I-2091

ALBUM

Technical documentation for article "84/0848711-03-Lb-40007"

Technical description and instructions for operation.

450-033TY

LIST

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No. of drawings, assemblies, articles	Description of the document	No. of drawings (Process sheets)	Number No. of sheets in 1copy	Remarks
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		Total No. of sheets	9	

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РА 450 033ТУ

RELAYS РЭС48, РЭС48-Т

TECHNICAL DESCRIPTION, INSTRUCTIONS FOR OPERATION

RELAYS РЭС48, РЭС48-Т

1. Introduction:

RelaysРЭС48, РЭС48-Т electromagnetic, weak current, sealed, neutral, double-throwd DC single stable with two switching contacts are intended for DC and AC electrical circuits switching with frequency upto 1100Hz.

As per the electrical parameters and design characteristics the realys are subdivided for versions.

Relays are classified as per the fastening method.

РЭС48А - Without angle-pieces

РЭС48Б - with angle pieces

2. TECHNICAL REQUIREMENTS

2.1 Relays maintain the efficiency and electrical parameters in the following effecting conditions:

- Vibratory loads from 5Hz to 50Hz with amplitude upto 2mm;

from 50Hz to 1500Hz with acceleration upto 294m/s^2;

from 1500Hz to 3000Hz with acceleration upto 196m/s^2;

- Impact loads.

multiple impacts with acceleration upto 341m/s^2;

linear centrifugal loads upto 980m/s^2;

- Acoustic noise

level of sound pressure should not exceed 130dB in the frequency range (100 to 10000)Hz;

- Cyclic effects of limiting values of ambient temperature from minus 60°C to plus 85°C.

2.2 Relay РЭС48-Т should maintain the parameters within the limits of specified norms after the effect of the following factors on them:

static effect of dust,

Mould;

Saline fog.

2.3 Insulation resistance between the current carrying circuits of the relay and also between the current carrying circuits and body should be at least:

200meg Ohms - in normal climatic conditions (de-energized windings.)

20 meg Ohms - at maximum temperature(after holding the winding under working voltage).

10 Meg Ohms - in conditions of increased humidity for relay PЭC48-T.

5 Meg Ohms - after static effect of dust, moulds, saline fog.

2.4 Electrical insulation.

2.4.1 Electrical insulation between the current carrying circuits of the relay and also between the current carrying cirruits and body should withstand test voltage;

500V - in normal climatic conditions;

300V - in conditions of increased humidity,

200V - at lowered atmospheric pressure.

for relay PЭC48-T

200V - after static effect of dust, moulds, saline fog.

2.5 Mass of the relay should not exceed. PЭC48-A, PЭC48A-T - 15.5G; PЭC48b, PЭC48b-T - 17g.

2.6 Working position of the relay - any.

3. Instructions for wiring

3.1 Soldering of wiring conductors to the leads of the relay should be carried out at a distance of atleast 2mm from the base of the relay.

3.2 While soldering the wires to the relay leads, observe strictly that no flux or solder fall on the base of the relay.

Solution of rosin in alcohol should be used as soldering flux.

3.3 Power of the soldering iron should be sufficient for heating and metling of solder and not exceed 100W. Time required for continuous heating while soldering each lead should not exceed 5s.

3.4 Total section of conductors to be soldered to the relay lead of should not exceed $0.5mm^2$.

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3.5 Maximum number of wires to be soldered to one lead should not exceed three.

3.6 While straightening the wiring the tensile force of wires should not exceed 9.8N.

4. INSTRUCTIONS FOR OPERATION.

4.1 Reliability and durability of relay in the apparatus are ensured by correct selection of modes and their operating conditions.

4.2 Use of relay in the apparatus in foundry mechanical and climatic conditions is not recommended.

4 3 Measures, ensuring minimum temperature for heating of relay body, should be taken while operating.

Such measures are:-

Improvement of ventilation, efficient arrangement of relay in the appratus and also use of heat removing panels and screens

5. Storage and transportation.

5.1 Relays in the package of the manufacturer should be stored in closed premises at temperature from 5°C to 35°C and relative humidity (65±15)%.

Premises, where the relays are stored, should be protected from ingress of fumes of acids, alkalies or other chemically active substances affecting the preservation of relays.

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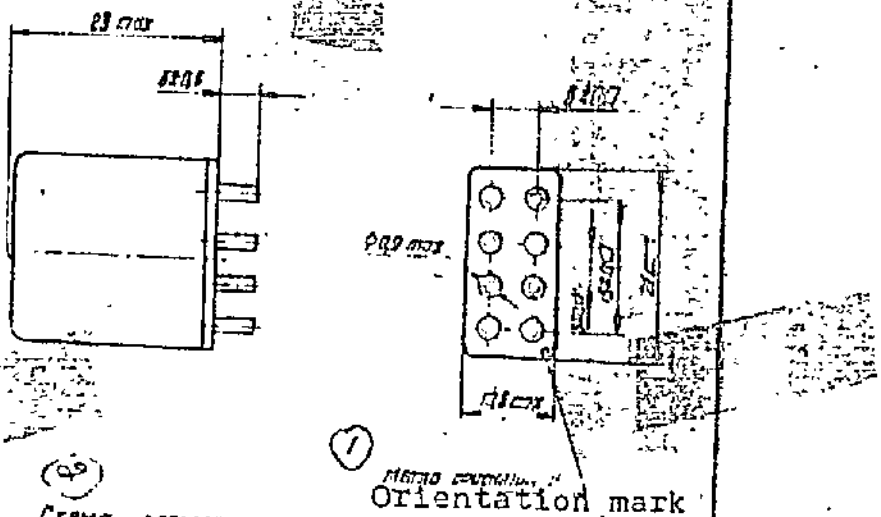
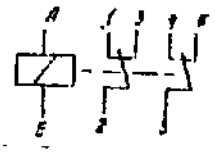
I Relay РЭС 48А; РЭС 48А-Т with overall, mounting and connecting dimensions.

