mail

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from, Europe, America and south Asia, supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts, Customers Priority, Honest Operation, and Considerate Service", our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip, ALPS, ROHM, Xilinx, Pulse, ON, Everlight and Freescale. Main products comprise IC, Modules, Potentiometer, IC Socket, Relay, Connector. Our parts cover such applications as commercial, industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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Electrical life: Min. 2 × 10⁵ 1a 10A, 1a1b 8A small polarized power relays

FEATURES

- 1. Compact size:
 - 1 Form A (10A 250V AC), 1 Form A 1 Form B (8A 250V AC)
- 2. Latching types available
- 3. Compliant with IEC EN61010-1. Reinforced insulation with 6 mm distance between input and output.
- 4. Electrical life of Min. 2×10^5 times (1 Form A type) realized with inductive load ($\cos\varphi=0.4$, L/R=7ms, 5A 250V AC)

5. Sockets are available.

	Part No.						
1 Form A	Single side stable type	DK1a-PS					
	2 coil latching type	DK1a-PSL2					
1 Form A	Single side stable type	DK2a-PS					
1 Form B	2 coil latching type	DK2a-PSL2					

1 Form B

Please see "DK relay socket" for details.

DY RELAYS (ADY)

TYPICAL APPLICATIONS

- 1. Control for industrial machines (machine tools, robotics)
- 2. Output relays for temperature controllers, PLCs, timers, sensors.
- 3. Measuring equipment
- 4. Security equipment

RoHS compliant

ORDERING INFORMATION



TYPES

-			
Contact	Nominal coil	Single side stable	2 coil latching
arrangement	voltage	Part No.	Part No.
	3V DC	ADY10003	ADY12003
	5V DC	ADY10005	ADY12005
1 Form A	6V DC	ADY10006	ADY12006
	12V DC	ADY10012	ADY12012
	24V DC	ADY10024	ADY12024
	3V DC	ADY30003	ADY32003
	5V DC	ADY30005	ADY32005
1 Form A 1 Form B	6V DC	ADY30006	ADY32006
	12V DC	ADY30012	ADY32012
	24V DC	ADY30024	ADY32024

Standard packing: Carton: 50 pcs.; Case: 500 pcs.

* For sockets, see page 140.

RATING

1. Coil data

1) Single side stable

Nominal coil voltage	Pick-up voltage (at 20°C 68°F)	Drop-out voltage (at 20°C 68°F)	Nominal operating current [±10%] (at 20°C 68°F)	Coil resistance [±10%] (at 20°C 68°F)	Nominal operating power	Max. applied voltage (at 20°C 68°F)
3V DC			66.6mA	45Ω		
5V DC	70%V or less of	10%V or more of	40mA	125Ω		1000/14
6V DC	nominal voltage	nominal voltage	33.3mA	180Ω	200mW	130%V of
12V DC	(Initial)	(Initial)	16.6mA	720Ω		norminal voltage
24V DC			8.3mA	2,880Ω		

2) 2 coil latching

Nominal coil voltage	Set voltage (at 20°C 68°F)	Reset voltage (at 20°C 68°F)	Nominal operating current [±10%] (at 20°C 68°F)		Nominal operating current [±10%] (at 20°C 68°F)		Nominal operating current [±10%] (at 20°C 68°F)		Nominal operating current [±10%] (at 20°C 68°F)		Nominal operating current [±10%] (at 20°C 68°F)		Nominal operating current [±10%] (at 20°C 68°F)		Nominal operating current [±10%] (at 20°C 68°F)		Coil res [±10%] (at	sistance 20°C 68°F)	Nominal pov	operating wer	Max. applied voltage (at 20°C 68°F)
			Set coil	Reset coil	Set coil	Reset coil	Set coil	Reset coil													
3V DC	70%V or less of nominal voltage (Initial)			66.6mA	66.6mA	45Ω	45Ω														
5V DC		70%V or less of	40mA	40mA	125Ω	125Ω			1000011												
6V DC		nominal voltage	33.3mA	33.3mA	180Ω	180Ω	200mW	200mW	130%V of												
12V DC		(Initial)	16.6mA	16.6mA	720Ω	720Ω			nominal voltage												
24V DC			8.3mA	8.3mA	2,880Ω	2,880Ω															

