

## FEATURES

- 40A switching use relay at ambient temperature of 85°
- Solder lug (quick connect) and PCB terminals are available for customer's selection.
- Contact form: 1 form C, 1 Form B, 1 Form A, and 2 Form A
- Using at automotives, direct connection with cell motors, transmission, and anti-locking braking system.



## ORDERING INFORMATION

LDN — 12 F

1      2      3      4      5      6

1. Type

2. Contact Arrangement

Nil : 1 Form C  
 1A : 1 Form A  
 1B : 1 Form B  
 2A : 2 Form A

3. Coil Nominal Voltage

4. Cover Type

F : Cover for Steel Bracket  
 P : Cover for Plastic Bracket  
 B : Plastic Cover

5. Terminal Type

Nil : Standard Type  
 P : PCB Terminal

6. Special Mark

Nil : Standard Type.

R : Coil parallel with 1/2W resistor 820Ω for 12VDC, 3200Ω for 24VDC.  
 D1 : Coil parallel with diode 1N4007 the Positive pole "+" on # 85 terminal.  
 D2 : Coil parallel with diode 1N4007 the Negative pole "-" on # 85 terminal.

## CONTACT RATING

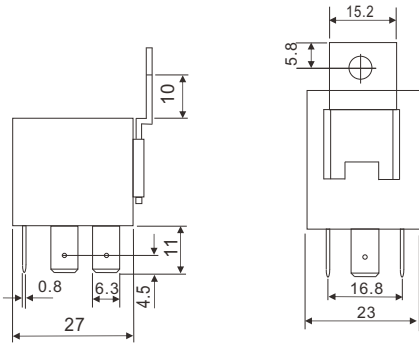
1 Form C	Resistive (Cos.θ = 1)	DC 14V	40A/30A
2 Form A	Resistive (Cos.θ = 1)	DC 14V	2 x 20A

## COIL DATA(1.8W, at 25°C)

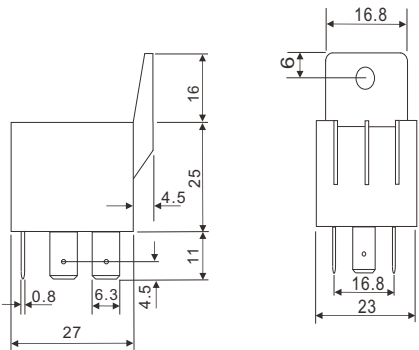
Coil Nominal Voltage (VDC)	Resistance Tol.±10% (Ohms)	Nominal Current (mA)	Maximum Pick Up Voltage (V)	Minimum Drop Out Voltage (V)
12	80	150	8.4	1.2
24	320	75	16.8	2.4

## DIMENSIONS(±0.2mm)

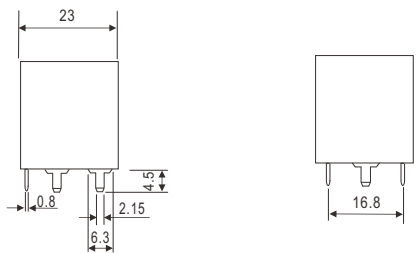
F TYPE



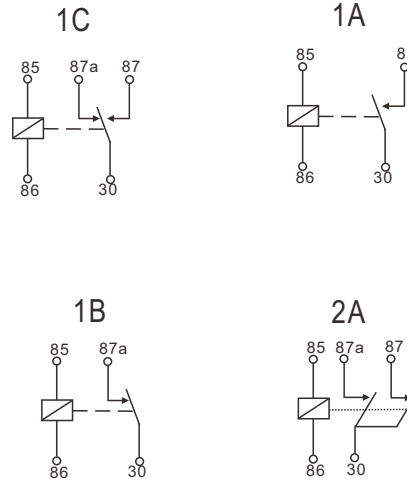
P TYPE



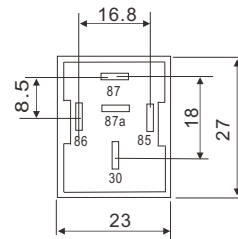
B TYPE



WIRING DIAGRAM  
(BOTTOM VIEW)



P.C.B LAYOUT  
(BOTTOM VIEW)



## GENERAL DATA

Insulation Resistance	50 MΩ Min. (DC 500V)
Dielectric Strength	500 VAC, 50/60Hz between contact.
	1,000 VAC, 50/60Hz between all elements.
Contact Material	Ag Alloy.
Contact Resistance	100 milliohms max. ( initial value )
Shock Resistance	Malfunction: 10G(11ms) ; Destructive: 100G(6ms)
Vibration Resistance	Malfunction: 10 to 55 Hz. at Double Amplitude of 1.5 mm
	Destructive: 10 to 55 Hz. at Double Amplitude of 1.5 mm
Operation Time	10 ms max.
Release Time	10 ms max.
Temperature Range	- 40°C ~ + 85°C
Expected Life	With operation rate 30/min.
	Mechanical - 1,000,000 operations min. Electrical - 100,000 operations min. at rated load.
Weight	33 grams