

1.3.

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. : 0,5, 1,0, 1,5, 2,5, 4,0, 6, 10, 16 .

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Diagram illustrating a series of connected segments and angles. The segments are labeled with angles:  $50^\circ$ ,  $60^\circ$ , and  $70^\circ$ . The diagram is labeled with  $Q$  and  $R$ .

$$Q = I^2 \cdot R \cdot t,$$

$I$  ,  $R$  -

2

, ;  $R = \frac{\rho \cdot l}{s} \cdot 10^6$ , – , .m,  $l$  – ,

m,  $s$  – ,  $\text{mm}^2$ ,  $t$  – ,

$Q$  :

$$Q = C.F.(\theta - \theta_0).t,$$

$$F = 10.\pi.d.l = 10.l.\sqrt{4.\pi.s} \quad , \text{ cm}^2,$$

;  $d$  – , mm;

– , ° ; 0 – , ° .

– , ,

1  $\text{cm}^2$  1° ,

W/( $\text{cm}^2 \cdot ^\circ\text{C}$ ). ,

, .

(1-2). $10^{-3}$

W/( $\text{cm}^2 \cdot ^\circ\text{C}$ ).

, . :

$$I^2.R.t = C.F.(\theta - \theta_0).t$$

$R$   $F$

$s$ , ,  $I$ ,

, :

$$s = \sqrt[3]{\frac{I^4 \cdot \rho^2}{4.\pi.C^2.(\theta - \theta_0)^2.10^{-10}}}, \text{ mm}^2,$$

$$I = \sqrt[4]{\frac{4.\pi.C^2.s^3.(\theta - \theta_0).10^{-10}}{\rho^2}}$$

, –

– .

, ,

$j_d, \text{ A/mm}^2$

- - 15-20 A/mm<sup>2</sup>;
- - 10-15 A/mm<sup>2</sup>;
- - 3-5 A/mm<sup>2</sup>.

$$j_d = \frac{I}{s},$$

:

$$s = \frac{I}{j_d} = \frac{P}{U_n \cdot j_d}, \text{ mm}^2.$$

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—2,5%      -5, +10%      +5%

$U.$

$I,$

$U_0,$

$$U = U_0 - U.$$

$$U = I.R.$$

:

$$R = \frac{\rho \cdot l}{s} \cdot 10^6,$$

$l$  e

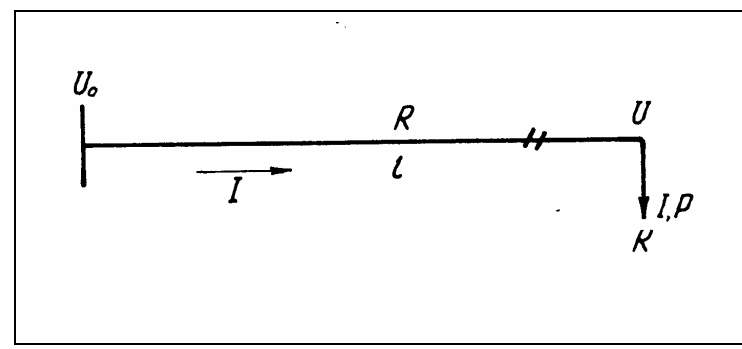
, m;

,

-

.m;  $s$  –

,  $\text{mm}^2$ .



:

$$\Delta U = \frac{I \cdot \rho \cdot l}{s} \cdot 10^6.$$

$U\%$

$U_n$

:

$$\Delta U \% = \frac{\Delta U}{U_n} \cdot 100 = 100 \cdot \frac{I \cdot \rho \cdot l}{s \cdot U_n} \cdot 10^6.$$

:

$$s = 100 \cdot \frac{I \cdot \rho \cdot l}{\Delta U \% \cdot U_n} \cdot 10^6 = 100 \cdot \frac{P \cdot \rho \cdot l}{\Delta U \% \cdot U_n^2} \cdot 10^6,$$

$$P = \frac{U_n}{I} \cdot e$$

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