2. Specifications

Arrangement 1 Form A 1 Form A 1 Form B Contact Contact resistance (Initial) Max.30 mΩ (By voltage drop 6 V DC 1A) Contact material Au-flashed AgSnO: type Rating Resistive load 10A 250V AC, 10A 30V DC 8A 250V AC, 8A 30V DC Max. switching Resistive load 10A 250V AC, 300W 2.000V A, 240W (Reference value) Resistive load 2.500V A, 300W 2.000V A, 240W (Reference value) Resistive load 2.500V A 3.5A 250V AC Max. switching outge Resistive load 2.500V A 3.5A 250V AC Max. switching outge Resistive load 2.500V A 3.5A 250V AC Max. switching outge Resistive load 1.250V A 875V A Min. Switching outge Nominal operating power 200 mW 8 A Nominal operating power 200 mW 8 A 1.000 Vms for 1 min. (Detection current: 10 mA) Breakdown voltage Between contacts and coil 4.000 Vms for 1 min. (Detection current: 10 mA) Surge breakdown Between contact and coil 10.000 V 10.000 V Vibration resistance	Characteristics		Item	Specifications			
Contact Contact resistance (Initial) Max. 30 mQ. (By voltage drop 6 V DC 1A) Contact material Au-flashed AgSn2: type Au-flashed AgSn2: type Au-flashed AgSn2: type Rating Resistive load 10A 250V AC, 10A 30V DC 8A 250V AC, 8A 30V DC Max. switching capacity Resistive load 2,500V A, 300W 2,000V A, 240W Max. switching capacity Resistive load 1,250V A 875V A Max. switching courset 100 A 8 A Min. switching copacity (Reference value)'1 5V 10mA 8 A Min. switching copacity (Reference value)'1 Min. 1,000MQ (at 500V DC) Measurement at same location as "Breakdown voltage" section. 8 A Insulation resistance (Initial) Min. 1,000MQ (at 500V DC) Measurement at same location as "Breakdown voltage" section. 1,000 Vrms for 1 min. (Detection current: 10 mA) Breakdown voltage dift Between contact and coil 4,000 Vrms for 1 min. (Detection current: 10 mA)		Arrangement		1 Form A 1 Form B			
Contact materialContact materialAu-flashed AgSnC: typeNominal switching capacityRelistive load (cosp = 0.4, L/R = 7ms)10A 250V AC, 10A 30V DC8A 250V AC, 8A 30V DCMax. switching capacity (Reference value)**Relistive load (cosp = 0.4, L/R = 7ms)5A 250V AC3.5A 250V ACMax. switching capacity (Reference value)**Relistive load 	Contact	Contact resistance (Initial)		Max. 30 mΩ (By volta	age drop 6 V DC 1A)		
Nominal switching capacity Resistive load 10A 250V AC, 10A 30V DC 8A 250V AC, 8A 30V DC Max. switching capacity Max. switching capacity Resistive load 2.500V A, 300W 2.000V A, 240W Max. switching capacity Resistive load 2.500V A, 300W 2.000V A, 240W Max. switching could cose = 0.4, L/R = 7ms) 1.250V A 875V A Max. switching could cose = 0.4, L/R = 7ms) 1.250V A 875V A Max. switching could cose = 0.4, L/R = 7ms) 380V AC, 125V DC 875V A Max. switching could cose = 0.4, L/R = 7ms) 100 A 8 A Max. switching could cose = 0.4, L/R = 7ms) 100 A 8 A Max. switching could cose = 0.4, L/R = 7ms) 100 A 8 A Max. switching could cose = 0.4, L/R = 7ms) 100 A 8 A Max. switching could cose = 0.4, L/R = 7ms) 100 A 8 A Max. switching could cose = 0.4, L/R = 7ms) 100 A 8 A Max. switching could cose = 0.4, L/R = 7ms) 100 A 8 A Max. switching could cose = 0.4, L/R = 7ms) 100 A 8 A Max. Switching could cose = 0.4, L/R = 7ms) 100 A 100 A		Contact material		Au-flashed A	lgSnO₂ type		
Rating Induitive load (cos φ = 0.4, L/R = 7ms) SA 250V AC 3.5A 250V AC Max. switching capacity (Reference value) Resistive load 2.500V A, 300W 2.000V A, 240W Max. switching capacity (Reference value) Resistive load 1.250V A 875V A Max. switching outrent 100 A 80 A Min. switching outrent Min. 1,000MΩ (at 500V DC) Measurement at same location as "Breakdown voltage" section. Breakdown voltage Between contact and coil 4,000 Vrms for 1 min. (Detection current: 10 mA) Watage*2 (Initial) Between contact and coil Max. 40°C (By resistive method, nominal voltage applied to the coil, excluding contact		Neminal autitabing	Resistive load	10A 250V AC, 10A 30V DC	8A 250V AC, 8A 30V DC		
Max. switching capacity (Reference value) Resistive load (cosp = 0.4, LR = 7ms) 1.250V A 2,000V A, 240W Max. switching voltage 380V AC, 125V D 875V A Max. switching urment 10.4 8 A Min. switching current 10.4 8 A Min. switching current 10.4 8 A Min. switching current 10.4 8 A Max. switching current 10.4 8 A Max. switching current 10.4 8 A Min. switching current 200 mW 200 mW Nominal operating power 200 mW 200 mW Insulation resistance (Initia) Between contact and coil 4.000 Vrms for 1 min. (Detection current: 10 mA) Breakdown voltage (Initia) Between contact and coil 10.000 V 10.000 V Voltage* (Initia) Between contact and coil 10.000 V 10.000 V Surge breakdown voltage* (Initia) Between contact and coil 40°C (By resistive method, nominal voltage applied to the coil, excluding contact bounce time.) (without diode) Aparter ime [Set IIII] (at 20°C 68°F) Max. 40°C (By resistive method, nominal voltage applied to the coil, excluding contact bounce time.) (without dio		capacity	Inductive load $(\cos\phi = 0.4, L/R = 7ms)$	5A 250V AC	3.5A 250V AC		
