

● Features

- Small Size
- Surge withstand voltage up to 2500VAC
- Available in DIP & SMT type
- Available in Single side stable & latching type
- Bifurcated contacts
- Environmental friendly product (RoHS compliant)
- Dimensions: 15.0 x 7.5 x 9.0 mm



● Application

- Telecommunication Equipment / Security Alarm Systems / Measuring instruments / Medical Monitoring Equipment / Audio Visual Equipment / Flight Simulator / Sensor Control, etc.

● Contact Data

Contact Arrangement	2C
Contact Material	Ag Alloy
Contact Rating	0.5A 125VAC, 2A 30VDC, 3A 30VDC
Max. Switching Power	62.5VA / 90W
Max. Switching Voltage	277VAC / 220VDC
Max. Switching Current	4A
Contact Resistance	$\leq 100\text{m}\Omega$ (at 10mA 30mVDC)
Electrical Endurance	1×10^5
Mechanical Endurance	1×10^8

- Coil Parameter

Single Side Stable

Coil Voltage (VDC)		Coil Resistance ($\Omega \pm 10\%$)	Pickup Voltage(max) (VDC)	Release Voltage(min) (VDC)	Coil Power Consumption (W)
Rated	Max.				
1.5	2.2	16	1.13	0.15	0.14
2.4	3.6	41	1.80	0.24	
3.0	4.5	64.3	2.25	0.30	
4.5	6.7	145	3.38	0.45	
5	7.5	178	3.75	0.50	
6	9.0	257	4.50	0.60	
9	13.5	579	6.75	0.90	
12	18.0	1028	9.00	1.20	
24	36.0	4114	18.0	2.40	
48	57.6	8533	36.0	4.80	0.27

1 Coil Latching

Coil Voltage (VDC)		Coil Resistance ($\Omega \pm 10\%$)	Set Voltage(max) (VDC)	Reset Voltage(min) (VDC)	Coil Power Consumption (W)
Rated	Max.				
1.5	2.7	22.5	1.13	1.13	0.1
2.4	4.3	58	1.80	1.80	
3.0	5.4	90	2.25	2.25	
4.5	8.1	203	3.38	3.38	
5	9.0	250	3.75	3.75	
6	10.8	360	4.50	4.50	
9	16.2	810	6.75	6.75	
12	21.6	1440	9.00	9.00	
24	43.2	5760	18.0	18.0	

- Coil Parameter

- 2 Coil Latching

Coil Voltage (VDC)		Coil Resistance ($\Omega \pm 10\%$)	Set Voltage(max) (VDC)	Reset Voltage(min) (VDC)	Coil Power Consumption (W)
Rated	Max.				
1.5	2.2	11.2	1.13	1.13	0.2
2.4	3.6	29	1.80	1.80	
3.0	4.5	45	2.25	2.25	
4.5	6.7	101	3.38	3.38	
5	7.5	125	3.75	3.75	
6	9.0	180	4.50	4.50	
9	13.5	405	6.75	6.75	
12	18.0	720	9.00	9.00	
24	36.0	2880	18.0	18.0	

- Operation Condition

Insulation Resistance		1000M Ω min (at 500VDC)
Dielectric Strength	Between Contacts	1000VAC 1min
	Between Contact and Coil	2000VAC 1min
	Between Contact sets	1500VAC 1min
Surge Withstand Voltage	Between Contacts (10 / 160 μ s)	1500VAC (FCC part 68)
	Between Contact and Coil (2 / 10 μ s)	2500VAC (Telcordia)
Shock Resistance	Functional	735m/s ²
	Endurance	980m/s ²
Vibration Resistance		10~55Hz double amplitude 3.3mm
Ambient Temperature		-40 ~ +85 $^{\circ}$ C
Operate Time		\leq 4ms

