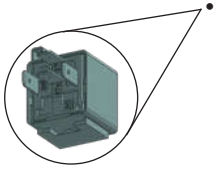
DG55M Series
Electric Vehicle Relay





- General purpose automotive or electric vehicle relays
- Up to 20A @ 80VDC switch capability (100K ops.)
- 40A continuous DC current capacity (at 23°C)
- Fits standard Mini-ISO relay sockets
- Made from UL94-V0 approved plastic
- Special terminal arrangement - “ordinary” Mini-ISO relay inserted in DG55M socket will be safe

ROHS Compliant

Contacts

Contact arrangement		SPST-NO (1 Form A)	
Contact material		$AgSnO_2$	
Max. switching voltage	DC	110VDC - current dependent (see Fig. 2)	
Contact rating		12VDC	80VDC
Max. continuous current*	SPST-NO	40A	20A
Max. switching current - make (inrush)*	SPST-NO	120A	120A
Max. switching current - break*	SPST-NO	60A	20A
Min. switching current		1A/5VDC	
* At ambient 23°C. At ambient 85°C, max. continuous current at 80VDC =8A			
Initial contact resistance		<100mΩ at 0.1A/6VDC	

Coil

Rated voltage	DC	12V (24V - consult factory)
Must release voltage		$0.10U_n$ - see coil table 1 for more information.
Operating range of supply voltage		See coil table 1
Rated power consumption		2W

Insulation

Insulation resistance		100MΩ at 500VDC, 50%RH, 25°C
Dielectric strength	coil to contact	600Vrms / 1 min

General Data

Operate time		≤ 10msec
Release time		≤ 12msec
Electrical Life	ops.	$1x10^5$ (20A@80VDC, 1sec ON/1sec OFF, resistive)
Mechanical life	ops.	1×10^7

Environmental

Environmental protection		IP54 Dust cover
Ambient temperature	operating	-40 to +85°C - Consult factory for above 85°C
	storage	-40 to +155°C
Shock resistance	destructive	$196m/s^2$(20g)
	functional	$98m/s^2$(10g)
Vibration resistance		10 to 40Hz DA 1.27mm; 40 - 70Hz:5g /
		70-100Hz DA 0.5mm, 100 - 500Hz:5g
Dimensions	L x W x H	25.9 x 25.9 x 24.9mm (excluding terminals)
Weight	approx.	34g approx.

Ordering Code

D G 5 5 M - 5 0 2 1 - 9 6 - 1 0 1 2 - M 1 - R

Series

Coil code:
See table 1

Contact material
50: $AgSnO_2$

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

Mounting & terminations IP54
7: Dust cover
9: Dust cover Bracket mount
(option M1 only)

Connection mode
5. PCB pins
6: Flat blades (6.35mm)

Options 1
Blank: No options
M1: Metal bracket (Supplied fitted as standard. Consult factory for brackets supplied loose).

Options 2
Blank: No options
R: Integral resistor
D: Integral diode +85, -86
DR: Integral diode -85, +86 (Standard)

NB: This product contains a magnet.

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)	Must release voltage min. (VDC)	Max allowable voltage at 23°C (VDC)	Max allowable voltage at 85°C (VDC)
1012	12	72	7.2	1.2	18	14
1024	24	288	14.4	2.4	35	25.2
1048	48	1152	28.8	4.8	70	48

