



# TR81

## ➤ MAIN FEATURES

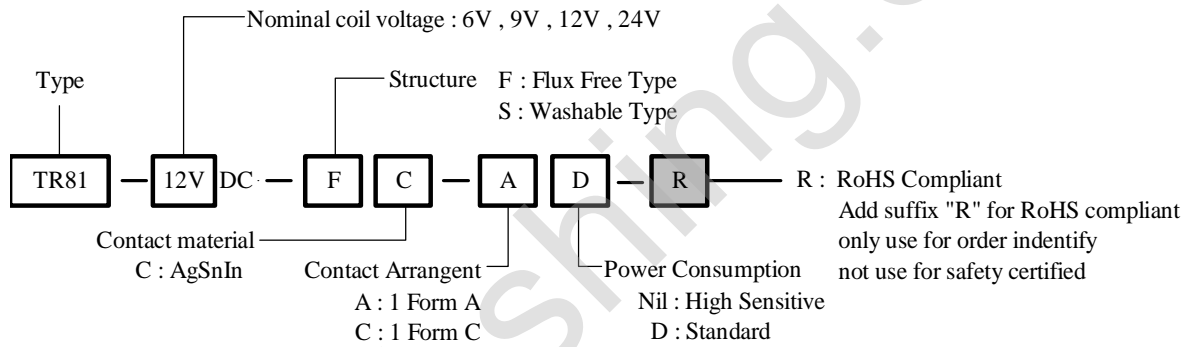
- Subminiature, Light Weight
- Big Gap Type Available for Heavy Motor Load Switching
- Improved Resistance to Shock and Vibration
- High Contact Current Capacity
- Automotive-Oriented design

## ➤ APPLICATIONS

- Interval Wipers
- Door Lock
- Window Lifter
- Alarm System
- Wiper Motor Reverse
- Automatic Mirror Adjustment
- Fuel Pump Control
- Belt Tension Adjustment



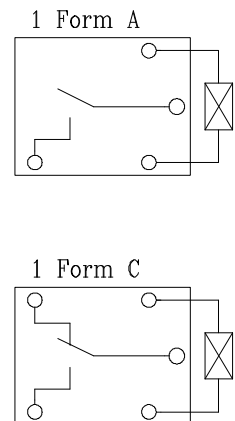
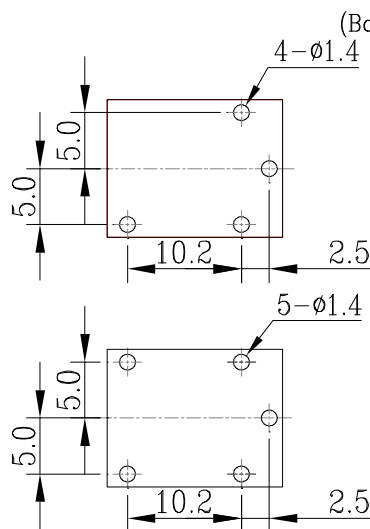
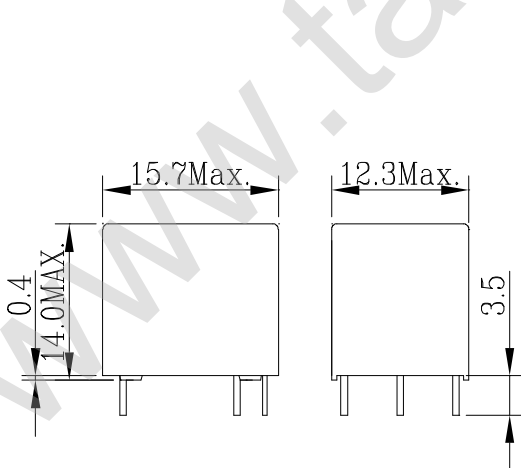
## ➤ ORDERING INFORMATION



### ■ DIMENSION (unit:mm)

### ■ DRILLING (unit:mm)

### ■ WIRING DIAGRAM



## ➤ COIL DATA CHART(at 20°C)

Coil Sensitivity	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)
TR81 (High Sensitivity)	6	100	60	abt. 0.6	80% Max.	5% Min.	110%
	9	66.7	135				
	12	50	240				
	24	25	960				
TR81 -D (Standard)	6	133.3	45	abt. 0.8	80% Max.	5% Min.	110%
	9	90	100				
	12	66.7	180				
	24	33.3	720				

