

This is a low-current, electromagnetic, polarized, bistable, hermetically sealed relay with two change-over contacts; designed to switch DC & AC electrical circuits with frequency to 10000 Hz; manufactured according to GOST 16121-86 and ЯЛ0.452.081 ТУ.

Environmental ratings: temperate, cold climate (RPS45, RPS 45-1) and tropical (humid) climate (RPS 45T, RPS 45-1T), and models with a high hermetic degree (with the symbol «□»).

Relays are different depending on the type of terminal structure:

RPS 45 have pin-type terminals; RPS 45-1 have planar terminals.



Ordering data:

Relay RPS 45-1T PC4.520.756-11 ЯЛ0.452.081 ТУ со знаком «□».

Terminal Parameters

Type	Model	Rated Voltage, V	Coil Resistance I, II, Ohm	Operate Voltage, V	Max. Voltage when Operate Time =5ms, V	Contact Resistance when $U_{rated} = (6 \pm 1) V$ and $I = (10 \pm 1) mA$, Ohm, not more than
1	2	3	4	5	6	7
RPS45	PC4.520.755;	$12 \pm 1,2$	150 ± 23	3,6 - 6,6	10,2	0,25
RPS45-T	PC4.520.756;	$12 \pm 0,6$				
RPS45-1	PC4.520.755-12;	$12 \pm 1,2$				
RPS45-1-T	PC4.520.756-12;	$12 \pm 0,6$				
RPS45	PC4.520.755-01;	$3 \pm 0,3$	$9 \pm 1,35$	0,95 - 1,55	2,7	0,25
RPS45-T	PC4.520.756-01;	$3^{+0,30}_{-0,15}$				
RPS45-1	PC4.520.755-15;	$3 \pm 0,3$				
RPS45-1-T	PC4.520.756-15	$3^{+0,30}_{-0,15}$				
RPS45	PC4.520.755-02;	$4 \pm 0,4$	$17 \pm 2,55$	1,35 - 2,1	3,6	0,25
RPS45-T	PC4.520.756-02;	$4^{+0,4}_{-0,2}$				
RPS45-1	PC4.520.755-14;	$4 \pm 0,4$				
RPS45-1-T	PC4.520.756-14	$4^{+0,4}_{-0,2}$				
RPS45	PC4.520.755-03;	$6,3 \pm 0,63$	$43 \pm 8,6$	2,25 - 3,5	5,7	0,25
RPS45-T	PC4.520.756-03;	$6,3^{+0,63}_{-0,30}$				
RPS45-1	PC4.520.755-13;	$6,3 \pm 0,63$				
RPS45-1-T	PC4.520.756-13	$6,3^{+0,63}_{-0,30}$				
RPS45	PC4.520.755-04;	$15 \pm 1,5$	220 ± 44	5 - 8,2	13,5	0,25
RPS45-T	PC4.520.756-04	$15^{+1,5}_{-0,75}$				
1	2	3	4	5	6	7



RPS45	PC4.520.755-05;	$27 \pm 2,7$	800 ± 160	9 - 15	21,6	0,25
RPS45-T	PC4.520.756-05;	$27^{+2,70}_{-1,35}$				
RPS45-1	PC4.520.755-11;	$27 \pm 2,7$				
RPS45-1-T	PC4.520.756-11	$27^{+2,70}_{-1,35}$				
RPS45	PC4.520.755-06;	$3 \pm 0,3$	$9 \pm 1,35$	0,95 - 1,55	2,7	0,5
RPS45-T	PC4.520.756-06;	$3^{+0,30}_{-0,15}$				
RPS45-1	PC4.520.755-20;	$3 \pm 0,3$				
RPS45-1-T	PC4.520.756-20	$3^{+0,30}_{-0,15}$				
RPS45	PC4.520.755-07;	$4 \pm 0,4$	$17 \pm 2,55$	1,35 - 2,1	3,6	0,5
RPS45-T	PC4.520.756-07;	$4^{+0,4}_{-0,2}$				
RPS45-1	PC4.520.755-19;	$4 \pm 0,4$				
RPS45-1-T	PC4.520.756-19	$4^{+0,4}_{-0,2}$				
RPS45	PC4.520.755-08;	$6,3 \pm 0,63$	$43 \pm 8,6$	2,25 - 3,5	5,7	0,5
RPS45-T	PC4.520.756-08;	$6,3^{+0,63}_{-0,30}$				
RPS45-1	PC4.520.755-18;	$6,3 \pm 0,63$				
RPS45-1-T	PC4.520.756-18	$6,3^{+0,63}_{-0,30}$				
RPS45	PC4.520.755-09;	$15 \pm 1,5$	220 ± 44	5 - 8,2	13,5	0,5
RPS45-T	PC4.520.756-09	$15^{+1,5}_{-0,75}$				
RPS45	PC4.520.755-10;	$27 \pm 2,7$	800 ± 160	9 - 15	21,6	0,25
RPS45-T	PC4.520.756-10;	$27^{+2,70}_{-1,35}$				
RPS45-1	PC4.520.755-16;	$27 \pm 2,7$				
RPS45-1-T	PC4.520.756-16	$27^{+2,70}_{-1,35}$				
RPS45	PC4.520.755-21;	$12 \pm 1,2$	150 ± 23	3, 6 - 6,6	10,2	0,5
RPS45-T	PC4.520.756-21;	$12 \pm 0,6$				
RPS45-1	PC4.520.755-17;	$12 \pm 1,2$				
RPS45-1-T	PC4.520.756-17	$12 \pm 0,6$				