$ \begin{array}{c c c c c c c } Rating & \begin{array}{ c c c c c c c c c c c c c c c c c c c$		Max. switching	Resistive load	2,500V A, 300W	2,000V A, 240W		
Max. switching vortage Max. switching current Na Na Min. switching capacity (Reference value)*1 10 A 8 A Min. switching capacity (Reference value)*1 5V 10mA Nominal operating power 200 mW Breakdown voltage Insulation resistance (Initial) Min. 1,000MΩ (at 500V DC) Measurement at same location as "Breakdown voltage" section. Breakdown voltage Between open contacts 1,000 Vrms for 1 min. (Detection current: 10 mA) (Initial) Between contact and coil 4,000 Vrms for 1 min. (Detection current: 10 mA) (Initial) Between contact and coil 4,000 Vrms for 1 min. (Detection current: 10 mA) (Initial) Between contact and coil 4,000 Vrms for 1 min. (Detection current: 10 mA) (Initial) Between contact and coil 4,000 Vrms for 1 min. (Detection current: 10 mA) (Initial) Between contact and coil 4,000 Vrms for 1 min. (Detection current: 10 mA) (Initial) Between contact and coil 40x.40°C (By resistive method, nominal voltage applied to the coil, excluding contact bounce time.) (Winto time) [At 20°C 68°F) Max.40°C (Half-wave pulse of sine wave: 11 ms; detection time: 10µs.) Between copen contact Ins.98 m/s² (Half-wave	Rating	capacity (Reference value)	Inductive load $(\cos\phi = 0.4, L/R = 7ms)$	1,250V A	875V A		
$ \frac{Max. switching current}{Min. switching capacity (Reference value)^{*1}}{Min. switching capacity (Reference value)^{*1}} 10 A 8 A \\ \frac{Min. switching capacity (Reference value)^{*1}}{Nomial operating power 200 mW} 200 mW \\ \frac{Nomial operating power 200 mW}{200 MOR (at 500V DC) Measurement at same location as "Breakdown voltage" section. Breakdown voltage" section. Breakdown voltage applied to the colin current: 10 mA) \\ \frac{Surge breakdown voltage (Initial)}{200 M} Between open contacts 1.000 Vrms for 1 min. (Detection current: 10 mA) \\ \frac{Surge breakdown voltage (Initial)}{200 M} Between contact and coil 4.000 Vrms for 1 min. (Detection current: 10 mA) \\ \frac{Surge breakdown voltage values (Initial)}{200 M} Between contact and coil 4.000 Vrms for 1 min. (Detection current: 10 mA) \\ \frac{Surge breakdown voltage values (Initial)}{200 Parte time [set time] (at 20°C 68°F)} Max. 40°C (By resistive method, nominal voltage applied to the coil, excluding contact bounce time.) (Without diode) \\ \frac{Surge breakdown voltage (Initial)}{200 Parte time [set time] (at 20°C 68°F)} Max. 10 ms [10 ms] (Nominal coil voltage applied to the coil, excluding contact bounce time.) (Without diode) \\ \frac{Shock resistance}{Vibration resistance} Functional Min. 98 m/s2 (Half-wave pulse of sine wave: 11 ms; detection time: 10 \mus.) Destructive Min. 980 m/s2 (Half-wave pulse of sine wave: 6 ms.) \\ \frac{Shock resistance}{Vibration resistance} Functional 10 to 55 Hz at double amplitude of 1.5 mm (Detection time: 10 \mus.) Destructive 10 to 55 Hz at double amplitude of 3 mm (Min. 105: 1 Form A inductive load (at 20 times/min.) (at rated load); Min. 105: 1 Form A inductive load (at 20 times/min.) (at rated load); Min. 105: 1 Form A inductive load (at 20 times/min.) (at rated load); Min. 105: 1 Form A inductive load (at 20 times/min.) (at rated load); Min. 105: 1 Form A inductive load (at 20 times/min.) (at rated load); Min. 105: 1 Form A inductive load (at 20 times/min.) (at rated load); Min. 105: 1 Form A inductive load (at 20 tim$		Max. switching voltag	je	380V AC,	125V DC		
