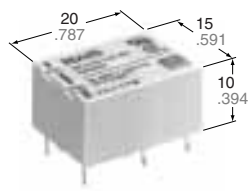
Panasonic
ideas for life

**10 A MINIATURE
POWER RELAY**

DK RELAYS



1a



1a1b

mm inch

FEATURES

- Large capacity in small size: 10 A 250 V AC (1a)
- High sensitivity: 200 mW nominal operating power
- High breakdown voltage 4,000 Vrms between contacts and coil 1,000 Vrms between open contacts Meeting FCC Part 68
- Sealed construction
- Latching types available

SPECIFICATIONS

Contact

Arrangement	1 Form A	2 Form A, 1 Form A 1 Form B
Initial contact resistance, max. (By voltage drop 6 V DC 1A)	30 mΩ	
Contact material	Gold flash over silver alloy	
Rating (resistive)	Nominal switching capacity	10 A 250 V AC 10 A 30 V DC
	Max. switching power	300 W, 2,500 VA
	Max. switching voltage	250 V AC, 30 V DC
	Max. switching current	10 A
	Min. switching capacity ^{#1}	10 mA, 5 V DC
Expected life (min. operations)	Mechanical	5×10 ⁷
	Electrical (resistive)	10 ⁵ (10 A 250 V AC, 10 A 30 V DC)

Coil

Nominal operating power	200 mW
-------------------------	--------

#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.

Remarks

- * Specifications will vary with foreign standards certification ratings.
- *1 Measurement at same location as "Initial breakdown voltage" section
- *2 Detection current: 10 mA
- *3 Wave is standard shock voltage of ±1.2 × 50μs according to JEC-212-1981
- *4 Excluding contact bounce time
- *5 Half-wave pulse of sine wave: 11ms; detection time: 10μs
- *6 Half-wave pulse of sine wave: 6ms
- *7 Detection time: 10μs
- *8 Refer to 6. Conditions for operation, transport and storage mentioned in AMBIENT ENVIRONMENT

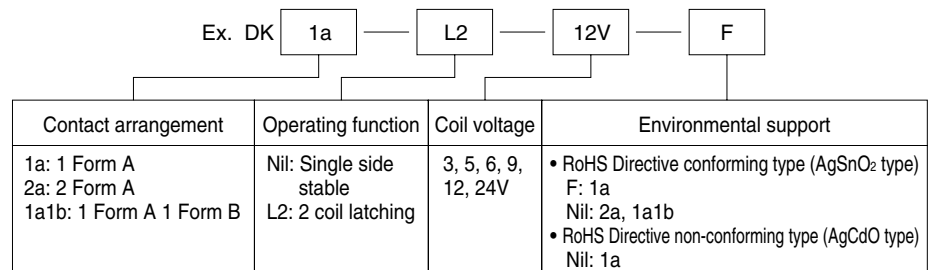
Characteristics

Max. operating speed	20 cpm (at rated load)	
Initial insulation resistance*1	Min. 1,000 mΩ (at 500 V DC)	
Initial breakdown voltage*2	Between open contacts	1,000 Vrms
	Between contacts and coil	4,000 Vrms
Surge voltage between coil and contact*3	Min. 10,000 V	
Operate time*4 (at nominal voltage)	Max. 10 ms (Approx. 5 ms)	
Release time (without diode)*4 (at nominal voltage)	Max. 8 ms (Approx. 3 ms)	
Temperature rise (at nominal voltage)	Max. 40°C with nominal coil voltage and at 10 A switching current	
Shock resistance	Functional*5	Min. 98 m/s ² {10 G}
	Destructive*6	Min. 980 m/s ² {100 G}
Vibration resistance	Functional*7	88.2 m/s ² {9 G}, 10 to 55 Hz at double amplitude of 1.5 mm
	Destructive	176.4 m/s ² {18 G}, 10 to 55 Hz at double amplitude of 3.0 mm
Conditions for operation, transport and storage*8 (Not freezing and condensing at low temperature)	Ambient temp.	-40°C to +65°C -40°F to +149°F
	Humidity	5 to 85% R.H.
Unit weight	1 Form A	Approx. 5.6 g .20 oz
	1 Form A 1 Form B, 2 Form A	Approx. 6 g .21 oz

TYPICAL APPLICATIONS

- Switching power supply
- Power switching for various OA equipment
- Control or driving relays for industrial machines (robotics, numerical control machines, etc.)
- Output relays for programmable logic controllers, temperature controllers, timers and so on.
- Home appliances

ORDERING INFORMATION



Notes: 1. Standard packing Carton: 50 pcs.; Case: 500 pcs.
UL/CSA, TÜV approved type is standard.
2. 1 coil latching type available.

