DG57CM Series
Automotive / Electric Vehicle Relay



- General Purpose automotive or industrial relay
- Good inrush current resistance
- Ideal for DC motor control
- High continuous DC current capability
- Optimised for up to 145VDC switching
- Magnet arc blowout feature
- Industry standard terminal layout

RoHS Compliant ✓

Contacts

Contact arrangement		SPST-NO (1 Form A)
Contact material		$AgSnO_2$
Max. switching voltage	DC	145VDC
Min. switching current / voltage		100mA / 12VDC
Rated load - see Fig. 1	DC1	80A @ 12VDC, 60A @ 36VDC, 50A @ 48VDC
		30A @ 72VDC, 5A @ 145VDC
Max. switching current	make	150A @ 12.8VDC (3secs)
Initial Contact resistance		<100mΩ, at 0.1A / 6VDC

Coil

Nominal voltage	DC	6 ... 60V
Must release voltage		≥0.1U_n
Operating range		See Table 1
Rated power consumption		1.6W; 1.8W 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	typ.	7ms
Release time	typ.	2ms
Electrical life	ops.	1 x 10^5
Mechanical life	ops.	1 x 10^7

Environmental

Ambient temperature	operating	-40 to +125°C (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	39.1 x 28 x 26mm (excluding terminals)
Weight	approx.	46g

Ordering Code

D G 5 7 C M - 5 0 2 1 - 9 6 - 1 0 1 2 - M3 D R

Series

Contact material
50: $AgSnO_2$

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

Coil code:
See table 1

Environmental protection
3: In cover, sealed - IP67
7: In cover, dust cover - IP54
9: Cover with mounting bracket slot

Connection Mode
5: PCB Terminals
6: Flat Blades

Options 1 (metal mounting bracket)
Blank: No bracket
M1: Metal mounting bracket fitted (5.3mm dia hole)
M3: Metal mounting bracket fitted (6.3mm dia hole)

Options 2 (parallel components)
Nil: No option
R: Integral resistor
D: Integral diode +85, -86 (special order)
DR: Integral diode -85, +86 (standard)

Order code examples (many other combinations possible)
DG57CM-5021-75-1012 = unsealed, pcb, no bracket
DG57CM-5021-76-1012 = unsealed, no bracket (standard)
DG57CM-5021-36-1012-R = sealed, no bracket, resistor
DG57CM-5021-36-1012-M1R = sealed, metal bracket, resistor
DG57CM-5021-96-1024 = unsealed, cover with slot, no bracket
DG57CM-5021-96-1012-M3 = unsealed, metal bracket

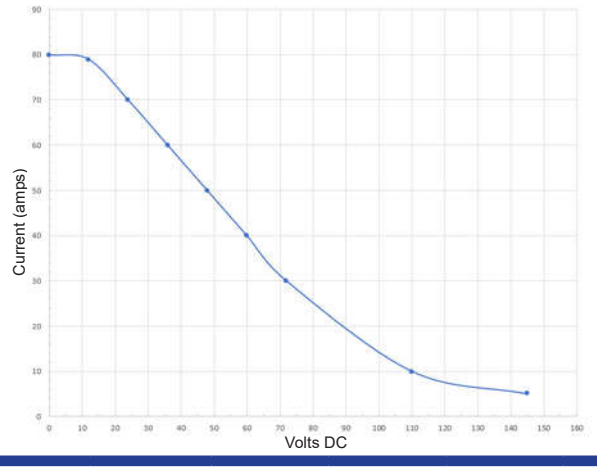
Specifications are subject to change without notice. E&OE.

Coil Data — Table 1

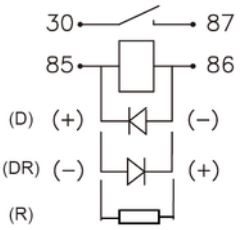
Coil code	Nominal voltage (VDC)	Coil resistance (Ω) ±10% (at 23°C)	Must operate voltage max. at 23°C (VDC)	Max. allowable voltage at 23°C (VDC)	Max. allowable voltage at 85°C (VDC)	Must release voltage min. at 23°C (VDC)
1006	6	22	3.6	8.7	6.3	0.6
1012	12	90	7.2	17.4	12.5	1.2
1024	24	330	14.4	34.8	25.0	2.4
1036	36	690	21.5	52.2	37.5	3.6
1048	48	1440	28.8	69.6	50.0	4.8
1050	50	1565	30.0	72.5	52.0	5.0
1060	60	1950	36.0	87.0	62.6	6.0

Performance — Fig. 1

Max. DC resistive load breaking capacity



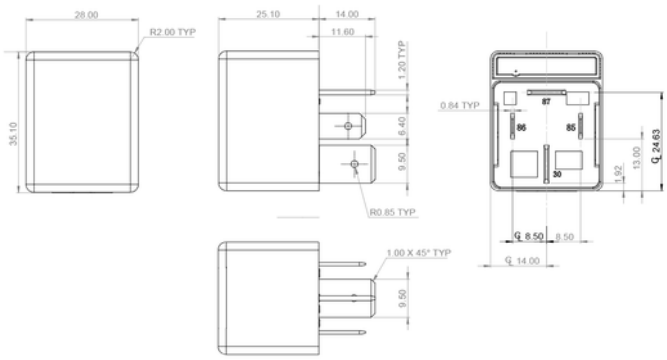
Circuit Diagram — Fig. 2



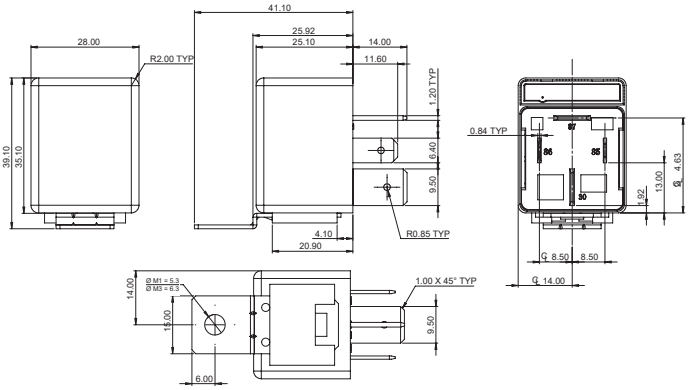
1 Form A

Dimensions — Fig. 3

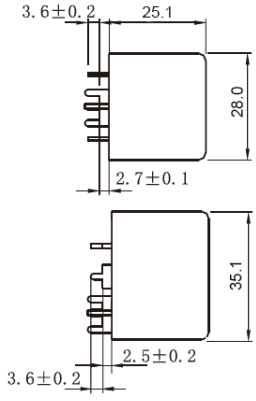
Plug-in

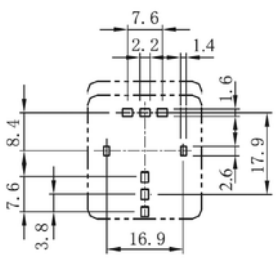


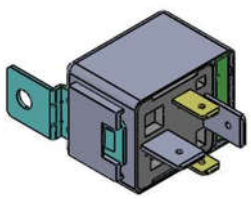
Plug-in with metal mounting bracket



PCB Mounting







Dimensions in mm

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