



# Automotive Relay TR93

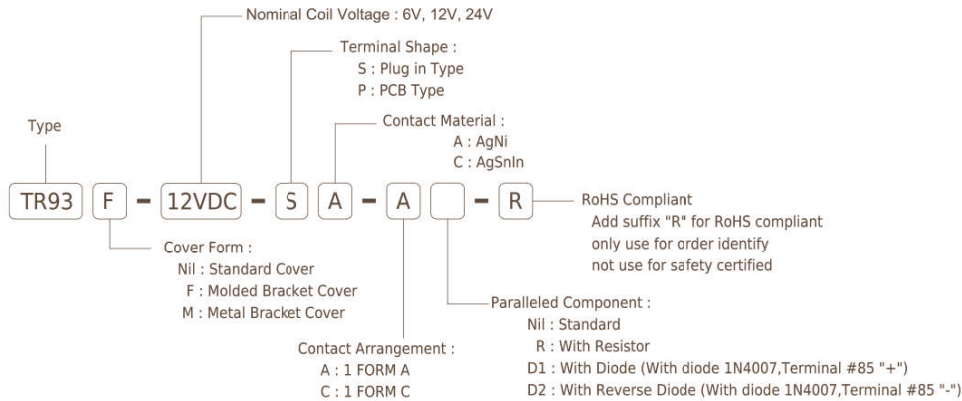
## MAIN FEATURES

- Small size, heavy duty, capable of 40A.
- Low contacts voltage drop ( $\leq 3\text{mV/A}$ ), reduce circuit consumption and contacts noise.
- Contact structure, performance reliable, with plug-in pins, bracket model available, handle with ease.

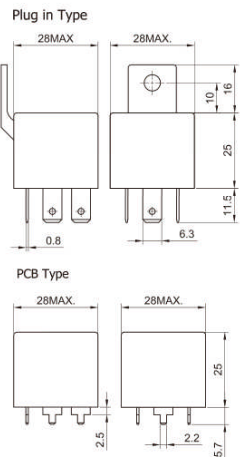
## APPLICATIONS

- Car compressor, light, starter, horn. Automatic devices, communication equipment, control and switch circuit, etc.

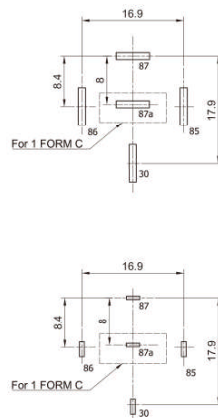
## ORDERING INFORMATION



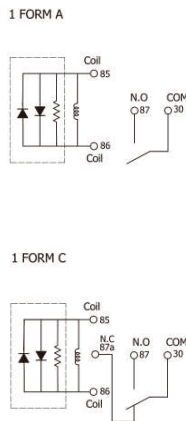
## DIMENSION(unit:mm)



## DRILLING(unit:mm)



## WIRING DIAGRAM



## COIL DATA CHART(at 20°C)

Coil Sensitivity	Coil Voltage Code	Nominal Voltage (VDC)	Nominal Current (mA)	Coil Resistance ( $\Omega$ ) $\pm 10\%$	Power Consumption (W)	Pull-In Voltage (VDC)	Droo-Out Voltage (VDC)	Max-Allowable Voltage (VDC)
TR93	6	6	267	22	abt. 1.6	65% Max.	10% Min.	150% but for short time carrying current
	12	12	134	90				
	24	24	67	360				

## CONTACT RATING

Item	TR93		
	1 Form A	1 Form C	
		N/O	N/C
Contact Capacity Resistive Load $\cos\Phi=1$	40A/14VDC	40A/14VDC	30A/14VDC
Max. Carrying Current	30A	40A	30A
Max. Make Current	120A	60A	40A
Max. Break Current	40A	30A	30A
Initial Voltage Drop	200mV (at 40A)	200mV (at 10A)	200mV (at 10A)
Min. Load	0.1A/12VDC		
Contact Material	Silver Alloy		

## PERFORMANCE(at initial value)

Item	TR93
Contact Resistance	100m $\Omega$ Max.
Operation Time	15msec Max.
Release Time	15msec Max.(type with diode inside : 20msec Max.)
Dielectric Strength Between coil & contact Between contacts	500VAC 50/60Hz (1 minute) 500VAC 50/60Hz (1 minute)
Insulation Resistance	100 M $\Omega$ Min .(at 500VDC)
Max. ON/OFF Switching Mechanically Electrically	300 operation/min 30 operation/min
Operating Ambient Temperature	40°C to +80°C(No water drop condensation)
Operating Humidity	45% to 85% RH
Coil Temperature Rise	60 deg. Max. (at rated coil voltage)
Vibration Endurance Error Operation	10 to 55Hz Double Amplitude 1.5mm 10 to 55Hz Double Amplitude 1.5mm
Shock Endurance Error Operation	980m/s <sup>2</sup> . 98m/s <sup>2</sup> .
Life Expectancy Mechanically Electrically	1 $\times$ 10 <sup>7</sup> 1 $\times$ 10 <sup>5</sup> for 1 Form A 3 $\times$ 10 <sup>4</sup> for 1 Form C
Weight	Abt. 34g.

1.Tolerance  $\pm 0.5\text{mm}$  on all dimensions unless otherwise stated.  
2. Tolerance  $\pm 0.1\text{mm}$  on PCB DRILLING dimension unless otherwise stated.