MERJENJE VRDNOSTI

METODA (VI, IU) $R = \dfrac{U}{I}$

V_0, R_x, V_v

$V \geq 1V$

	I_1	U_1	I_2	V_2	$\Delta R_1'$	$\Delta R_2'$
$R_1 = 4{,}7\ \Omega$	703	3,4	220	1,06		
$R_2 = 12\ \Omega$	101	1,19	309	3,54		
$R_3 = 100\ \Omega$	46,8	4,63	4,83	0,48		
$R_4 = 820\ \Omega$	0,455/448μ	0,37	45μ/13,9v	0,36		
$R_5 = 22\ k\Omega$	0,49/0,04	9,74	45μ/44μ	9,98		

$$P = I^2 R$$

$$(0{,}1)^2 \cdot 12\,\Omega = 12W \qquad 0{,}5W = I^2 \cdot 12\,\Omega$$

$$0{,}0416 = I^2$$

$$I = \sqrt{0{,}0416} = 0{,}2A$$

	I_1	V_1	I_2	V_2	$\Delta R_1'$	$\Delta R_2'$
$R_1 = 4,7\ \Omega$	88,8	1,03	0,015A	5,04		
$R_2 = 22\ \Omega$	56,0	103	162,6	3,01		
$R_3 = 100\ \Omega$	10,27	1,10	50,2	5,34		
$R_4 = 820\ \Omega$	1,24	1,04	11,97	9,95		
$R_5 = 22\ k\Omega$	45,7v	1,02	0,45	10,00		

"SLABŠ k SKOT   PAPPIR"-ONGHBK

$$x = \frac{8,4}{0,48 \, mA} =$$

$$R = \frac{U}{I}$$

$$22\,000 = \frac{U}{I} = \frac{U}{0,5 \, mA}$$

$$V = IR = 22 \cdot 5 = 110 \, 11$$

$$5W = I^2 R_A \, 4,7 \, \Omega$$

$$45 \, mA \cdot 13 \, mV = \qquad\qquad 7\Omega = 5V$$

$$\frac{13 \, mV}{45 \, mA} = \qquad\qquad \frac{5V}{7} = 0,15$$

$$I = \frac{U}{R} = \frac{13 \, mA}{100 \, \Omega}$$

$$\alpha = k \cdot I \qquad\qquad \alpha_{MAX} = k \cdot I_1$$

$$r \geq \frac{P_a}{MD} \cdot 100$$

$$P_r = \frac{P_a}{X_{MOV}}$$

$$P_r = \frac{r \cdot M.D.}{100 \cdot X_{MOV}} \qquad \frac{1B}{10} \qquad \frac{10}{5}$$

$$\qquad\qquad\qquad\qquad\qquad\qquad P_r \sim r \qquad P_r = 2r$$

RAZŠIRJANJE MERILNEGA DOSEGA

$$\frac{V_0}{R} = I$$

← VOLTMETER

$$V_0 = M.D. \implies \alpha_{MAX.} \implies I = I_{MAX}$$

$$I_i = \frac{V_{MD}}{R} = \frac{U(MD)}{R_i + R_V} \qquad\qquad \frac{U_i}{I_i} = R_i$$

$$R_V = \frac{MD}{I_i} = MD(V) \cdot \frac{1V}{I_i} \qquad R_k = \frac{1}{I_i (mA)} = \left(\frac{k\Omega}{V}\right)$$

$$R_V = MD \cdot R_K$$

IZHODIŠČE: $MD = 2,5V$

$V_i =$

$I_i = 50 \mu A$

$R_i =$

POVEČUJEMO DA (?) KAŽE POLN ODKLON

NATO IZMERIŠ V_R

IZRAČUNAŠ $I_R = I_i$

$k_V = \frac{MD}{\alpha_{max}} \Rightarrow N_V = k_V \cdot \alpha$

$R_A = \frac{30V}{I_i} - R_i = \frac{30U}{46,4\mu A} - R_i =$

$R_p = 660,792 \, k\Omega - R_i$

$I = \frac{U}{R} = \frac{1V}{22k\Omega} = 0,0454 mA = 45,4 \mu A$

NAŠ VOLTMETER ↓

$R_p = 660,792 k\Omega +$
$\quad - 55,066 \, k\Omega$

$R_p = 609,7 \, k\Omega$

V_D	U_{DIG}	U_2	P_a	P_r
0	0	0		
6	4,97	6,23		
12	10,31	12,29		
18	15,21	18,11		
24	20,83	24,11		
30	26,05	29,72		

a) $R_V = \frac{30V}{I_i} = 660k$

b) $R_i = \frac{3,4V}{I_i} > 55k$

c) $R_p = R_V - R_i = 600k$