

G6DN

PCB Power Relay

SPST Slim Power Relay for 5 A switching

- Slim 5-mm width and miniature size. (20 × 5.08 × 12.5 mm)
- High switching capability 5 A (250 VAC and 30 VDC), and high contact reliability by crossbar-twin contact.
- Low power consumption 110 mW.
- Meets application standards EN61010-1 and EN61010-2-201 for reinforced insulation (CTI 600 V min. and Rated insulation voltage 300 V).
- Actualize electrical durability 100 Kops (-L type)



Model Number Legend

G6DN-□□□-□
1 2 3 4

1. Number of Poles

1: 1-pole

2. Contact Form

A: SPST-NO (1a)

3. Enclosure Rating

None: Fully sealed

4. Classification

None: Standard (E-LIFE 80 Kops)

L: High durability type (E-LIFE 100 Kops)

SL: General purpose

Application Examples

- Programmable Controller output
- Temperature Controller
- Building Automation
- Output of control system

Ordering Information

Classification	Contact form	Enclosure rating	Terminal shapes	Model	Minimum packing unit
Standard	SPST-NO (1a)	Fully sealed	PCB terminal	G6DN-1A	25 pcs/ tube
High durability				G6DN-1A-L	
General purpose				G6DN-1A-SL	100pcs/tray

Note. When ordering, add the rated coil voltage to the model number.

Example: G6DN-1A DC5

Rated coil voltage

However, the notation of the coil voltage on the product case as well as on the packaging will be marked as □□ VDC.

Example: G6DN-1A 5VDC

Ratings

Coil

Classification	Rated voltage	Rated current (mA)	Coil resistance (Ω)	Must operate voltage (V)	Must release voltage (V)	Max. voltage (V)	Power consumption (mW)
				% of rated voltage			
Standard	4.5 VDC	24.4	184	70% max. *	5% min.	160%	Approx. 110
	5 VDC	22.0	227				
	12 VDC	9.2	1,309				
	24 VDC	4.6	5,236				
High durability	5 VDC	36.0	139				
	12 VDC	15.0	800				
	24 VDC	7.5	3,200				Approx. 180
General purpose	5 VDC	22.0	227				
	12 VDC	9.2	1,309				
	24 VDC	4.6	5,236	Approx. 110			

Note. The rated current and resistance are measured at a coil temperature of 23°C with a tolerance of ±10%.

* Operating voltage is less than 72% when the relay is sideways and the marking is right way.

Contacts

	Resistive load	Inductive load (cos φ = 0.4, L/R = 7 ms)
Contact Type	Cross bar twin	
Contact material	Ag-Alloy and Au plating *	
Rated load	5 A at 250 VAC 5 A at 30 VDC	2 A at 250 VAC 2 A at 30 VDC
Rated carry current	5 A	
Max. switching voltage	277 VAC, 125 VDC	
Max. switching current	5 A	

* Au plating is applied to stationary contact.

■ Characteristics

		Standard	High durability	General purpose
Contact resistance		100 mΩ max.		
Operate time		10 ms max.		
Release time		5 ms max.		
Insulation resistance		1,000 MΩ min. (at 500 VDC)		
Dielectric strength	Between coil and contacts	3,000 VAC, 50/60 Hz for 1 min		
	Between contacts of the same polarity	750 VAC, 50/60 Hz for 1 min		
Surge withstand voltage	Between coil and contacts	6 kV (1.2 × 50 μs)		
Vibration resistance	Destruction	10 to 55 to 10 Hz, 2.5 mm single amplitude (5.0 mm double amplitude)		
	Malfunction	10 to 55 to 10 Hz, 0.75 mm single amplitude (1.5 mm double amplitude)		
Shock resistance	Destruction	1,000 m/s ²		
	Malfunction	100 m/s ²		
Durability	Mechanical	20,000,000 operations min. (at 18,000 operations/hr)		
	Electrical	100,000 operations min. (3 A at 250 VAC, 3 A at 30 VDC Resistive load) 80,000 operations min. (5 A at 250 VAC, 5 A at 30 VDC Resistive load) 100,000 operations min. (2 A at 250 VAC, 2 A at 30 VDC Inductive load)	100,000 operations min. (5 A at 250 VAC, Resistive load) 100,000 operations min. (5 A at 30 VDC, Resistive load) 200,000 operations min. (2 A at 250 VAC, Inductive load) 200,000 operations min. (2 A at 30 VDC, Inductive load)	50,000 operations min. (5 A at 250 VAC, Resistive load) 50,000 operations min. (5 A at 30 VDC, Resistive load) 100,000 operations min. (2 A at 250 VAC, Inductive load) 100,000 operations min. (2 A at 30 VDC, Inductive load)
Failure rate (P level) (reference value) *		0.1 mA at 0.1 VDC		
Ambient temperature	Operating	-40°C to +90°C (with no icing or condensation)		
Humidity		5% RH to 85% RH		
Weight		Approx. 3 g		

Note 1. Values in the above table are initial values.

Note 2. The contact resistance is measured with 1 A applied at 5 VDC using a fall-of-potential method.

Note 3. The insulation resistance is measured between coil and contacts and between contacts of the same polarity at 500 VDC.

* This value was measured at a switching frequency of 120 operations/min.