DG82
micro plug-in/pcb automotive relay



- Industry Standard micro plug-in relay
- Up to 120A 12VDC inrush capability
- PCB Mounting option
- Cost effective
- RoHS Compliant

Contacts

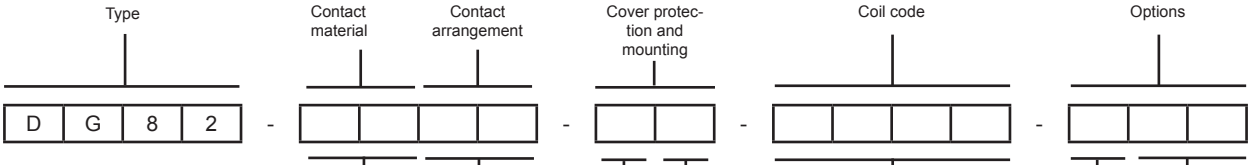
Contact number & arrangement		SPST-NO (1 Form A); SPDT (1 Form C)
Contact material		AgNi0.15; AgNi90/10; AgSnOInO; AgCdO
Max. switching voltage	DC	16VDC (current dependent - see Fig 3)
Min. switching current / voltage		1mA/1VDC (AgNi0.15)
Rated load	DC1	40A/12VDC (Normally open); 30A/12VDC (Normally closed)
Max. continuous current	DC1	40A/12VDC (Normally open); 30A/12VDC (Normally closed)
Max. switching current	Make	90A (120A : AgSnOInO) (Normally open); 20A (Normally closed)
	Break	15A
Initial resistance		50mΩ, max. at 0.1A/6VDC
Coil		
Rated voltage	DC	6...24V
Must release voltage		≥0.1Un
Operating range of supply voltage		See coil table 1
Rated power consumption	DC	1.6W; 1.81W with resistor
Insulation		
Insulation resistance		100MΩ at 500VDC, 50%RH
Dielectric strength		
	coil to contact	500Vrms, 1min
	contact to contact	500Vrms, 1min
General Data		
Operating time (typical)	mS	9
Release time (typical)	mS	7
Electrical Life	ops	2 x 10^5 (see Note 2)
Mechanical life	ops	1 x 10^7
Dimensions	L x W x H	23.5 x 15.5 x 26.0 mm (excluding terminals)
Weight		Plug-in: 14g / PCB: 12g approx.
Ambient temperature	storage	-40 to 155°C
	operating	-40 to 125°C
Shock resistance		Functional: 20g 11mS; Destructive: 100g
Vibration resistance		DA 1.27mm 10-40Hz / 40-70Hz:5g / DA 0.5mm 100-500Hz: 10g

Coil Data — Table 1

Coil Voltage Code	Nominal Voltage (VDC)	Coil Resistance (Ω) ±10%		Must Operate Voltage Max. (VDC)	Allowable Voltage (VDC)*		Must release voltage min. (VDC)	Parallel Resistor (optional) (Ω)
		1 Form A/B	1 Form C		1 Form A/B	1 Form C		
1006	6	45	3.6	3.6	10.4	9.2	0.6	170
1012	12	180	7.3	7.2	20.4	18.1	1.2	680
1024	24	720	14.4	14.3	40.4	36.0	2.4	2720

* At ambient temperature of 85˚C, maximum allowable voltage should be reduced by 28%

Ordering codes



Contact material

10	-	AgCdO
20	-	AgNi
70	-	AgSnOInO
80	-	AgNi 0.15

Contact arrangement

11	-	SPDT (1 C/O, 1 Form C)
21	-	SPST-NO (1N/O, 1 Form A)
31	-	SPST-NC (1N/C, 1 Form B)

Cover protection category

3	-	in cover, sealed - IP67
7	-	in cover, dust cover - IP54

Connection mode

5	-	for PCB
6	-	Flat Blades

See coil table 1

Coil Options

Nil	-	No options
F	-	UL Class F insulation for high ambient temperatures
H	-	UL Class H insulation for high ambient temperatures

Parallel Component Options

Nil	-	No option
R	-	Resistor (see Table 1 for values)
D	-	Diode (+85 / -86)
DR	-	Diode reversed (-85 / + 86)
BD	-	Bidirectional diode