TYPES AND COIL DATA (at 20°C 68°F)

Single side stable

	Part No.	Nominal voltage, V DC	Pick-up voltage, V DC (max.)	Drop-out voltage, V DC (min.)	Nominal operating current, mA ($\pm 10\%$)		Coil resistance, Ω ($\pm 10\%$)		Nominal operating power, mW	Maximum allowable voltage, V DC (at 65°C 149°F)
1 Form A	DK1a-3V (-F)	3	2.1	0.3	66.6		45		200	3.9
	DK1a-5V (-F)	5	3.5	0.5	40		125		200	6.5
	DK1a-6V (-F)	6	4.2	0.6	33.3		180		200	7.8
	DK1a-9V (-F)	9	6.3	0.9	22.2		405		200	11.7
	DK1a-12V (-F)	12	8.4	1.2	16.6		720		200	15.6
	DK1a-24V (-F)	24	16.8	2.4	8.3		2,880		200	31.2
1 Form A 1 Form B	DK1a1b-3V	3	2.1	0.3	66.6		45		200	3.9
	DK1a1b-5V	5	3.5	0.5	40		125		200	6.5
	DK1a1b-6V	6	4.2	0.6	33.3		180		200	7.8
	DK1a1b-9V	9	6.3	0.9	22.2		405		200	11.7
	DK1a1b-12V	12	8.4	1.2	16.6		720		200	15.6
	DK1a1b-24V	24	16.8	2.4	8.3		2,880		200	31.2
2 Form A	DK2a-3V	3	2.1	0.3	66.6		45		200	3.9
	DK2a-5V	5	3.5	0.5	40		125		200	6.5
	DK2a-6V	6	4.2	0.6	33.3		180		200	7.8
	DK2a-9V	9	6.3	0.9	22.2		405		200	11.7
	DK2a-12V	12	8.4	1.2	16.6		720		200	15.6
	DK2a-24V	24	16.8	2.4	8.3		2,880		200	31.2

2 coil latching

	Part No.	Nominal voltage, V DC	Set voltage, V DC (max.)	Reset voltage, V DC (max.)	Nominal operating current, mA ($\pm 10\%$)		Coil resistance, Ω ($\pm 10\%$)		Nominal operating power, mW		Maximum allowable voltage, V DC (at 65°C 149°F)
					Set	Reset	Set	Reset	Set	Reset	
1 Form A	DK1a-L2-3V (-F)	3	2.1	2.1	66.6	66.6	45	45	200	200	3.9
	DK1a-L2-5V (-F)	5	3.5	3.5	40	40	125	125	200	200	6.5
	DK1a-L2-6V (-F)	6	4.2	4.2	33.3	33.3	180	180	200	200	7.8
	DK1a-L2-9V (-F)	9	6.3	6.3	22.2	22.2	405	405	200	200	11.7
	DK1a-L2-12V (-F)	12	8.4	8.4	16.6	16.6	720	720	200	200	15.6
	DK1a-L2-24V (-F)	24	16.8	16.8	8.3	8.3	2,880	2,880	200	200	31.2
1 Form A 1 Form B	DK1a1b-L2-3V	3	2.1	2.1	66.6	66.6	45	45	200	200	3.9
	DK1a1b-L2-5V	5	3.5	3.5	40	40	125	125	200	200	6.5
	DK1a1b-L2-6V	6	4.2	4.2	33.3	33.3	180	180	200	200	7.8
	DK1a1b-L2-9V	9	6.3	6.3	22.2	22.2	405	405	200	200	11.7
	DK1a1b-L2-12V	12	8.4	8.4	16.6	16.6	720	720	200	200	15.6
	DK1a1b-L2-24V	24	16.8	16.8	8.3	8.3	2,880	2,880	200	200	31.2
2 Form A	DK2a-L2-3V	3	2.1	2.1	66.6	66.6	45	45	200	200	3.9
	DK2a-L2-5V	5	3.5	3.5	40	40	125	125	200	200	6.5
	DK2a-L2-6V	6	4.2	4.2	33.3	33.3	180	180	200	200	7.8
	DK2a-L2-9V	9	6.3	6.3	22.2	22.2	405	405	200	200	11.7
	DK2a-L2-12V	12	8.4	8.4	16.6	16.6	720	720	200	200	15.6
	DK2a-L2-24V	24	16.8	16.8	8.3	8.3	2,880	2,880	200	200	31.2