DG31 Series
Miniature PCB Power Relay



- Miniature - only 19.5 x 15.5 x 16mm
- 12A @ 120VAC / 10A @ 250VAC
- Cost effective

E325835 ROHS Compliant

Contacts

Contact arrangement		SPST-NO (1 Form A); SPDT (1 Form C)
Contact material		$AgSnO_2$ (standard), AgNi0.15
Max. switching voltage	AC/DC	250VAC, 28VDC
Min. switching current / voltage		100mA / 12VDC
Rated load	$AgSnO_2$	10A / 250VAC; 12A / 120VAC; 10A / 28VDC
	AgNi0.15	5A / 250VAC, 5A / 28VDC
Max. continuous current		12A
Max. switching current		12A
Max. switching power		2500VA / 280W
Initial resistance		<50mΩ at 0.1A/6VDC

Coil

Rated voltage	DC	3...48V
Must release voltage		≥0.1Un
Operating range		See table 1
Rated power consumption	DC	360mW

Insulation

Insulation resistance		100MΩ at 500VDC, 50%RH
Insulation category (creepage resistance)		CTI250
UL Insulation system		Class F (standard)
Dielectric strength	coil to contact	1800Vrms, 1min
	contact to contact	1100Vrms, 1min

General Data

Operating time	typ.	10ms
Release time	typ.	5ms
Electrical life	ops.	1 x 10^5
Mechanical life	ops.	1 x 10^7

Environmental

Ambient temperature	operating	-40 to +85°C
	storage	-40 to +85°C
Shock resistance	functional	10g 11ms
	destructive	100g
Vibration resistance		DA 1.5mm 10-55Hz
Dimensions	L x W x H	19.5 x 15.5 x 16mm
Weight	approx.	10g approx.

Ordering Code

D G 3 1 - 3 0 1 1 - 3 5 - 1 0 1 2

Series

Contact material
30: $AgSnO_2$
80: AgNi0.15

Contact arrangement
11: SPDT (1C/O, 1 form C)
21: SPST-NO

Environmental protection
2: In cover , flux tight - IP40
3: In cover, sealed - IP67

Mounting & terminations
5: For PCB

Coil code:
See table 1

** Standard options are in* **bold.**

Specifications are subject to change without notice. E&OE.

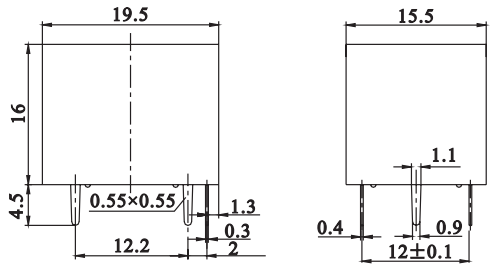
Coil Data

Table 1

Coil code	Nominal voltage (VDC)	Coil resistance Ω ±10%	Must operate voltage max. (VDC)	Must release voltage min. (VDC)	Max. allowable voltage (VDC)
1003	3	25	2.25	0.15	3.9
1005	5	69	3.75	0.25	6.5
1006	6	100	4.50	0.30	7.8
1009	9	225	6.75	0.45	11.7
1012	12	400	9.00	0.60	15.6
1024	24	1600	18.00	1.20	31.2
1048	48	6400	36.00	2.40	62.4

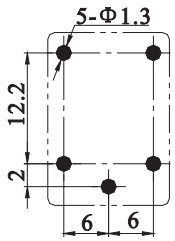
Dimensions mm

Fig. 1



PCB Mounting Dimensions mm

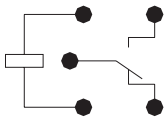
Fig. 2



Mounting Holes (Bottom View)

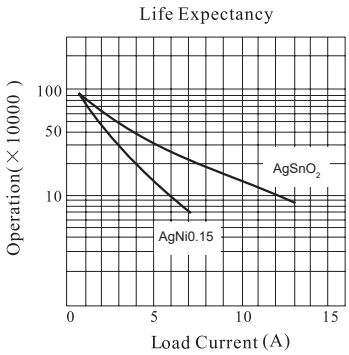
Wiring Diagrams (bottom view)

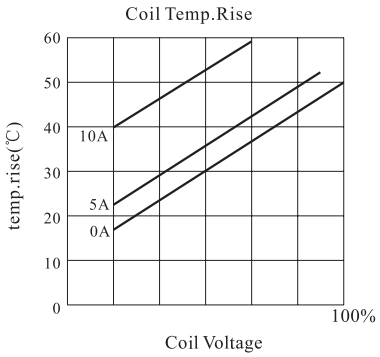
Fig. 3



Reference Curves

Fig. 4





Notes:
1: All parameters, unless otherwise specified, are measured at ambient temperature of 23℃.
2: Maximum make current refers to inrush current of motor load.
3: Electrical life is strongly dependent of switching frequency, On/Off ratio and environmental conditions.

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