Coil insulation: Class H

Dimensions — Fig 1

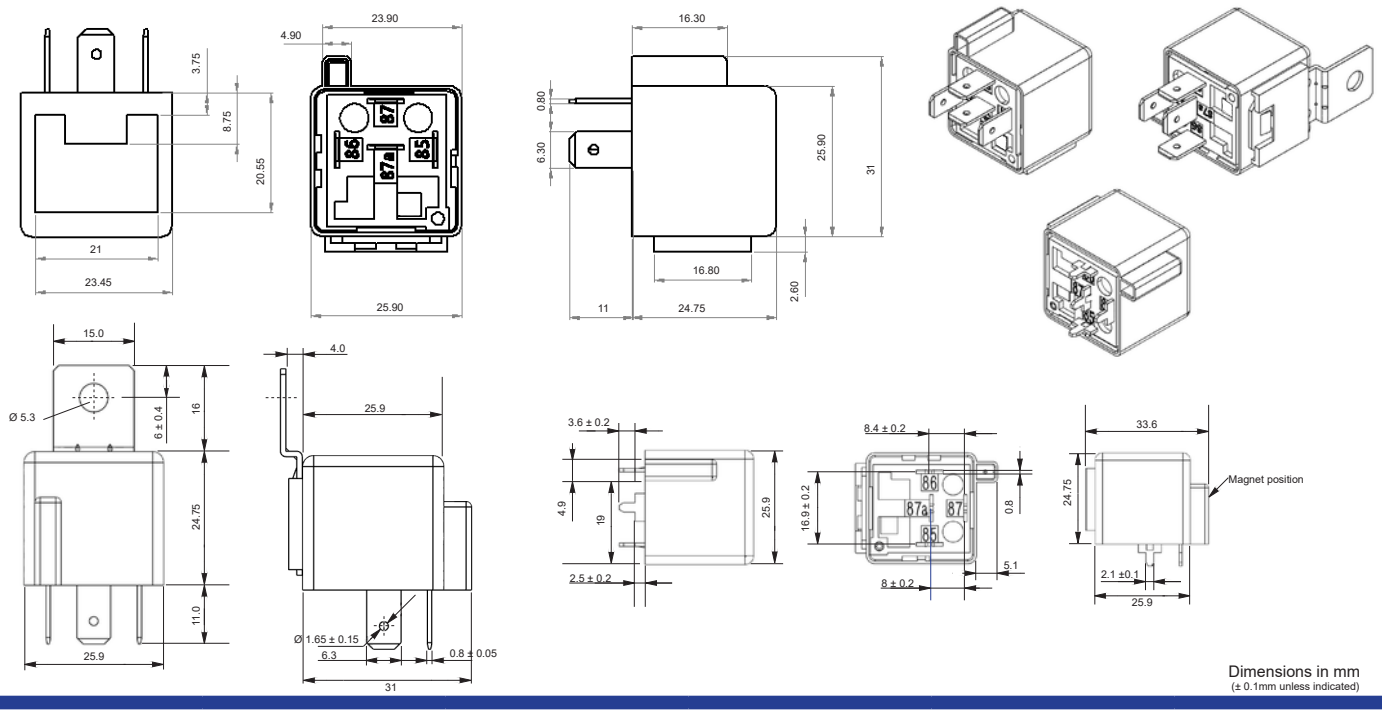
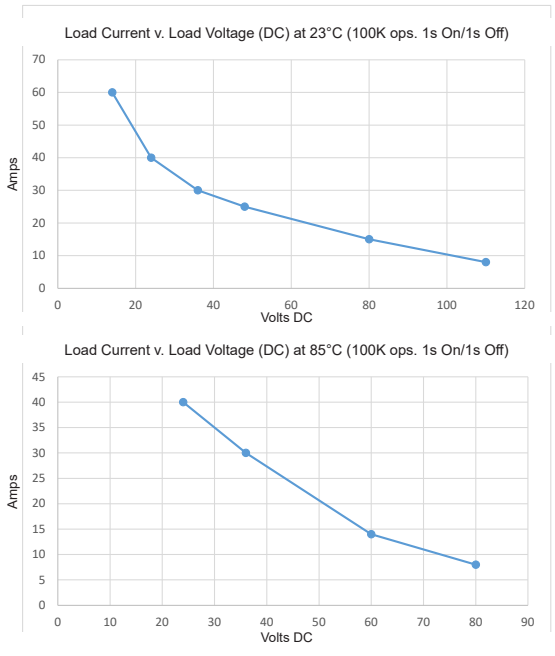
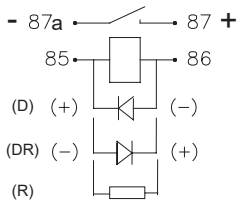


Fig. 2

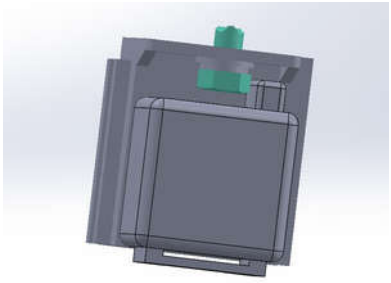


Connection diagram — Fig . 3

Important!
Please observe polarity when connecting the load to Terminals 87 and 87a. Incorrect polarity will lead to reduced life.



1 Form A



Top View showing fit on standard socket (DZ85AB-5-WH2)

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