

EK Enačbe za 1. kolokvij

$$MTTF = \frac{1}{FR_{cel}} = \int_0^{\infty} t f(t) dt = \sum_{i=0}^{\infty} i f(t_i)$$

$$AF = \frac{t}{t_t} = \frac{RR_t}{RR} = e^{-\frac{E_g}{k}(\frac{1}{T_t} - \frac{1}{T_a})}$$

$$T_s = T_a + R_{thsa} P_{el}$$

$$R(t) = R_0(1 + TR_R(T_s - T_0))$$

$$P_{th} = \alpha_{th} S \Delta T$$

$$\Delta T = T_{Smax} - T_a$$

$$R = nR_{sh} + 0.6 \cdot n_{90ovinek} R_{sh}$$

$$R_{sh} = \frac{\pi}{\ln 2} \frac{U}{I} = 4.53 \frac{U}{I}$$

$$G = \frac{W}{l} \int_0^a \sigma(x) dx$$

$$R_{sh} = \frac{W}{lG} = \frac{\rho}{d}$$

$$\sigma = \frac{1}{\rho}$$

$$G = \frac{1}{R} \rho$$

$$P = P_{max} \frac{\tau}{T}$$

razmerje = $\frac{T}{\tau}$

$$j(x) = j_0 e^{-\frac{x}{\delta}}$$

$$\text{udor v vodnik: } \delta(\omega) = \sqrt{\frac{2\rho}{\mu\omega}}$$

$$R = \frac{l}{2r} \sqrt{\frac{\rho\mu f}{\pi}}$$

$$\mu = 4\pi 10^{-7}$$

$$\frac{1}{Z} = \frac{1}{R+j\omega L} + j\omega C$$

$$U_{N_R} = \sqrt{4k_B R T}$$

$$\left(\frac{S}{N}\right)_{dB} = \left(\frac{U_s^2}{U_n^2}\right)_{dB}$$

$$10 \log \frac{U_s^2}{U_n^2} = \left(\frac{S}{N}\right)_{dB}$$

$$R_T(T) = Ae^{\frac{B}{T}}$$

$$\textbf{Varistor: } I = kU^\alpha$$

$$\text{dif. upornost } r = \frac{U}{\alpha I}$$

$$TK_U \text{ temp. k. nap. pri konst. toku} \Rightarrow \frac{dI}{dT} = 0$$

$$TK_U = \frac{dU}{UdT}$$

$$TK_i \text{ temp. k. toka pri konst. nap.} \Rightarrow \frac{dU}{dT} = 0$$

$$TK_I = \frac{dI}{UdT}$$

$$x_{1,2} = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$1\text{eV} = 1.6 \cdot 10^{-19} J$$

$$k_b = 1.38 \cdot 10^{-23} J/K$$