$ \frac{\text{Min. switching capacity (Reference value)^{11}}{\text{Nominal operating power}} \\ \hline \text{Nominal operating power} \\ \hline \text{Insulation resistance (Initial)} \\ \hline \text{Insulation resistance (Initial)} \\ \hline \text{Breakdown voltage} \\ \hline \text{Initial)} \\ \hline \text{Breakdown voltage} \\ \hline \text{Initial} \\ \hline \text{Breween contacts and coil} \\ \hline \text{Between contact and coil} \\ \hline \text{Between contact and coil} \\ \hline \text{Initial} \\ \hline \text{Initial} \\ \hline \text{Temperature rise (coil)} (at70^{\circ} C 158^{\circ} F) \\ \hline \text{Max. 40^{\circ} C (By resistive method, nominal voltage applied to the coil; max. switching current) \\ \hline \text{Operate time [Set time] (at 20^{\circ} C 168^{\circ} F) \\ \hline \text{Max. 10 ms [10 ms] (Nominal coil voltage applied to the coil, excluding contact bounce time.) \\ \hline \text{Warta the resistance} \\ \hline \text{Release time [Reset time] (at 20^{\circ} C 68^{\circ} F) \\ \hline \text{Max. 8 ms [10 ms] (Nominal coil voltage applied to the coil, excluding contact bounce time.) \\ \hline \text{With ation resistance} \\ \hline \text{Destructive} \\ \hline \text{Destructive} \\ \hline \text{Destructive} \\ \hline \text{Destructive} \\ \hline \text{Inticonal } \\ \hline \text{Destructive} \\ \hline \text{Min. 98 m/s^{\circ} (Half-wave pulse of sine wave: 11 ms; detection time: 10 \mus.) \\ \hline \text{Destructive} \\ \hline \text{Destructive} \\ \hline \text{Destructive} \\ \hline \text{Min. 2x-10^{\circ}: 1 Form A inductive load (at 20 times/min.) \\ \hline \text{Min. 2x-10^{\circ}: 1 Form A inductive load (at 20 times/min.) \\ \hline \text{Inticol al mes/min.} (at rated load); \\ \hline \text{Min. 10^{\circ}: 1 Form A resistive load, 1 Form A 1 Form B resistiv$		Max. switching currer	nt	10 A	8 A		
Nominal operating power 200 mW Insulation resistance (Initial) Min. 1,000MΩ (at 500V DC) Measurement at same location as "Breakdown voltage" section. Breakdown voltage Between open contacts 1,0000 Vrms for 1 min. (Detection current: 10 mA) (Initial) Between open contacts 1,0000 Vrms for 1 min. (Detection current: 10 mA) (Initial) Between contact and coil 4,000 Vrms for 1 min. (Detection current: 10 mA) (Initial) Between contact and coil 10,000 V Temperature rise (coil) (at70°C 158°F) Max. 40°C (By resistive method, nominal voltage applied to the coil, excluding contact bounce time.) Operate time [Set iiii] (at 20°C 68°F) Max. 10 ms [10 ms] (Nominal coil voltage applied to the coil, excluding contact bounce time.) Mechanical characteristics Functional Min. 98 m/s² (Half-wave pulse of sine wave: 11 ms; detection time: 10µs.) Mechanical characteristics Functional Min. 98 m/s² (Half-wave pulse of sine wave: 6 ms.) Vibration resistance Functional Min. 98 m/s² (Half-wave pulse of sine wave: 6 ms.) Characteristics Functional Min. 98 m/s² (Half-wave pulse of sine wave: 6 ms.) Ketanical Functional Min. 98 m/s² (Half-wave pulse of sine wave: 6 ms.) Characteristics		Min. switching capac	ity (Reference value)*1	5V 10)mA		
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 1 min. (Detection current: 10 mA) Between open contact and coil 4,000 Vrms for 1 min. (Detection current: 10 mA) Surge breakdown voltage*: (Initial) Between contact and coil 10,000 V Temperature rise (coil) (at70°C 158°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 [10 ms] (Nominal coil voltage applied to the coil, excluding contact bounce time.) (without diode) Mechanical characteristics Shock resistance Functional Min. 98 m/s² (Half-wave pulse of sine wave: 11 ms; detection time: 10µs.) Destructive Min. 98 m/s² (Half-wave pulse of sine wave: 6 ms.) Etectrical Vibration resistance Functional 10 to 55 Hz at double amplitude of 3 mm Expected life Mechanical Min. 2×10°: 1 Form A resistive load, 1 Form A 1 Form B F; Humidity: 5 to 85% R.H. (Not freezing and con		Nominal operating po	ower	200	mW		
$ \begin{array}{ c c c c } \hline \mbox{Hermitian} \\ \hline Hermit$		Insulation resistance	(Initial)	Min. 1,000M Ω (at 500V DC) Measurement at same location as "Breakdown voltage" section.			
Initial Between contact and coil 4,000 Vrms for 1 min. (Detection current: 10 mA) Electrical characteristics Surge breakdown voltage*2 (Initial) Between contact and coil 10,000 V Temperature rise (coil) (at70°C 158°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 [10 ms] (Nominal coil voltage applied to the coil, excluding contact bounce time.) Release time [Reset time] (at 20°C 68°F) Max. 8 ms [10 ms] (Nominal coil voltage applied to the coil, excluding contact bounce time.) Mechanical characteristics Shock resistance Functional Min. 98 m/s² (Half-wave pulse of sine wave: 11 ms; detection time: 10µs.) Mechanical characteristics Shock resistance Functional 10 to 55 Hz at double amplitude of 3 mm Expected life Mechanical Electrical Min. 2×10 ^s : 1 Form A inductive load (at 20 times/min.) Min. 2×10 ^s : 1 Form A resistive load, 1 Form B resistive load, 1 Form A 1		Breakdown voltage (Initial)	Between open contacts	1,000 Vrms for 1 min. (Detection current: 10 mA)			
