DURAKOOL
A WT/AEC Brand

DG19 Series
automotive pcb / industrial relay





- 30A to 45A continuous current capacity
- AgSnOInO contacts for motor & lamp loads
- open, dust cover and sealed versions
- US & European terminal configurations
- Automotive oriented design

ROHS Compliant

Contacts

Contact arrangement		SPST-NO (1 Form A), SPST-NC (1 Form B),			
		SPDT (1 Form C)			
Contact material		AgNi0.15, AgNi90/10, AgSnOInO, $AgSnO_2$			
Max. switching voltage	DC	30VDC - Current dependent - see Fig. 4			
Min. switching current / voltage		0.01A/12VDC (AgNi0.15), 0.5A/5VDC (AgSnOInO)			
		1 Form A	1 Form B	1 Form C	
				NO	NC
Max. continuous current	DC1	45A (AgSnOInO) 40A ($AgSnO_2$)	30A	45A (AgSnOInO) 40A ($AgSnO_2$)	30A
Max. switching current	make	180A (AgSnOInO) 100A	30A	180A (AgSnOInO) 100A	30A
	break	60A	30A	60A	30A
Initial resistance		≤ 100mΩ, max. at 0.1A/6VDC			

Coil

Rated voltage	DC	6, 12, 24V
Must release voltage		10% U_n
Operating range		See Table 1
Rated power consumption	DC	1.5W approx.

Insulation

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

General Data

Operating time	ms	≤ 5
Release time	ms	≤ 3
Electrical life	ops.	2 x 10^5 (see note 2)
Mechanical life	cops.	1 x 10^7

Environmental

Ambient temperature	operating	-40 to +125°C (higher to special order)
	storage	-40 to +155°C
Shock resistance	functional	20g 11ms
	destructive	100g
Vibration resistance	Functional	NO 20g; NC 10g 20-200Hz
Drop resistance		1M height drop on concrete in final enclosure
Dimensions	L x W x H	various - see dimensions Fig. 1
Weight	approx.	open: 18g / covered: 23g approx.

Ordering Code

D G 1 9 - 8 0 3 1 - 7 5 - 1 0 2 4 - 8 1 D

Series

Coil code:
See table 1

Contact material
20: AgNi (90/10)
30: $AgSnO_2$ **
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)
31: SPST-NC (1 N/C 1Form B)

Environmental protection
1: No cover, IP00
3: In cover, sealed - IP67
7: In cover, dust cover - IP54

Mounting & terminations
5: PCB Mounting

Footprint style
11: European pin configuration
81: US pin configuration (covered - 1 less terminal - fig. 2)
81D: "Old" US covered pin configuration - 1 extra terminal (Fig.3)

Notes: **Contact rating for SPDT DG19-3011*5-****.*** is 40A for the NO contact & 30A for the NC contact. It is marked 30A 14VDC to avoid inadvertent application of excess current on NC contact.

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

Coil Data

Table 1

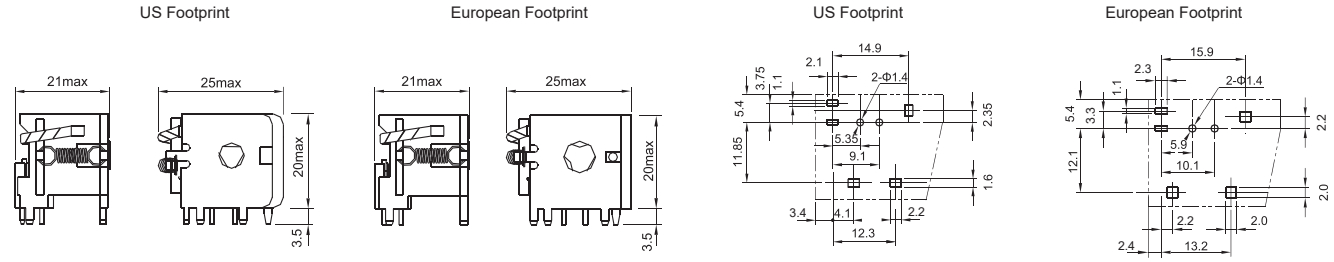
Coil code	Nominal voltage (VDC)	Coil resistance (Ω) ±10% @ 20°C	Must operate voltage max. (VDC)	Max.allowable voltage (VDC)*	Must release voltage min. (VDC)
1006	6	19	3.3	8	0.6
1012	12	90	6.8	16	1.2
1024	24	362	13.9	31	2.4

