



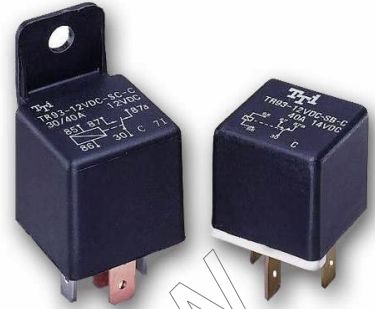
# TR93

## MAIN FEATURES

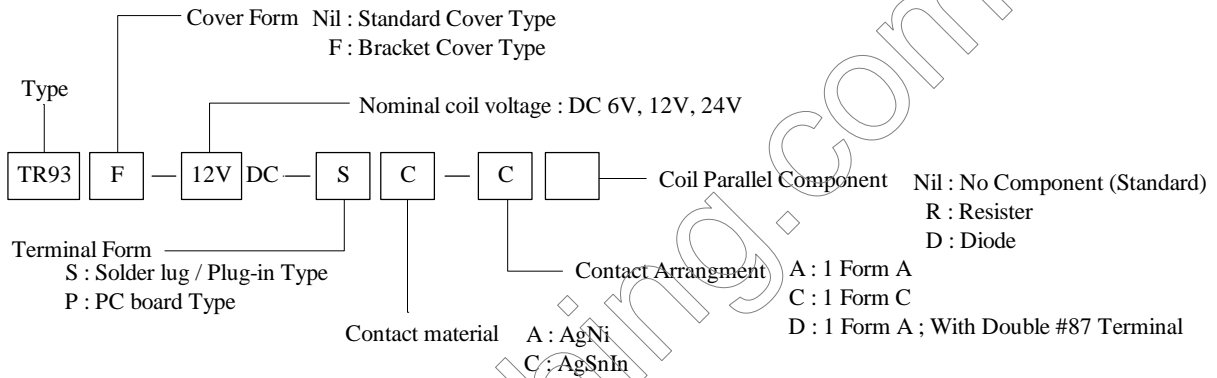
- <sup>1</sup> Small size, heavy duty, capable of 40A.
- <sup>1</sup> Low contacts voltage drop ( $\leq 3\text{mV/A}$ ), reduce circuit consumption and contacts noise.
- <sup>1</sup> Contact structure, performance reliable, with plug-in pins, bracket model available, handle with ease.

## APPLICATIONS

- <sup>1</sup> Car compressor, light, starter, horn. Automatic devices, communication equipment, control and switch circuit, etc.