Operation Condition

Release Time	$\leq 4\text{ms}$
Relative Humidity	5%~85%
Weight	Approx. 2g

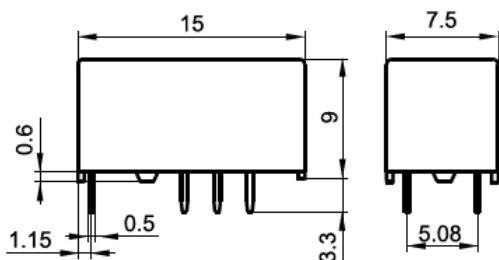
● Ordering Information

	TC	-12D	L1	-R	(XXX)
Model	TC: Standard DIP TCS: Standard SMT TCS1: Short terminal SMT				
Coil Voltage	1.5, 3, 4.5, 5, 6, 9, 12, 24, 48 VDC				
Coil Sort	Nil: Single side stable L1: 1 coil latching L2: 2 coil latching				
Packing Style	Nil: Tube packing R: Tape and reel packing (only for SMT type)				
Special Code	Nil: Standard XXX: Customer special requirement				

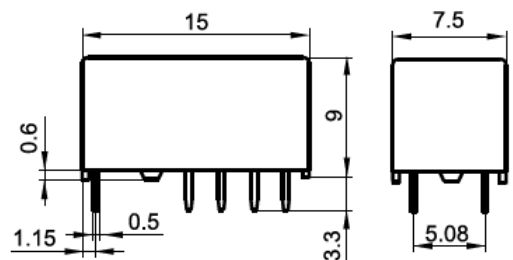
● Dimensions (UNIT: mm)

Outline Dimensions

TC type (Single side stable & 1 coil latching)



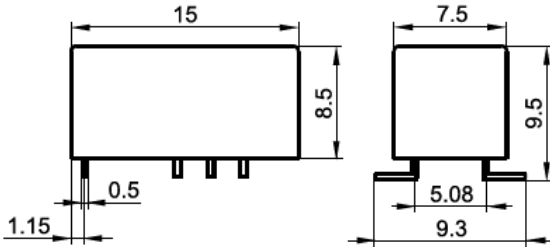
TC type (2 coil latching)



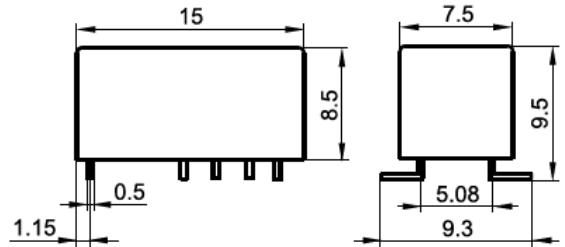
● Dimensions (UNIT: mm)

Outline Dimensions

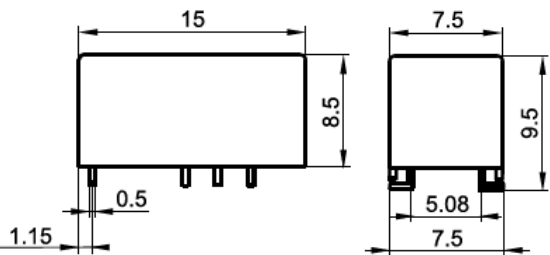
TCS type (Single side stable & 1 coil latching)



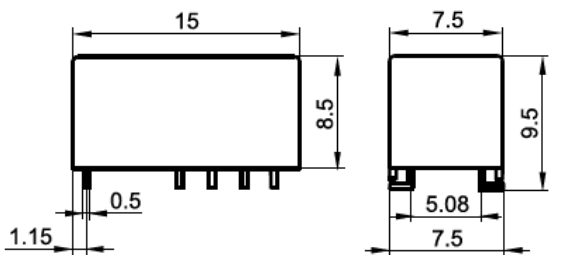
TCS type (2 coil latching)



TCS1 type (Single side stable & 1 coil latching)

