DG82 Series
Micro Plug-in / PCB Automotive Relay



- Industry Standard micro-ISO plug-in relay
- Up to 120A 12VDC inrush capability
- PCB Mounting option
- 40A Continuous current rating
- Cost effective

RoHS Compliant ✓

Contacts

Contact arrangement		SPST-NO (1 Form A); SPDT (1 Form C)
Contact material		AgNi0.15; AgNi90/10; AgSnOInO
Max. switching voltage	DC	16VDC (current dependent - see Fig 3)
Rated load (max. continuous current)	DC1	40A/12VDC (NO); 30A/12VDC (NC)
Max. switching current3	make	90A (120A:AgSnOInO) (NO); 45A (NC)
	break	40A (NO); 30A (NC)
Minimum load		AgNi0.15: 0.1A/12VDC, AgSnOInO: 0.5A/12VDC
Initial resistance		50mΩ, max. at 0.1A/6VDC

Coil

Nominal voltage	DC	6...24V
Must release voltage		≥0.1Un
Operating range of supply voltage		See table 1
Power consumption (approx.)	DC	1.2W (SPST-NO) / 1.5W (SPDT) ; 1.8W with resistor

Insulation

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

General Data

Operating time	typ.	9ms
Release time	typ.	7ms
Electrical life2	ops.	2 x 10^5
Mechanical life	ops.	1 x 10^7

Environmental

Environmental protection		IP54, IP67 optional
Ambient temperature	operating	-40 to 125°C (Derate above 85°C - consult factory)
	storage	-40 to +155°C
Shock resistance	functional	20g, 11ms
	destructive	100g
Vibration resistance		DA 1.27mm 10-40Hz / 40-70Hz:5g
		DA 0.5mm 100-500Hz: 10g
Dimensions	L x W x H	23.5 x 15.7 x 26.0 mm (excluding terminals)
Weight	approx.	Plug-in: 21g / PCB: 19g

Ordering Code

D G 8 2 - 2 0 1 1 - 7 6 - 1 0 1 2 - H B D

Series

Coil code:
See table 1

Contact material
20: AgNi 90/10
70: AgSnOInO
80: AgNi 0.15

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

Environmental protection
3: In cover, sealed IP67
7: In cover, dust cover IP54

Mounting & terminations
5: For PCB
6: Flat blades

Coil options
Blank: UL Class F coil insulation
H: UL Class H insulation for higher ambient temperatures consult factory

Parallel component options
Blank: No option
R: Resistor (see table 1 for values)
D: Diode (+85/-86)
DR: Diode reversed (-85/+86) - standard
BD: Bidirectional diode

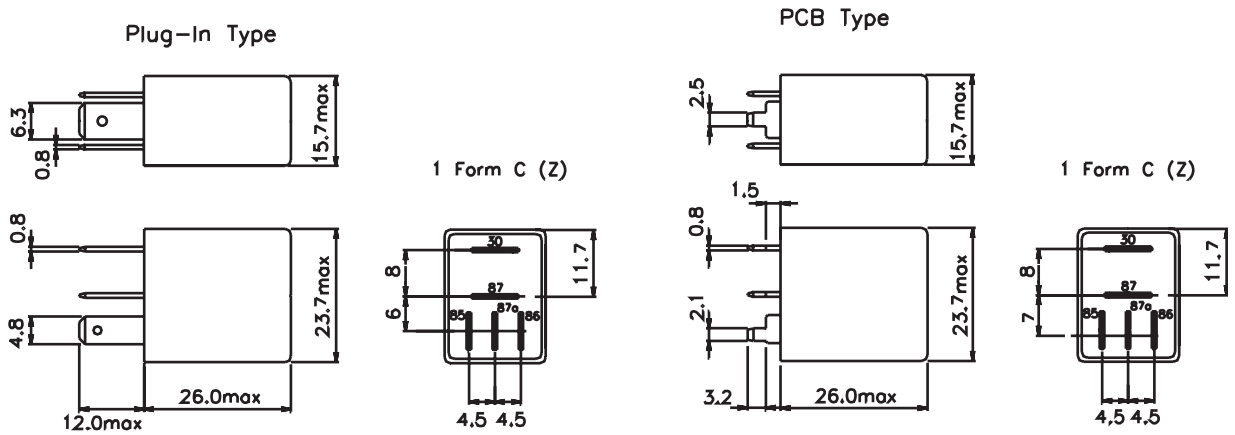
Specifications are subject to change without notice. E&OE.

Coil Data — Table 1

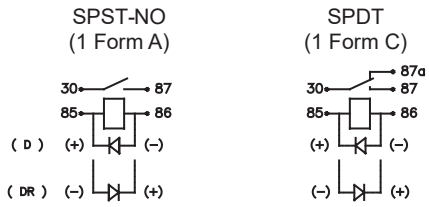
Coil code	Nominal voltage (VDC)	Coil resistance (Ω) ±10%		Must operate voltage max. (VDC)	Allowable voltage (VDC)*		Must release voltage min. (VDC)	Parallel resistor (optional) (Ω)
		1 Form A	1 Form C		1 Form A	1 Form C		
1006	6	32	25	3.6	10.4	9.2	0.6	170
1012	12	123	97	7.2	20.4	18.1	1.2	680
1024	24	483	384	14.4	40.4	36.0	2.4	2720

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

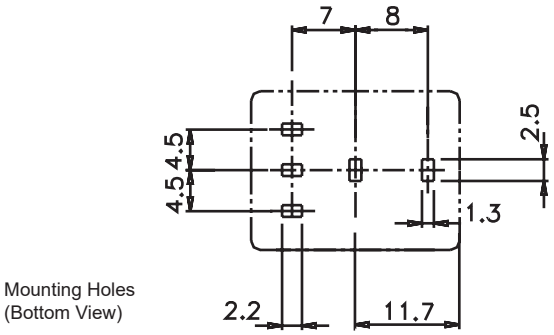
Dimensions mm — Fig. 1



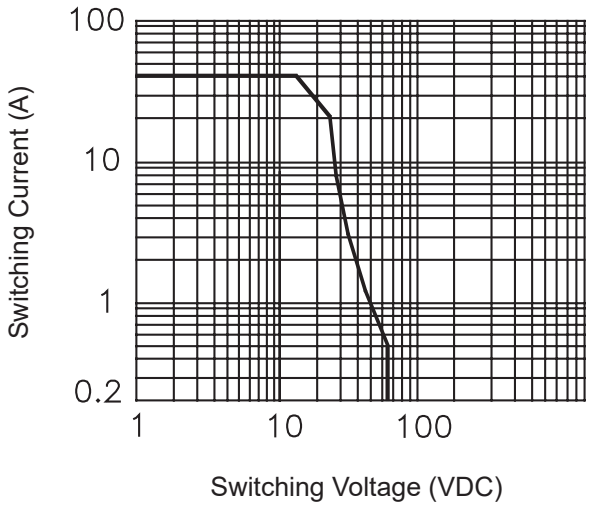
Wiring Diagrams — Fig. 2



PCB Mounting Dimensions mm — Fig. 3



Reference Curve — Fig. 4



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.

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