Electrical characteristics Surge breakdown voltage*2 (Initial) Between contact and coil 10,000 V Temperature rise (coil) (at70°C 158°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 [10 ms] (Nominal coil voltage applied to the coil, excluding contact bounce time.) (without diode) Mechanical characteristics Functional Min. 98 m/s² (Half-wave pulse of sine wave: 11 ms; detection time: 10µs.) (without diode) Mechanical characteristics Functional Min. 98 m/s² (Half-wave pulse of sine wave: 6 ms.) (without diode) Mechanical characteristics Functional Min. 98 m/s² (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.) Mechanical characteristics Functional 10 to 55 Hz at double amplitude of 3 mm Mechanical characteristics Functional 10 to 55 Hz at double amplitude of 3 mm Expected life Mechanical Electrical Min. 2x10°: 1 Form A inductive load (at 20 times/min.) (at rated load); Min. 10°: 1 Form A resistive load, 1 Form A 1 Form B inductive load (at 20 times/min.) (at rated load); Min. 10°: 1 Form A resistive load, 1 Form A 1 Form B inductive load (at 20 times/min.) (at rated load); Min. 2x0°: 1 Form A resistive load, 1 Form A 1 Form B inductive load (at 20 times/min.) (at rated load); M			Between contact and coil	4,000 Vrms for 1 min. (Detection current: 10 mA)			
Temperature rise (coil) (at70°C 158°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 [10 ms] (Nominal coil voltage applied to the coil, excluding contact bounce time.) Release time [Reset time] (at 20°C 68°F) Max. 8 ms [10 ms] (Nominal coil voltage applied to the coil, excluding contact bounce time.) Mechanical characteristics Functional Min. 98 m/s² (Half-wave pulse of sine wave: 11 ms; detection time: 10µs.) Mechanical characteristics Functional Min. 98 m/s² (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.) Mechanical characteristics Mechanical Min. 2×10°: 1 Form A inductive load (at 20 times/min.) Expected life Electrical Min. 2×10°: 1 Form A resistive load, 1 Form A 1 Form B inductive load (at 20 times/min.) (at rated load); Min. 10°: 1 Form A resistive load (at 20 times/min.) (at rated load) Min. 10°: 1 Form A resistive load (at 20 times/min.) (at rated load); Monotions Conditions for operation, transport and storage*3 Ambient temperature: -40°C to +70°C -40°F to +158°F; Humidity: 5 to 85% R.H. (Not freezing and condensing at low temperature) 20 times/min. Unit weight Vibration segle (at rated load) 20 times/min.	Electrical	Surge breakdown voltage*2 (Initial)	Between contact and coil	10,000 V			
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. 8 ms [10 ms] (Nominal coil voltage applied to the coil, excluding contact bounce time.) (without diode) Mechanical characteristics Functional Min. 98 m/s² (Half-wave pulse of sine wave: 11 ms; detection time: 10µs.) Mechanical characteristics Functional Min. 98 m/s² (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.) Mechanical characteristics Mechanical Functional 10 to 55 Hz at double amplitude of 3 mm Mechanical chira Functional Min. 2×10°: 1 Form A inductive load (at 20 times/min.) (at rated load); Min. 10°: 1 Form A resistive load,1 Form A 1 Form B resistive load,1 Form A 1 Form B Functional Form B resistive load,1 Form A 1 Form B Conditions Conditions for operation, transport and storage*3 Ambient temperature: -40°C to +70°C -40°F to +158°F; Humidity: 5 to 85% R.H. (Not freezing and condensing at low temperature) 20 times/min.) Unit weight Interded load) Approx. 6g .210z	Characteristics	Temperature rise (coil) (at70°C 158°F)		Max. 40°C (By resistive method, nominal volta	ge applied to the coil; max. switching current)		
Release time [Reset time] (at 20°C 68°F) Max. 8 ms [10 ms] (Nominal coil voltage applied to the coil, excluding contact bounce time.) (without diode) Mechanical characteristics Shock resistance Functional Min. 98 m/s² (Half-wave pulse of sine wave: 11 ms; detection time: 10µs.) Mechanical characteristics Shock resistance Functional Min. 98 m/s² (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.) Mechanical Mechanical 10 to 55 Hz at double amplitude of 3 mm Expected life Mechanical Min. 2×10°: 1 Form A inductive load (at 20 times/min.) Expected life Electrical Min. 10°: 1 Form A resistive load, 1 Form A 1 Form B inductive load (at 20 times/min.) (at rated load) Conditions for operation, transport and storage*3 Ambient temperature: -40°C to +70°C -40°F to +158°F; Humidity: 5 to 85% R.H. (Not freezing and condensing at low temperature) Unit weight Interventional 20 times/min.		Operate time [Set time] (at 20°C 68°F)		Max. 10 ms [10 ms] (Nominal coil voltage appli	ed to the coil, excluding contact bounce time.)		