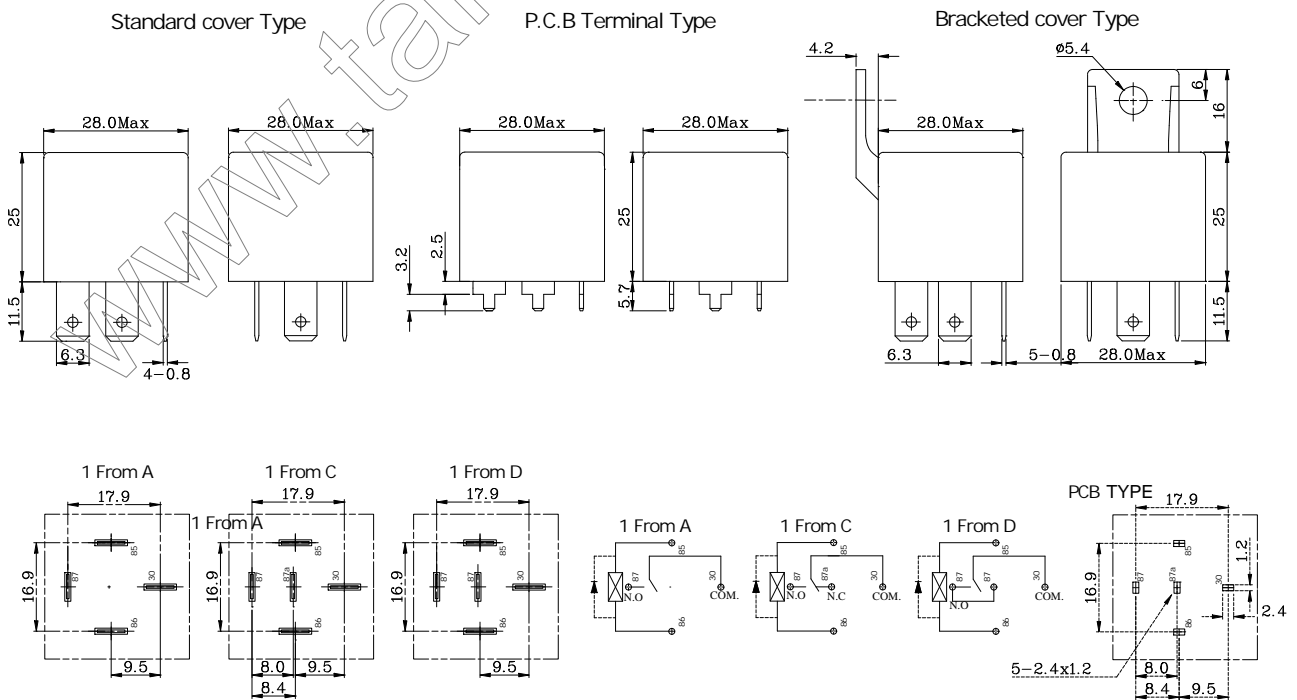
## ORDERING INFORMATION



## DIMENSION (unit:mm)

## DRILLING (unit:mm)

## WIRING DIAGRAM



## COIL DATA CHART (AT20<sup>3/4</sup>C)

Coil Sensitivity	Coil Voltage Code	Nominal Voltage (VDC)	Nominal Current (mA)	Coil Resistance ( $\Omega \pm 10\%$ )	Power Consumption (W)	Pull-In Voltage (VDC)	Drop-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

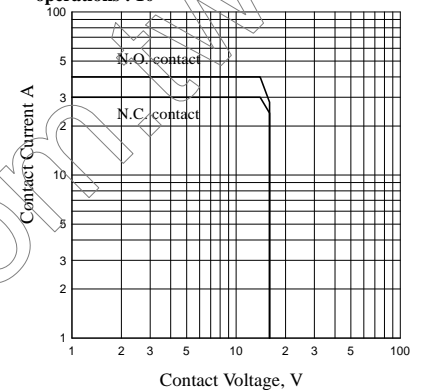
Item \ Type	1 Form A	1 Form D	1 Form C	
			N/C	N/O
Contact Capacity Resistive Load $\cos\Phi=1$	N/O. 40A 14VDC	N/O. 2 x 20A 14VDC	30A 14VDC	40A 14VDC
Max. Carrying Current	30A		30A	30A
Max. Make Current	120A		45A	120A
Max. Break Current	40A		30A	30A
Initial Voltage Drop	200mV (at 40A)		250mV (at 10A)	200mV (at 10A)
Min. Load	0.1A, 12VDC			
Contact Material	Silver Alloy			

## PERFORMANCE (at initial value)

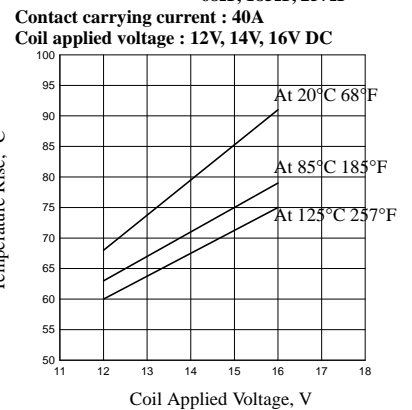
Item \ Type	TR93
Contact Resistance	100m $\Omega$ Max.
Operation Time	15msec Max.
Release Time	15msec Max.(type with inside : 20msec max.)
Dielectric Strength	500VAC 50/60Hz (1 minute)
Between coil & contact	500VAC 50/60Hz (1 minute)
Between contacts	500VAC 50/60Hz (1 minute)
Insulation Resistance	100 M $\Omega$ Min .(500VDC)
Max. ON/OFF Switching	
Mechanically	300 operation/min
Electrically	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	10 to 55Hz Double Amplitude 1.5mm
Error Operation	10 to 55Hz Double Amplitude 1.5mm
Shock	
Endurance	100G Min.
Error Operation	10G Min
Life Expectancy	
Mechanically	$10 \times 10^6$
Electrically	$1 \times 10^5$ for 1 Form A 30000 for 1 Form C
Weight	abt. 34grs.

## REFERENCE DATA

1. Maximum value for switching capacity No. of operations :  $10^5$



2-(1). Coil temperature rise (resistive)  
Ambient temperature : 20°C, 85°C, 125°C  
68°F, 185°F, 257°F



2-(1). Coil temperature rise (resistive)  
Ambient temperature : 20°C, 68°C  
Contact carrying current : 20A, 30A, 35A, 40A  
Coil applied voltage : 12V, 14V, 16V DC

