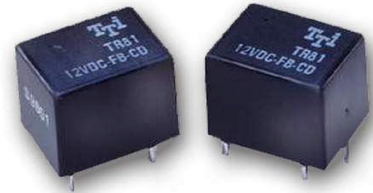


TR81

MAIN FEATURES

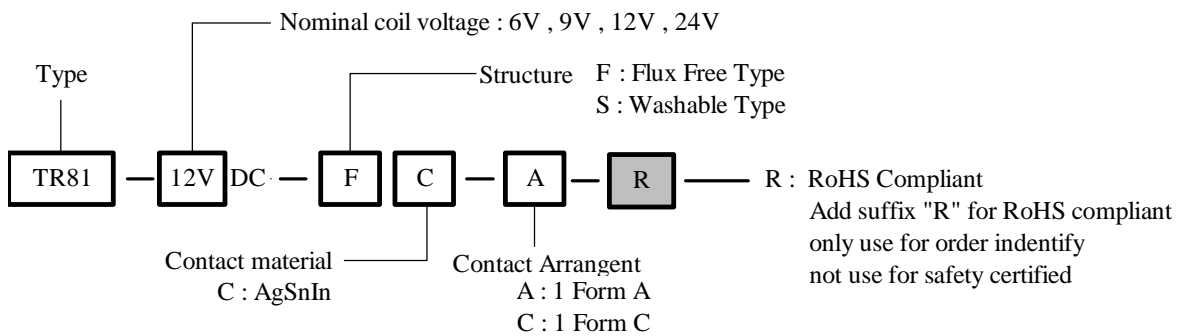
- Subminiature, Light Weight
- Big Gap Type Available for Heavy Motor Load Switching
- Improved Resistance to Shock and Vibration
- High Contact Current Capacity
- Automotive-Oriented design



APPLICATIONS IN

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

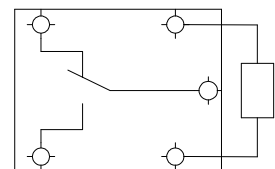
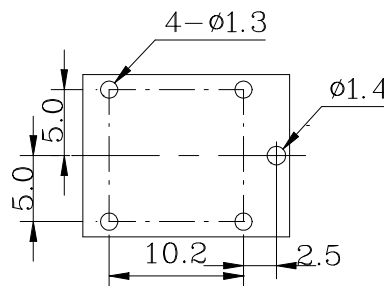
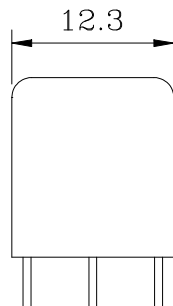
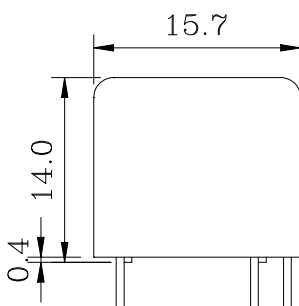
ORDERING INFORMATION



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. | 110% |
| | 09 | 9 | 66.7 | 135 | | | | |
| | 12 | 12 | 50 | 240 | | | | |
| | 24 | 24 | 25 | 960 | | | | |

CONTACT RATING

| Item | Type | TR81 |
|--|------|--|
| Contact Capacity Resistive Load ($\cos\Phi=1$) | | N/C : 15A 14VDC , 10A 120VAC N/O : 20A 14VDC , 10A 120VAC |
| 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 |

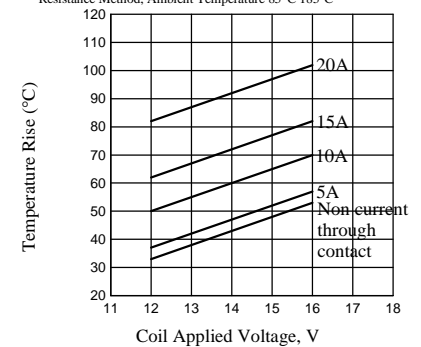
PERFORMANCE (at initial value)

| Item | Type | TR81 |
|-------------------------------|------|--|
| Contact Resistance | | 100m Ω Max. |
| Operation 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 500VDC) |
| 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 1×10^6 ops. Min. (no load) Electrically 1×10^5 ops. Min. |
| Weight | | abt. 6grs. |

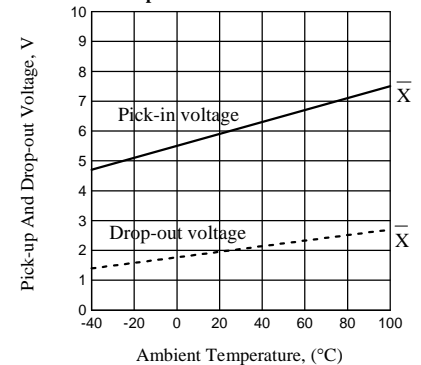
REFERENCE DATA

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
Misconduct : 0 time

