G5PZ
PCB Power Relay

Compact 20 A Power Relay

- 10.5 mm (W) slim size and 1 pole 16 A/20 A switching capability
- High sensitivity of 530 mW coil consumption and further saving energy with holding voltage 50%
- Min. 6.4 mm of insulation distance and 10 kV impulse withstand voltage (between coil and contacts)
- IEC60664-1 Reinforced insulation conformed

RoHS Compliant

■Model Number Legend

G5PZ-□□□-□
1 2 3 4

1. **Number of Poles**
   1 : 1-pole
2. **Contact Form**
   A : SPST-NO (1a)
3. **Enclosure rating**
   None : Flux protection
4. **Classification**
   None : Standard
   E : High-capacity

■Application Examples

- Air conditioners
- Home appliances
- OA equipments
- Industrial machinery

■Ordering Information

Classification	Contact form	Enclosure rating	Model	Rated coil voltage	Minimum packing unit
Standard	SPST-NO (1a)	Flux protection	G5PZ-1A	5 VDC 12 VDC 24 VDC	100 pcs. / Tray
High-capacity			G5PZ-1A-E		

Note 1. When ordering, add the rated coil voltage to the model number.
Example: G5PZ-1A DC12
Rated coil voltage
However, the notation of the coil voltage on the product case as well as on the packing will be marked as □□VDC.

■Ratings

●Coil

Item / 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			
5 VDC	106	47	75% max.	10% min.	140% (at 23°C)	Approx. 530
12 VDC	44.1	272				
24 VDC	22.1	1087				

Note 1. The rated current and coil resistance are measured at a coil temperature of 23°C with a tolerance of ±10%.
Note 2. The operating characteristics are measured at a coil temperature of 23°C.
Note 3. The “Max. voltage” is the maximum voltage that can be applied to the relay coil.

●Contacts

Classification	Standard	High-capacity
Model	G5PZ-1A	G5PZ-1A-E
Item / Load	Resistive load	
Contact type	Single	
Contact material	Ag-alloy (Cd free)	
Rated load	16 A at 250 VAC	20 A at 250 VAC
Rated carry current	16 A	20 A
Max. switching voltage	250 VAC	
Max. switching current	16 A	20 A

■Characteristics

Item \ Classification		Standard	High-capacity
Item \ Model		G5PZ-1A	G5PZ-1A-E
Contact resistance *1		100 mΩ max.	
Operate time		15 ms max.	
Release time		5 ms max.	
Insulation resistance *2		1,000 MΩ min.	
Dielectric strength	Between coil and contacts	4,000 VAC 50/60 Hz 1 min	
	Between contacts of the same polarity	1,000 VAC 50/60 Hz 1 min	
Impulse withstand voltage	Between coil and contacts	10 kV (1.2 x 50 μs)	
Vibration resistance	Destruction	10 to 55 to 10 Hz, 0.75 mm single amplitude (1.5 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/s²	
	Malfunction	200 m/s²	
Durability	Mechanical	2,000,000 operations min.	
	Electrical (resistive load)	100,000 operations at 250 VAC, 16 A	50,000 operations at 250 VAC, 20 A
Failure rate (P level) (reference value) *3		5 VDC 100 mA	
Ambient operating temperature		-40 to 70°C (with no icing or condensation)	
Ambient operating humidity		5 to 85%	
Weight		Approx. 10.5 g	

Note. Values in the above table are the initial values at 23°C.
*1. Measurement conditions: 5 VDC, 1 A, voltage drop method
*2. Measurement conditions: Measured at the same points as the dielectric strength using a 500 VDC ohmmeter.
*3. This value was measured at a switching frequency of 120 operations/min.

■Actual Load Life (Reference Values)

1. **250 VAC** Inverter load (Standard)
   Inrush: 240 A (0-P, Rise Time 3 ms or more), Current 16 A, Cut off current 0 A
   50,000 operations min. (at 23°C)
2. **250 VAC** Inverter load (High-capacity)
   Inrush: 240 A (0-P, Rise Time 3 ms or more), Current 20 A, Cut off current 0 A
   50,000 operations min. (at 23°C)