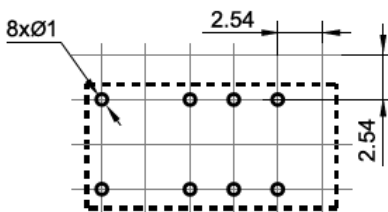


TCS1 type (2 coil latching)

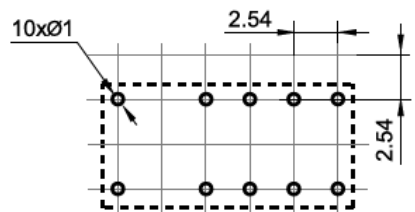


Mounting (Bottom views)

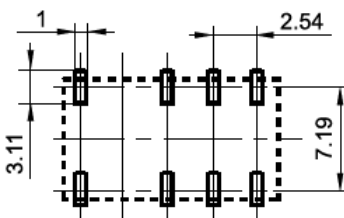
TC type (Single side stable & 1 coil latching)



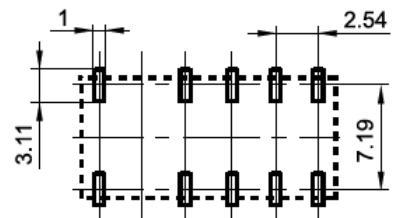
TC type (2 coil latching)



TCS type (Single side stable & 1 coil latching)



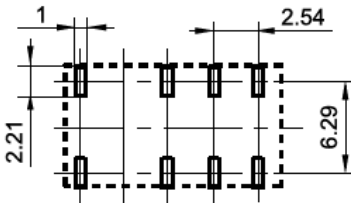
TCS type (2 coil latching)



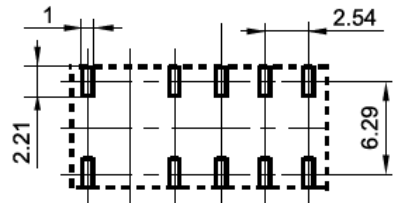
- Dimensions (UNIT: mm)

Mounting (Bottom views)

TCS1 type (Single side stable & 1 coil latching)



TCS1 type (2 coil latching)

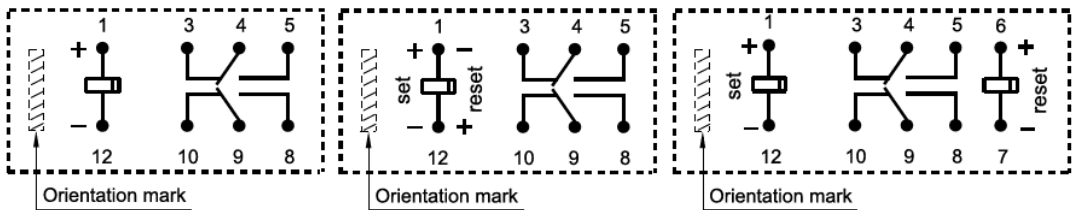


Wiring Diagram (Bottom views)