## ➤ CONTACT RATING

Item	Type	TR81 (High Sensitivity)	TR81 -D (Standard)
Contact Capacity Resistive Load ( $\cos\phi=1$ )		N/O : 20A 14VDC , 10A 120VAC N/C : 15A 14VDC , 10A 120VAC	20A 14VDC
Inductive Load ( $\cos\phi=0.4$ L/R=7msec)		6A 14VDC	
Rated Carrying Current		25A/hr	
Max. Allowable Voltage		250VAC 30VDC	
Max. Allowable Current		20A	
Max. Allowable Power Force		1200VA 280W	
Referenced Min. Applicable Load		10mA, 5VDC	
Contact Material		Ag Alloy	

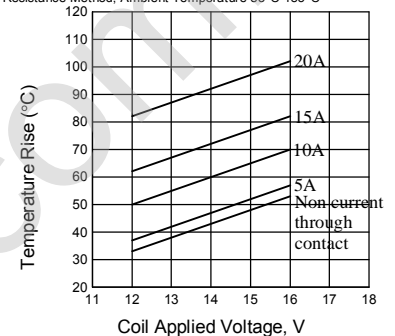
## ➤ PERFORMANCE (at initial value)

Item	Type	TR81
Contact Resistance		100m $\Omega$ Max.
Operation Time		10msec
Release Time		5msec
Dielectric Strength		500VAC 50/60Hz (1 minute) 500VAC 50/60Hz (1 minute)
Surge Resistance		1500V
Insulation Resistance		100 M $\Omega$ Min. (at 500VDC)
Max. ON/OFF Switching		300 operation/min 30 operation/min
Operating Ambient Temperature		-40°C to +85°C (No water condensation and no water drop)
Operating Humidity		45% to 85% RH
Coil Temperature Rise		40 deg. Max. (at rated coil voltage)
Vibration		10 to 55Hz Double Amplitude 1.5mm 10 to 55Hz Double Amplitude 1.5mm
Shock		100G Min. 10G Min.
Life Expectancy		1 $\times$ 10 <sup>7</sup> ops. Min. (no load) 1 $\times$ 10 <sup>5</sup> ops. Min.
Weight		abt. 6grs.

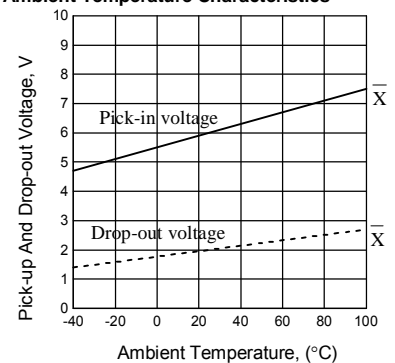
## ➤ REFERENCE DATA

### 1. Coil Temperature Rise

Point Measured : Inside The Coil  
Contact Current : Non Current Through Contact. 5A,10A,15A,20A  
Resistance Method, Ambient Temperature 85°C 185°C

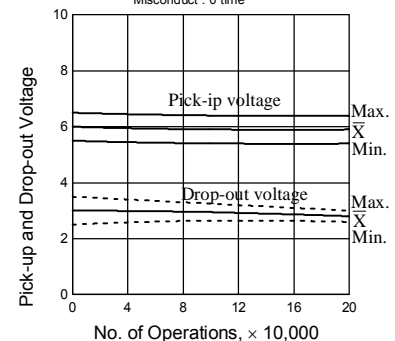


### 2. Ambient Temperature Characteristics



### 3. Electrical Life Test (at rated load)

Quantity : n=6(NC=3, NO=3)  
Load : Resistive Load (NC side 2A 14VDC  
NO side 5A 14VDC)  
Operating Frequency : ON 1.5sec. OFF 1sec.  
Contact Welding : 0 time  
Misconduct : 0 time



This datasheet for reference and subject to change without notice. Please double check final specification with Tai-Shing.  
(0939AA08VOL01)