



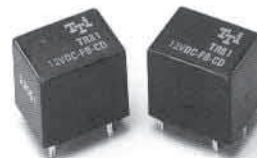
TR81

■ MAIN FEATURES

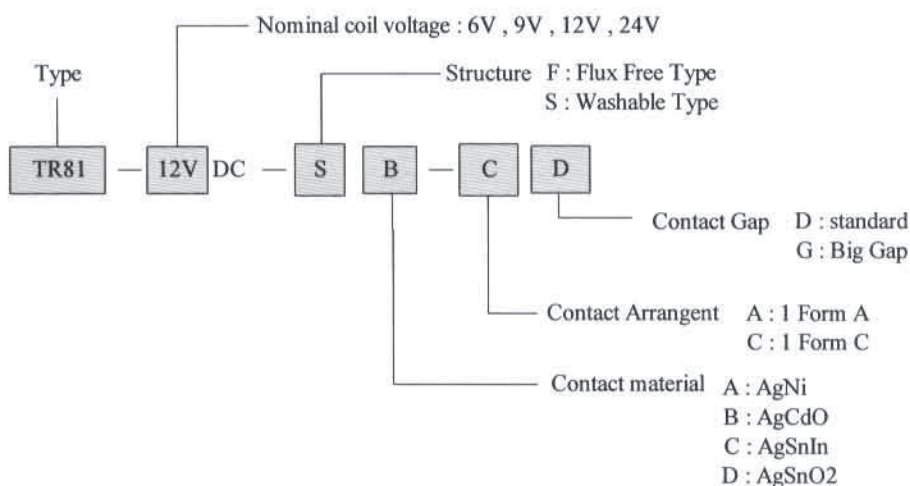
- Subminiaturized, Light Weight
- Big Gap Type Available for Heavy Motor Load Switching
- Improved Resistance to Shock and Vibration
- High Contact Current Capacity
- Automotive-Oriented design

■ APPLICATIONS

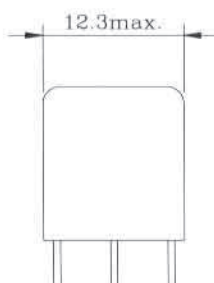
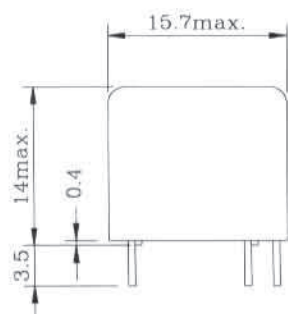
- Interval Wipers
- Door Lock
- Window Lifter
- Alarm System
- Wiper Motor Reverse
- Automatic Mirror Adjustment
- Fuel Pump Control
- Belt Tension Adjustment



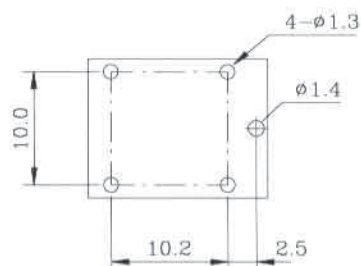
■ ORDERING INFORMATION



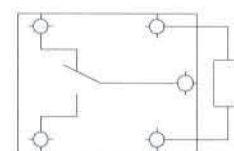
■ DIMENSION (unit:mm)



■ DRILLING (unit:mm)



■ WIRING DIAGRAM



■ COIL DATA CHART (AT20°C)

Coil Sensitivity	Coil Voltage Code	Nominal Voltage (VDC)	Nominal Current (mA)	Coil Resistance (Ω) $\pm 10\%$	Power Consumption (W)	Pull-In Voltage (VDC)	Drop-Out Voltage (VDC)	Max-Allowable Voltage (VDC)
TR81-D	06	6	100	60	abt. 0.6	80% Max.	5% Min.	150%
	09	9	66.7	135				
	12	12	50	240				
	24	24	25	960				
TR81-G	06	6	133.3	45	abt. 0.8	80% Max.	5% Min.	150%
	09	9	90	100				
	12	12	66.7	180				
	24	24	33.3	720				

■ CONTACT RATING

Item	Type	TR81
Contact Capacity		
Resistive Load ($\cos\Phi=1$)		20A, 14VDC
Inductive Load ($\cos\Phi=0.4$ L/R=7msec)		6A, 14VDC
Rated Carrying Current		25A/hr
Max. Allowable Voltage		16VDC
Max. Allowable Current		20A
Max. Allowable Power Force		400W
Referential Min. Applicable Load		10mA, 5VDC
Contact Material		AgNi, Ag Alloy

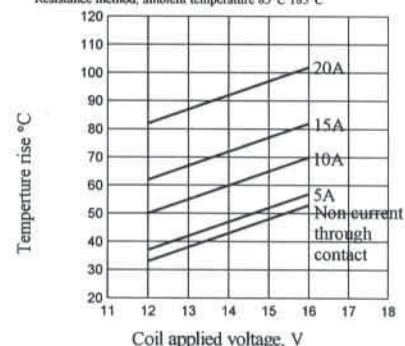
■ PERFORMANCE (at initial value)

Item	Type	TR81
Contact Resistance		100m Ω Max.
Operate Time		10msec
Release Time		5msec
Dielectric Strength		
Between coil & contact		500VAC 50/60Hz (1 minute)
Between contacts		500VAC 50/60Hz (1 minute)
Surge Resistance		1500V
Insulation Resistance		100 M Ω Min. (at DC500V)
Max. ON/OFF Switching		
Mechanically		300 operation/min
Electrically		30 operation/min
Operating Ambient Temperature		-30°C to +80°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		
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		1 $\times$ 10 ⁶ ops. Min. (no load)
Electrically		1 $\times$ 10 ⁵ ops. Min.
Weight		abt. 13grs

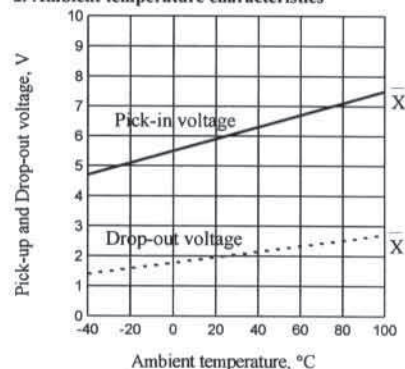
■ REFERENCIAL DATA

1. Coil temperature rise

Point measured : inside the coil
Contact current : Now 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
Miscontact : 0 time