Single side stable

1 coil latching

2 coil latching



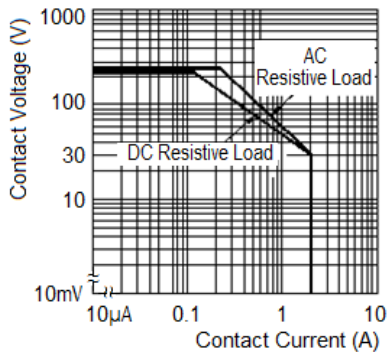
No energized condition

Reset condition

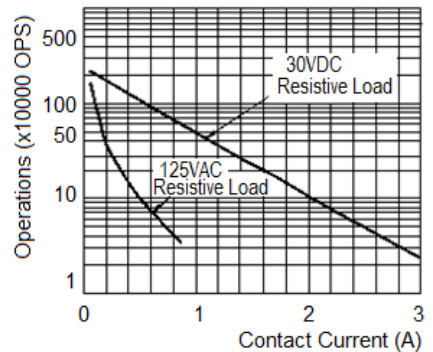
Reset condition

- Engineering Data

Maximum Switching Power



Endurance Curve

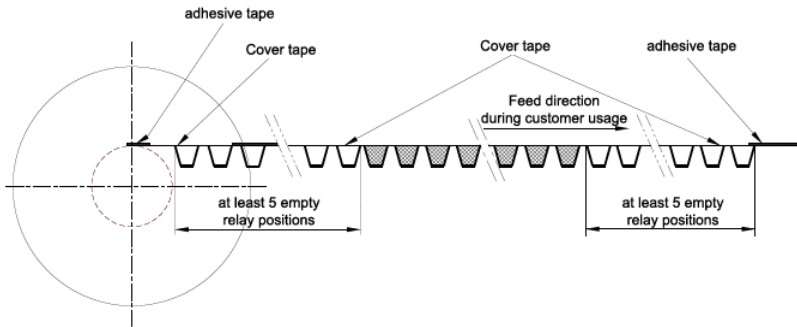
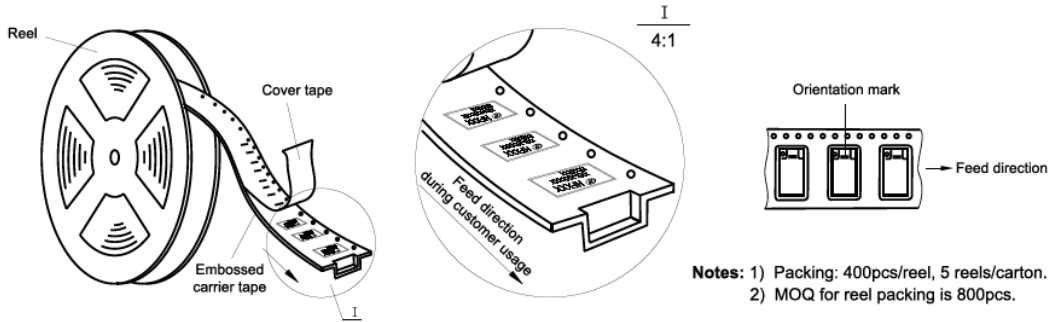


Test conditions:

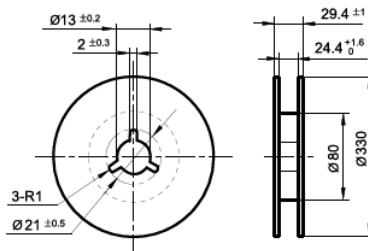
Resistive load, at 85°C, 1s on 9s off.

● Tape Packing

Direction of Relay Insertion

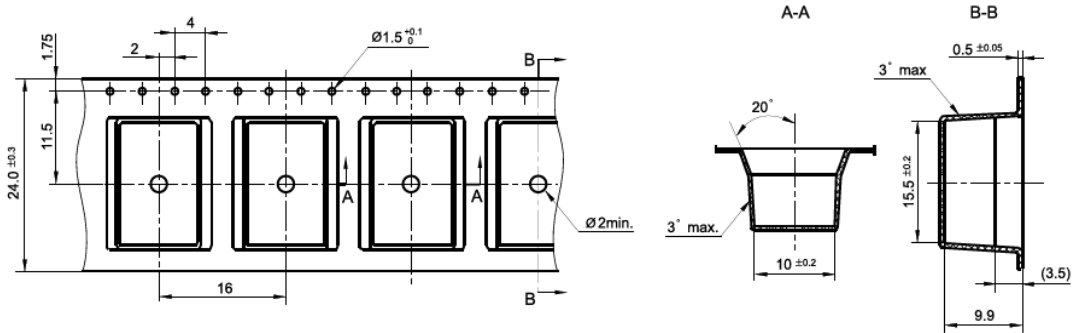


Reel Dimensions



- Tape Packing

Tape Dimensions (TCS type: Standard SMT)



Tape Dimensions (TCS1 type: Short terminal SMT)

