

DG20

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. IDMS listed

Contacts

Contact number & arrangement	SPST-NO (1 Form A), SPDT (1 Form C)			
Contact material	AgSnOInO, AgNi0.15			
Max. switching voltage	DC	16V		
		SPST-NO	SPDT	
			Normally Open	Normally Closed
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	6V, 10V, 12V
Must release voltage	≥0.1 (≥0.125 6VDC coil)	
Operating range of supply voltage	See coil 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 (typical)	ms	3
Release time (typical)	ms	1.5
Electrical Life ³	ops	1 x 10 ⁵
Mechanical life	ops	1 x 10 ⁷
Dimensions	L x W x H	12.9 x 12 x 9.9mm
Weight	4g approx.	
Packing	Plastic tube, 25 relays per tube.	
Ambient temperature	storage	-40 to 155°C
	operating	-40 to 105°C
Shock resistance	30g, 6ms	
Vibration resistance	6g, 10Hz-500Hz	



DG20

ultra miniature automotive pcb relay



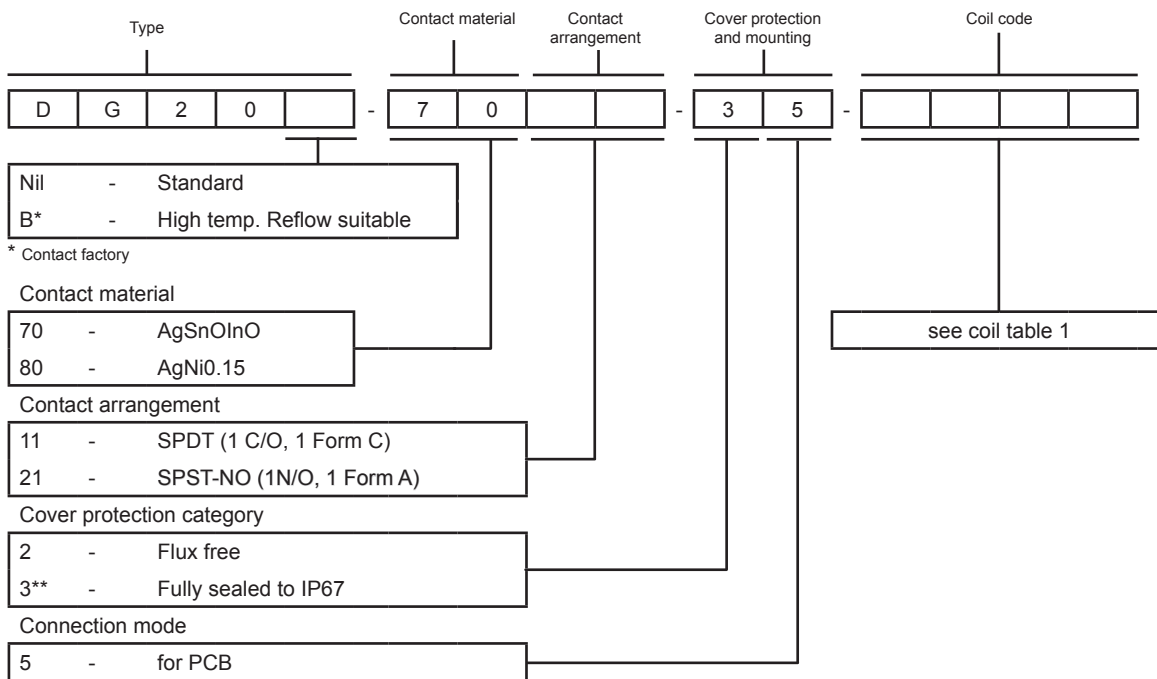
Coil Data

Table 1

Coil Voltage Code	Nominal Voltage (V DC)	Coil Resistance (Ω) $\pm 10\%$	Must operate voltage max. (V DC)	Must release voltage min. (V DC)	Max allowable Overdrive * V DC (23°C)
Standard Coil (0.55W)					(Contact factory for 0.8W coil)
1006	6	64	3.5	0.75	13.2
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%

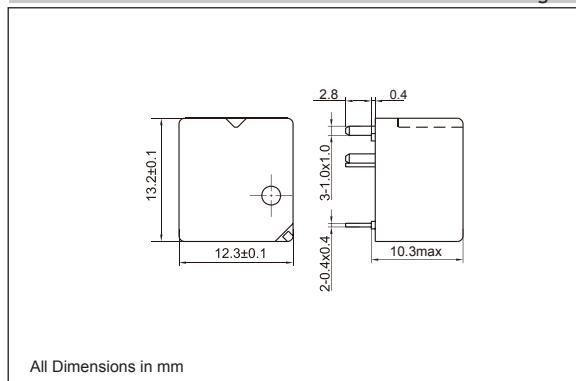
Ordering codes



** DG20B is vented on top of case, but flux sealed around terminals

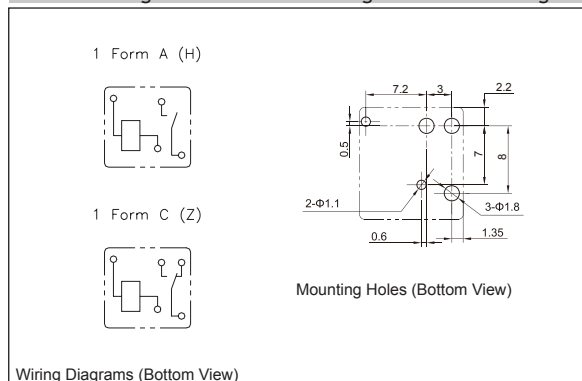
Overall Dimensions

Fig. 1



PCB Mounting Dimensions and Wiring

Fig. 2



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.