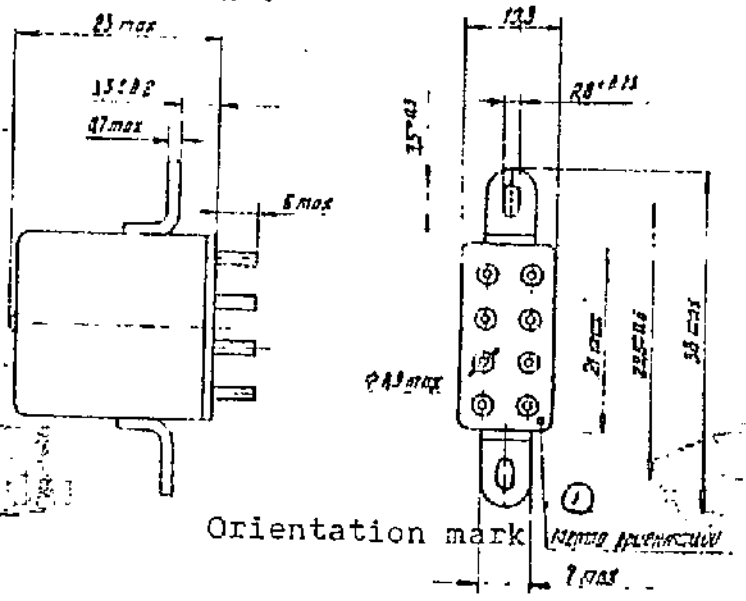


(1) Место ориентации
Orientation mark

(2) Схема электрическая принципиальная
Schematic circuit diagram

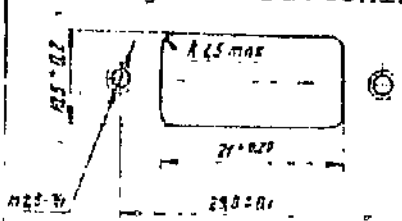


II Relay РЭС 48Б; РЭС 48Б-Т with overall, mounting and connecting dimensions.

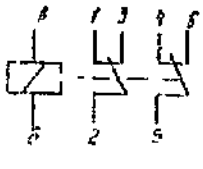


(1) Место ориентации
Orientation mark

(2) Разметка для крепления
Marking for fastening



(3) Схема электрическая принципиальная
Schematic circuit diagram



TECHNICAL CHARACTERISTICS
RELAYS PЭC48, PЭC48-T VERSIONS PCH4.590.201

1. Electrical parameters during delivery period.

Winding resistance	(600±60)Ohms
Pulling up current	Not more than 23mA
Dropout current	Not less than .3mA
Operating time	Not more than 10ms
Release time	Not more than 5mA

Resistance of electrical contacts at voltage(6±1)V and current (100±10)mA during delivery period is 1.5 Ohms.

2. Electrical parameters during operation.

During and after the effect of mechanicalm climatic factors and wear resistance test:

Drop out current atleast 1.5mA

During storage period:

1. Pulling up current not more than 25mA
2. Dropout current atleast 2.5mA

Ambient temperature(limiting values) from minus 60°C to 125°C.

Continuous holdup time of winding under voltage:

1. At atmospheric pressure $9.59.10^4$ to $3.04.10^5$PA not more than 10s.

2Total hold up time of winding under voltage:.

1) at atmospheric pressure $1.33.10^{-6}$ to $6.66.10^2$Pa and ambient temperature 85°C - 100Hrs.
2) at atmospheric pressure $9.59.10^4$ to $3.04.10^5$ and ambient temperature 125°C - 50Hrs.

Relative pulse duration - not less than 25.

SWITCHING MODES

1. Switching ranges

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SWITCHING MODES

Switching ranges of Current A	Switching ranges of Voltage, V	Type of current	Kind of load	Switching frequency, Hz not more than	Number of switching cycles Total	Number of switching cycles including at 85°C
0,1-2,0	6- 30[x]	DC	Resistive load	8	1.10^5	5.10^4
2,0-3,0	6- 36			2	1.10^4	5.10^3
0,1-0,3	30- 220[xI]			7	15.10^4	10.10^4
0,1-0,3	12- 150[xI] eff.	AC(50 to 1100)Hz		7	15.10^4	75.10^3
0,5-1,5	45	AC(350 to 1100) Hz.	Inductive Cos φ at-least 0,2		1.10^4	5.10^3

x - Voltage upto 36V is allowed while maintaining the power to be switched.

xI - During atmospheric pressure($1.33.10^{66}$ to $6.66.10^2$)Pa the maximum voltage at contacts should be 170V DC and 130V AC (effective value).