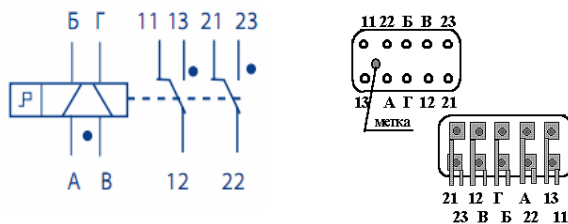
Technical Specifications

Operate Time, ms, not more than	5,0
Insulation Resistance between Relay Circuits, mOhm, not less than:	
at normal climatic conditions	200
at maximal operating temperature in conditions of high humidity and after silver thaw attack	20
in conditions of salt fog and mold & fungi	10
Test Voltage, V:	
at normal climatic ratings	180
in conditions of high humidity	150
at low air pressure	150
after mold & fungi and salt fog attack (only for RPS 45-T and RPS 45-1T)	150
Weight, g not more than	3,6

Switching Modes

Switching Range		Current Type	Type of Load	Switching Frequency,	Number of Switching Cycles	
I, A	U, V				Σ	t=125 °C
$0,5 \cdot 10^{-5} - 10^{-2}$	0,05 - 10	Var & const	active	5	10^5	$0,5 \cdot 10^5$
$0,1 \cdot 10^{-2} - 0,1$	0,5 - 36	Const				
$0,5 \cdot 10^{-5} - 0,5 \cdot 10^{-2}$	0,05 - 10		inductive $t \leq 0,015s$	3		
$0,5 \cdot 10^{-2} - 0,5 \cdot 10^{-1}$	2 - 36			1	$5 \cdot 10^4$	$2,5 \cdot 10^4$
$0,5 \cdot 10^{-1} - 0,5$	0,5 - 36	Const	active	5	10^5	$0,5 \cdot 10^5$
$0,1 \cdot 10^{-1} - 0,15$	6 - 60	Var		3	$5 \cdot 10^3$	$2,5 \cdot 10^3$
$0,5 \cdot 10^{-1} - 0,25$	0,05 - 36	Const	inductive $t \leq 0,015s$	1	10^4	$0,5 \cdot 10^4$
$0,1 \cdot 10^{-1} - 6 \cdot 10^{-1}$	6 - 36		active	5	10^5	$0,5 \cdot 10^5$
$0,1 \cdot 10^{-1} - 6 \cdot 10^{-1}$	6 - 36		Inductive $t \leq 0,015s$	1	10^4	$0,5 \cdot 10^4$
0,5 - 1,0	6 - 36		active	5		

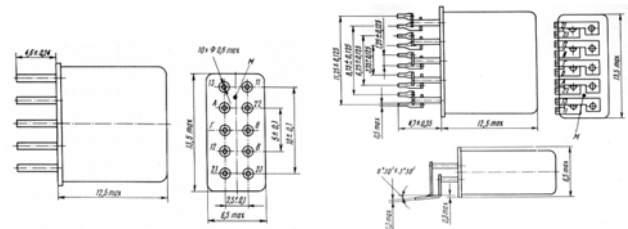
Schematic Circuit Diagram RPS 45, RPS 45-1



External Dimensions

RPS 45

RPS 45-1



Operating Conditions

Ambient Temperature °C	from minus 50 to plus 125
Relative Humidity at $t \leq 40^\circ\text{C}$, %	to 98
Air Pressure, Pa, (mm of Mercury)	$13 \cdot 10^{-7} \dots 3,04 \cdot 10^5$ ($10^{-8} \dots 2,3 \cdot 10^3$)
Sinusoidal Vibration: over 0,5 to 1500Hz over 1500 to 3000Hz	with acceleration amplitude to 300 m/sec ² (20g) with acceleration amplitude to 200 m/sec ² (20g)
Mechanical Shocks: single shocks duration of (0,1-2 ms) multiple shocks duration of (2-10 ms)	3 shocks with acceleration to 5000 m/sec ² (500g) or 9 shocks with acceleration to 1500 m/sec ² (150g) 4000 shocks with acceleration to 750 m/c ² (75g) or 10000 shocks with acceleration to 400 m/sec ² (40g)