DG20 Series
Ultra Miniature Automotive PCB Relay

- Ultra miniature - only 12 x 12.9 x 9.9 mm
- Optimised for DC switching up to 30A
- Twin version available (DG27)
- High temp version for through hole reflow
- RoHS Compliant. IMDS listed

ROHS Compliant ✓

Contacts

Contact arrangement		SPST-NO (1 Form A), SPDT (1 Form C)		
Contact material		AgSnOInO, AgNi0.15		
Max. switching voltage	DC	16V		
		SPST-NO	SPDT	
			NO	NC
Max. continuous current	DC	30A @12VDC	30A @ 12VDC	25A @ 12VDC
Max switching current[2] (AgSnOInO)	make	50A	50A	25A
	break	30A	30A	25A
Min. switching current / voltage		AgNi0.15: 0.1A, 12VDC / AgSnOInO: 0.5A, 12VDC		
Initial contact resistance		≤100mΩ, max. at 0.1A, 6VDC		

Coil

Rated voltage	DC	10V, 12V
Must release voltage		≥0.1 (≥0.125 6VDC coil)
Operating range		See Table 1
Rated power consumption	DC	0.55W - see coil table 1

Insulation

Insulation resistance		100MΩ at 500VDC, 50%RH
Dielectric strength	coil to contact	500Vrms, 1min

General Data

Operating time	typ.	3ms
Release time	typ.	1.5ms
Electrical Life[3]	ops.	1 x 10^5
Mechanical life	ops.	1 x 10^7

Environmental

Ambient temperature	operating	-40 to +105°C
	storage	-40 to +155°C
Shock resistance		30g, 6ms
Vibration resistance		6g, 10Hz-500Hz
Dimensions	L x W x H	12.9 x 12 x 9.9mm
Weight	approx.	4g
Packing		Plastic tube, 25 relays per tube.

Ordering Code

D G 2 0 B - 7 0 2 1 - 2 5 - 1 0 1 2

Series
Blank: Standard
B: High temp. reflow suitable (contact factory)

Contact material
70: AgSnOInO
80: AgNi0.15

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

Environmental protection
2: Flux free
3: Fully sealed to IP67 (DG20B is vented on top of case, but flux sealed around terminals.)

Mounting & terminations
5: PCB Mounting

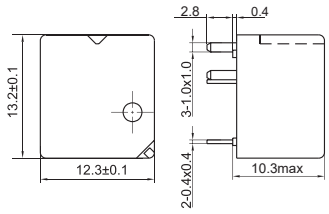
Coil code:
See table 1

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 overdrive * VDC (23°C)
1010	10	181	5.7	1.00	22.0
1012	12	254	6.9	1.20	26.0

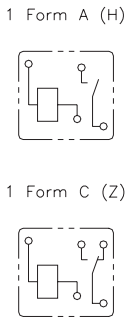
* Above 85°C, maximum allowable voltage should be reduced to 72%

Overall Dimensions Fig. 1

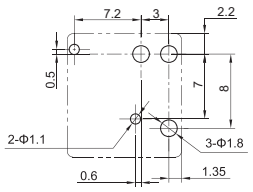


Dimensions in mm

PCB Mounting Dimensions and Schematic Fig. 2



Wiring Diagrams (Bottom View)



Mounting Holes (Bottom View)

Dimensions in mm

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.