Mechanical characteristics Functional Min. 98 m/s² (Half-wave pulse of sine wave: 11 ms; detection time: 10µs.) Mechanical characteristics Testicative Min. 980 m/s² (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.) Mechanical Destructive 10 to 55 Hz at double amplitude of 3 mm Mechanical Min. 5×107 (at 300 times/min.) Expected life Electrical Electrical Min. 10 ⁵ : 1 Form A inductive load (at 20 times/min.) (at rated load); Min. 10 ⁵ : 1 Form A resistive load, 1 Form A 1 Form B resistive load, 1 Form A 1 Form B inductive load (at 20 times/min.) (at rated load) Conditions for operation, transport and storage*3 Ambient temperature: -40°C to +70°C -40°F to +158°F; Humidity: 5 to 85% R.H. (Not freezing and condensing at low temperature) Unit weight Iterestical 20 times/min.		Release time [Reset time] (at 20°C 68°F)		Max. 8 ms [10 ms] (Nominal coil voltage applie (without	Max. 8 ms [10 ms] (Nominal coil voltage applied to the coil, excluding contact bounce time.) (without diode)		
Mechanical characteristics Shock resistance Destructive Min. 980 m/s² (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.) Expected life Mechanical Min. 5×107 (at 300 times/min.) Expected life Electrical Min. 2×10 ⁵ : 1 Form A inductive load (at 20 times/min.) (at rated load); Min. 10 ⁵ : 1 Form A resistive load, 1 Form A 1 Form B resistive load, 1 Form A 1 Form B inductive load (at 20 times/min.) (at rated load) Conditions Conditions for operation, transport and storage*3 Ambient temperature: -40°C to +70°C -40°F to +158°F; Humidity: 5 to 85% R.H. (Not freezing and condensing at low temperature) Unit weight Approx. 6g .21oz		Shock registance	Functional	Min. 98 m/s ² (Half-wave pulse of sine wave: 11 ms; detection time: 10µs.)			
Endersities 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 times/min.) Electrical Min. 2×10 ⁵ : 1 Form A inductive load (at 20 times/min.) (at rated load); Min. 10 ⁵ : 1 Form A resistive load, 1 Form A 1 Form B resistive load, 20 times/min.) (at rated load) Conditions for operation, transport and storage*3 Ambient temperature: -40°C to +70°C -40°F to +158°F; Humidity: 5 to 85% R.H. (Not freezing and condensing at low temperature) Unit weight 20 times/min.	Mechanical	Shock resistance	Destructive	Min. 980 m/s ² (Half-wave pulse of sine wave: 6 ms.)			
Modalion resistance Destructive 10 to 55 Hz at double amplitude of 3 mm Expected life Mechanical Min. 5×107 (at 300 times/min.) Electrical Min. 2×105: 1 Form A inductive load (at 20 times/min.) (at rated load); Min. 10 ⁵ : 1 Form A resistive load, 1 Form A 1 Form B resistive load, 1 Form A 1 Form B inductive load (at 20 times/min.) (at rated load) Conditions Conditions for operation, transport and storage*3 Ambient temperature: -40°C to +70°C -40°F to +158°F; Humidity: 5 to 85% R.H. (Not freezing and condensing at low temperature) Unit weight Approx. 6g .21oz	characteristics	Vibration registance	Functional	10 to 55 Hz at double amplitude of 1.5 mm (Detection time: 10µs.)			
Mechanical Min. 5x10 ⁷ (at 300 times/min.) Expected life Image: State of the sta		VIDIALION TESISLANCE	Destructive	10 to 55 Hz at double	e amplitude of 3 mm		
Expected life Min. 2×105: 1 Form A inductive load (at 20 times/min.) (at rated load); Min. 105: 1 Form A resistive load, 1 Form A 1 Form B Conditions Conditions for operation, transport and storage*3 Max. operating speed (at rated load) Ambient temperature: -40°C to +70°C -40°F to +158°F; Humidity: 5 to 85% R.H. (Not freezing and condensing at low temperature) Unit weight Approx. 6g .21oz		Mechanical		Min. 5×107 (at 300 times/min.)			
Conditions Conditions for operation, transport and storage*3 Ambient temperature: -40°C to +70°C -40°F to +158°F; Humidity: 5 to 85% R.H. (Not freezing and condensing at low temperature) Max. operating speed (at rated load) 20 times/min. Unit weight Approx. 6g .21oz	Expected life	Electrical		Min. 2×10 ⁵ : 1 Form A inductive load (at 20 times/min.) (at rated load); Min. 10 ⁵ : 1 Form A resistive load,1 Form A 1 Form B resistive load,1 Form A 1 Form B inductive load (at 20 times/min.) (at rated load)			
Max. operating speed (at rated load) 20 times/min. Unit weight Approx. 6g .21oz	Conditions	Conditions for operation, transport and storage*3		Ambient temperature: -40°C to +70°C -40°F to +158°F; Humidity: 5 to 85% R.H. (Not freezing and condensing at low temperature)			
Unit weight Approx. 6g .21oz		Max. operating speed	d (at rated load)	20 times/min.			
	Unit weight	Approx. 6g .21oz			6g .21oz		

