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	1×10^5		
Mechanical life	ops	1×10^7		
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		

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DURAKOOL

Coil Data — Table 1

Coil Voltage Code	Nominal Voltage (V DC)	Coil Resistance (Ω) ±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

Type						Contact material		Contact arrangement		Cover protection and mounting		Coil code			
D	G	2	0		-	7	0			3	5	-			

Nil	-	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 (1N/O, 1 Form A)

Cover protection category

2	-	Flux free
3**	-	Fully sealed to IP67

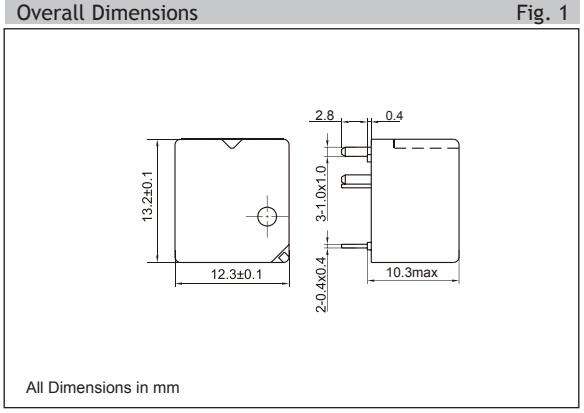
Connection mode

5	-	for PCB

Coil code: see coil table 1

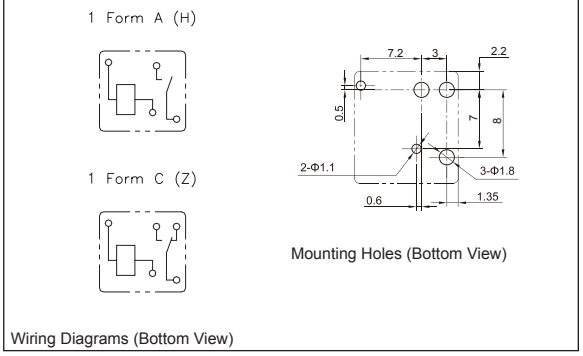
** DG20B is vented on top of case, but flux sealed around terminals

Overall Dimensions — Fig. 1



All Dimensions in mm

PCB Mounting Dimensions and Wiring — Fig. 2



Mounting Holes (Bottom View)

Wiring Diagrams (Bottom View)

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.