DG31
miniature pcb power relay

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

c UL us

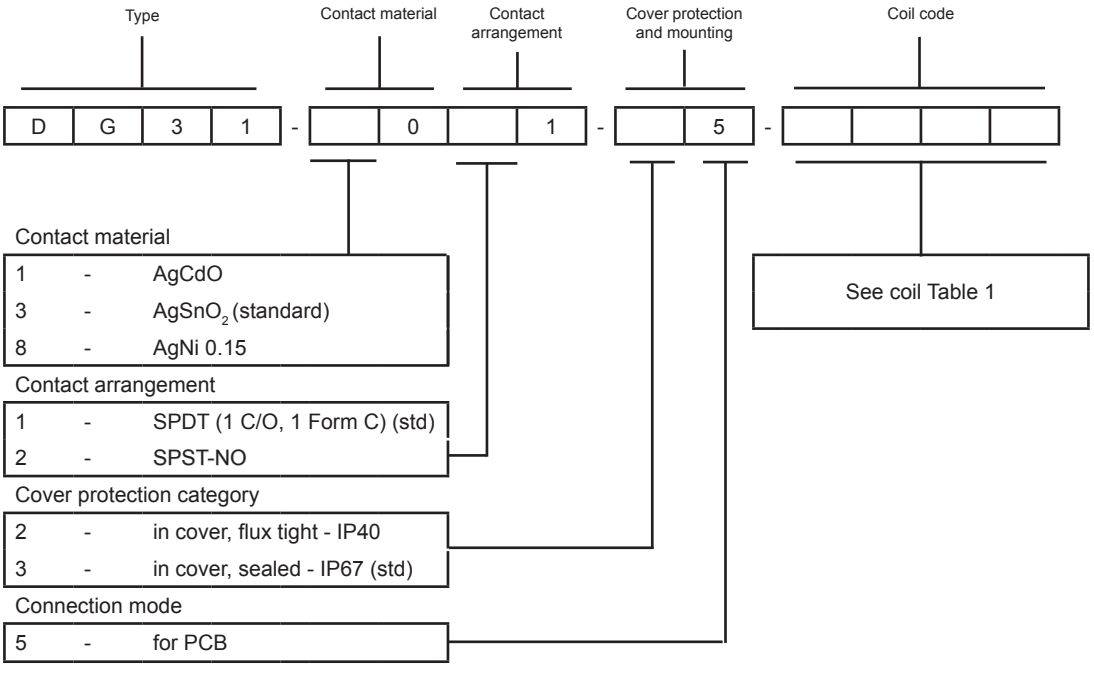
Contacts

Contact number & arrangement		SPST-NO (1 Form A); SPDT (1 Form C)
Contact material		$AgSnO_2$, AgCdO, AgNi0.15
Max. switching voltage	DC	28V
	AC	240V
Min. switching current / voltage		100mA / 12VDC
Rated load		$AgSnO_2$, AgCdO : 10A / 28VDC; 10A / 250VAC; 12A / 120VAC; : 7A / 250VAC, 10A / 28VDC UL AgNi0.15 : 5A /240VAC, 5A/28VDC
Max. continuous current		12A
Max. switching current	Make	12A
	Break	12A
Initial resistance		<100mΩ, max. at 0.1A/6VDC
Coil		
Rated voltage	DC	3...48V
Must release voltage		≥0.1Un
Operating range of supply voltage		See coil table 1
Rated power consumption	DC	360mW
Insulation		
Insulation resistance		100MΩ at 500VDC, 50%RH
Insulation Category (creepage resistance)		CTI250
Dielectric strength		
	coil to contact	1500Vrms, 1min
	contact to contact	750Vrms, 1min
General Data		
Operating time (typical)	mS	10
Release time (typical)	mS	5
Electrical Life	ops	1×10^5
Mechanical life	ops	1×10^7
Dimensions	L x W x H	19.5 x 15.5 x 16mm
Weight		10g approx.
Ambient temperature	storage	-40 to 85°C
	operating	-40 to 85°C
Shock resistance		Functional: 10g 11mS; Destructive: 100g
Vibration resistance		DA 1.5mm 10-55Hz

Coil Data — Table 1

Coil Voltage Code	Nominal Voltage (VDC)	Coil Resistance (Ω) ±10%	Must operate voltage max. (V DC)	Must release voltage min. (V DC)	Max. allowable voltage (V DC)
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

Ordering codes



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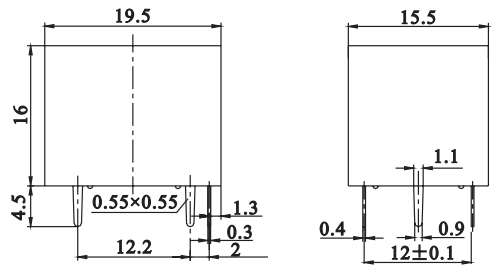
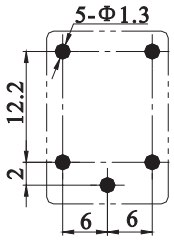
Overall Dimensions — Fig. 1

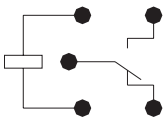


Dimensions in mm

PCB Mounting Dimensions — Fig. 2

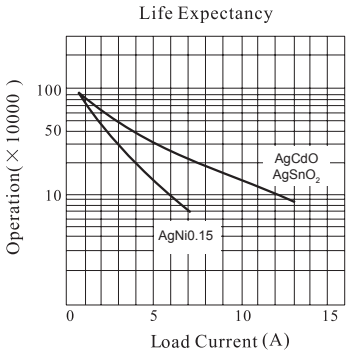


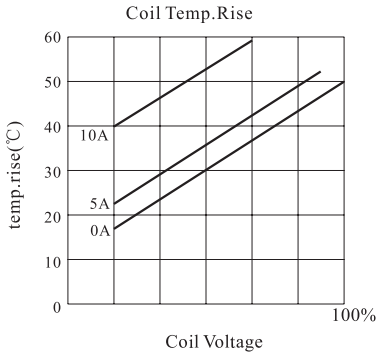
Mounting Holes (Bottom View)



Wiring Diagrams (Bottom View)

Reference Curves — Fig. 3





Notes:
1: All parameters, unless otherwise specified, are measured at ambient temperature of 23˚C.
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.