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.

REFERENCE DATA

1-(1). Maximum switching capacity (1 Form A) Tested sample: ADY10024



2-(2). Coil temperature rise (1 Form A 1 Form B) Tested sample: ADY30024, 6 pcs. Ambient temperature: 20°C, 68°F



1-(2). Maximum switching capacity (1 Form A 1 Form B) Tested sample: ADY30024



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

Tested sample: ADY10024, 6 pcs.

Ambient temperature: -40°C to 70°C -40°F to 158°F



2-(1). Coil temperature rise (1 Form A) Tested sample: ADY10024, 6 pcs. Ambient temperature: 20°C, 68°F



3-(2). Ambient temperature characteristics (1 Form A 1 Form B) Tested sample: ADY30024, 6 pcs.

Ambient temperature: -40°C to 70°C -40°F to 158°F



The CAD data of the products with a CAD Data mark can be downloaded from: http://industrial.panasonic.com/ac/e



Schematic (BOTTOM VIEW) Single side stable



(Deenergized condition)

2 coil latching type



(Reset condition)

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

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2.1 Form A 1 Form B type



External dimensions Single side stable type

10.16

2 coil latching type

20

7.62

7.62



Single side stable type

1.11 2.42

0.8

1.11

-7.62 -

3.5

2.42

10.16

15

10.16

General tolerance: ±0.3 ±.012

0.4

.016





2 coil latching type



Schematic (BOTTOM VIEW) Single side stable

DY (ADY1, 3)



(Deenergized condition)

2 coil latching type



(Reset condition)

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

SAFETY STANDARDS

9.7

0.3

14	UL/C-UL (Recognized)			CSA (Certified)	TÜV (Certified)	
item	File No.	Contact rating File No. Contact rating		File No.	Rating	
1 Form A	E43028	10A 250V AC 1/3HP 125, 250V AC 10A 30V DC	LR26550 etc.	10A 250V AC ¼HP 125, 250V AC 10A 30V DC	B 04 06 13461 038	10A 250V AC (cos <i>φ</i> =1.0) 10A 30V DC (0ms)
1 Form A 1 Form B	E43028	8A 250V AC 1/4HP 125, 250V AC 8A 30V DC	LR26550 etc.	8A 250V AC ¼HP 125, 250V AC 8A 30V DC	B 04 06 13461 038	8A 250V AC (cos <i>φ</i> =1.0) 8A 30V DC (0ms)