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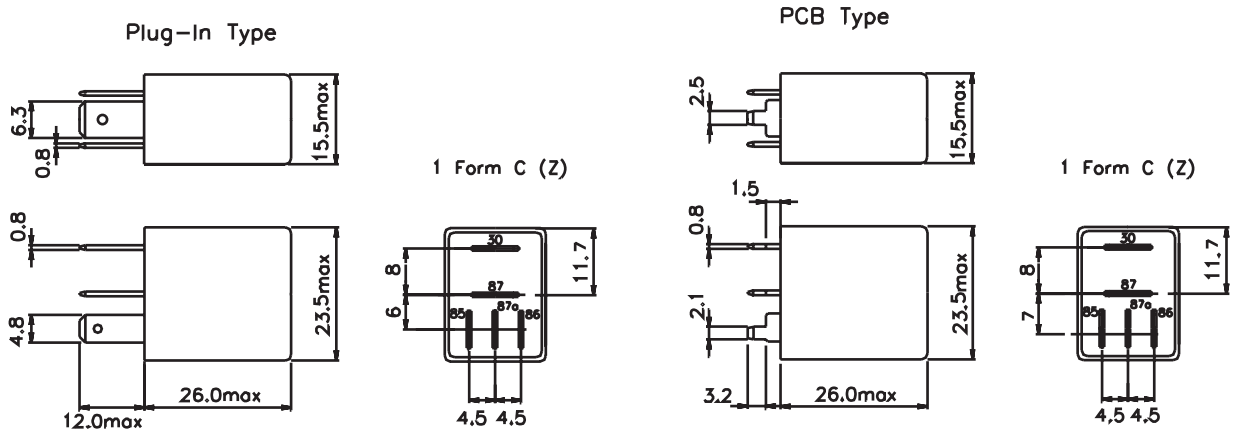
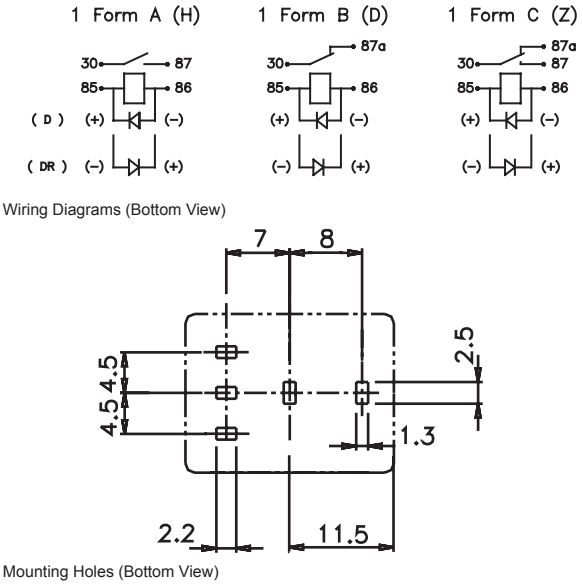
Overall Dimensions — Fig. 1



Dimensions in mm

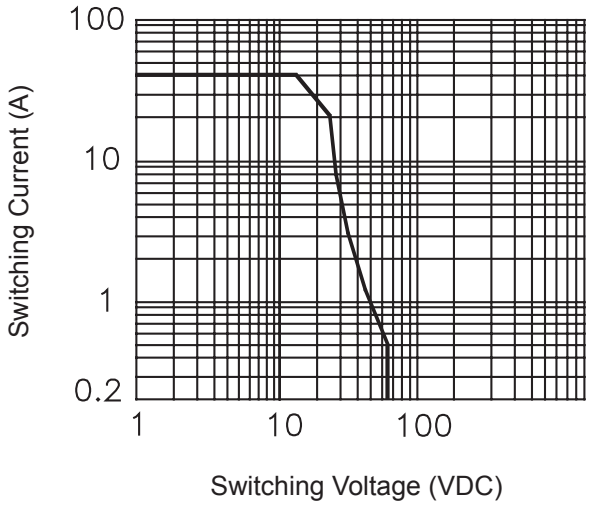
PCB Mounting Dimensions — Fig. 2



Wiring Diagrams (Bottom View)

Mounting Holes (Bottom View)

Reference Curves — Fig. 3



Notes:
1: All parameters, unless otherwise specified, are measured at ambient temperature of 23°C.
2: Electrical life obtained at resistive or inductive load at 40A, 15VDC with suitable arc suppression circuit attached and with operating frequency of 1 op/sec.
3: Maximum make current refers to lamp load inrush current.

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

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