* At ambient temperature of 85'C, maximum allowable voltage should be reduced to 72%

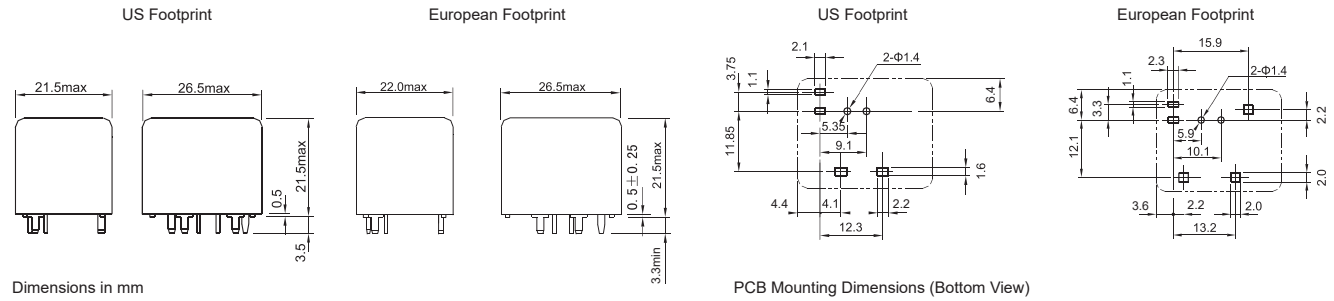
Dimensions

Fig. 1

Open Frame



Covered

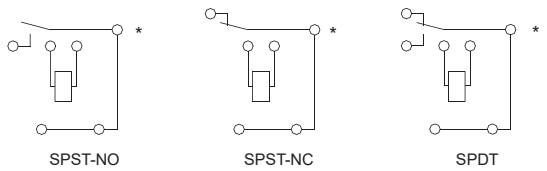


Dimensions in mm

PCB Mounting Dimensions (Bottom View)

Wiring Diagrams

Fig. 2

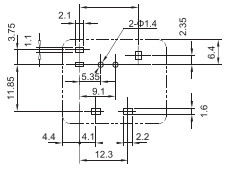


* Terminal not fitted for standard US covered style

(Bottom View)

"Old" US Style Covered

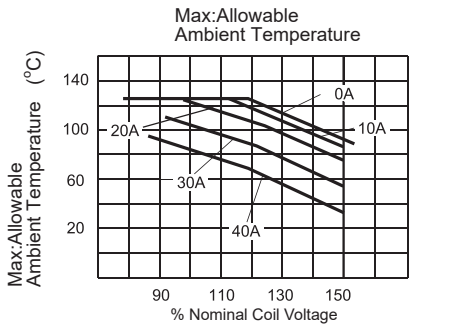
Fig. 3

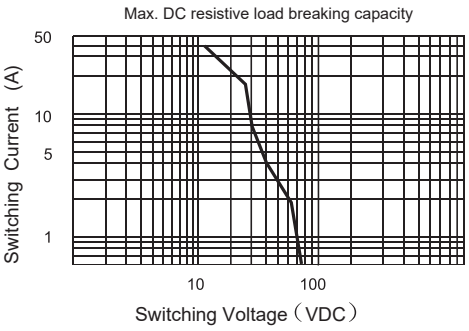


Available to special order only - Option 81D (MOQ will apply)
e.g DG19-3011-35-1012-81D

Dimensions mm

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, 13.5VDC, with suitable arc suppression circuit attached and with operating frequency of 1 op/sec.
3: Maximum make current refers to lamp load inrush current. Consult factory for motor and capacitive loads.
4: For optimum electrical life, please remove the knock off nib of the sealed version after cleaning process.

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