NOTES

1. Soldering should be done under the following conditions: 250°C 482°F within 10s 300°C 572°F within 5s

350°C 662°F within 3s Soldering depth: 2/3 terminal pitch

2. External magnetic field

Since DY relays are highly sensitive polarized relays, their characteristics will be affected by a strong external magnetic field. Avoid using the relay under that condition.

For Cautions for Use.

3. When using, please be aware that the A contact and B contact sides of 1 Form A and 1 Form B types may go on simultaneously at operate time and release time.



ACCESSORIES



FEATURES

DY relay sockets that can be used also for DK relay.

TYPES

Туре	Part No.						
1 Form A	Single side stable	DK1a-PS					
T FOITH A	2 coil latching	DK1a-PSL2					
	Single side stable	DK2a-PS					
I FOULA I FOUD B	2 coil latching	DK2a-PSL2					
Oten developed in a children Ocentera FO and Concert FOO and							

Standard packing: Carton: 50 pcs.; Case: 500 pcs

SPECIFICATIONS

Item Specifications Breakdown voltage 4,000 Vrms (Detection current: 10 mA) (Except the portion between coil terminals) Insulation resistance Min. 1,000 mΩ (at 500 V DC) Heat resistance 150°C (for 1 hour) Max. continuous current 10 A (DK1a-PS, DK1a-PSL2), 8 A (DK2a-PS, DK2a-PSL2)		
Breakdown voltage 4,000 Vrms (Detection current: 10 mA) (Except the portion between coil terminals) Insulation resistance Min. 1,000 mΩ (at 500 V DC) Heat resistance 150°C (for 1 hour) Max. continuous current 10 A (DK1a-PS, DK1a-PSL2), 8 A (DK2a-PS, DK2a-PSL2)	Item	Specifications
Insulation resistance Min. 1,000 mΩ (at 500 V DC) Heat resistance 150°C (for 1 hour) Max. continuous current 10 A (DK1a-PS, DK1a-PSL2), 8 A (DK2a-PS, DK2a-PSL2)	Breakdown voltage	4,000 Vrms (Detection current: 10 mA) (Except the portion between coil terminals)
Heat resistance 150°C (for 1 hour) Max. continuous 10 A (DK1a-PS, DK1a-PSL2), current 8 A (DK2a-PS, DK2a-PSL2)	Insulation resistance	Min. 1,000 mΩ (at 500 V DC)
Max. continuous 10 A (DK1a-PS, DK1a-PSL2), current 8 A (DK2a-PS, DK2a-PSL2)	Heat resistance	150°C (for 1 hour)
	Max. continuous current	10 A (DK1a-PS, DK1a-PSL2), 8 A (DK2a-PS, DK2a-PSL2)

The CAD data of the products with a CAD Data mark can be downloaded from: http://industrial.panasonic.com/ac/e

DIMENSIONS (mm inch) CAD Data External dimensions

Relay



PC board pattern (Bottom view)



The above shows 2 coil latching type. No.2 and 5 terminal are eliminated on single side stable type.

1 Form A 1 Form B



Tolerance: $\pm 0.1 \pm .004$

The above shows 2 coil latching type. No.2 and 7 terminal are eliminated on single side stable type.

FIXING AND REMOVAL METHOD

General tolerance: ±0.3 ±.012

1. Match the direction of relay and socket.



2. Both ends of the relay are to be secured firmly so that the socket hooks on the top surface of the relay.



3. Remove the relay, applying force in the direction shown below.



4. In case there is not enough space to grasp relay with fingers, use screwdrivers in the way shown below.



Notes: 1. Exercise care when removing relays. If greater than necessary force is applied at the socket hooks, deformation may alter the dimensions so that the hook will no longer catch, and other damage may also occur. 2. It is hazardous to use IC chip sockets.

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RELAY COMPATIBILITY Socket

RoHS compliant

Socket		1 Form A		1 Form A 1 Form B	
Relay		Single side stable type	2 coil latching type	Single side stable type	2 coil latching type
1 Form A	Single side stable type	•	•	_	_
I FUIII A	2 coil latching type	_	•	_	_
1 Farm A 1 Farm D	Single side stable type	—	—	•	•
	2 coil latching type	—	—	—	•