Pilda de calcul

Se da

$R_i = 1.6\,k\Omega$

$\frac{\Delta R}{R} = 20\% = 0,2$

$R_S = 300\,\frac{\Omega}{\square}$

$P_i = 1,9\,mW$

$\Delta T = 60^\circ C$

$P_0 = 0,5\,\frac{W}{mm^2}$

$l = b = ?$

$b = ?$

Din (5) $K_f = R/R_S$

$K_f = \frac{1600\,\Omega}{300\,\frac{\Omega}{\square}} = 5,33$ (- tabel 1,1)

Din (6) $b_{calc} \geq \{b_{tehn}, b_{pr}, b_p\}$

$b_{tehn} = 3,0\,\mu m$

Din (8) $\frac{\Delta K_f}{K_f} = 0,2 - 0,01 - 1 \cdot 10^{-3} \cdot 60 =$ (pag 24)

$= 0,13$

Din (10) $b_{pr} = \left(\frac{\Delta l}{K_f} + \Delta b\right)\frac{K_f}{\Delta K_f} =$

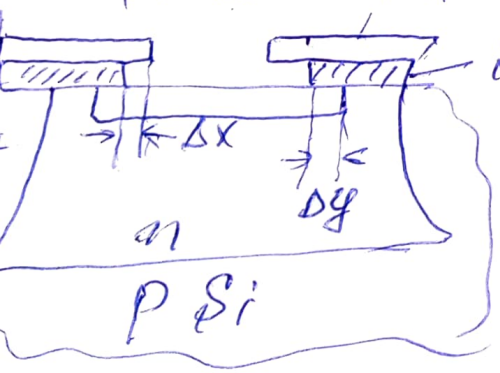
$= \left(\frac{0,1}{5,33} + 0,1\right)\frac{1}{0,13} = \frac{0,12}{0,13} = 0,9\,\mu m$

Din (12) $b_p = \sqrt{\frac{P_i}{P_0 \cdot K_f}} = \sqrt{\frac{1,9}{0,5 \cdot 10^3 \cdot 5,33}}$

$= 0,026\,mm = 26\,\mu m$

Din (6) $b_{calc} = 26,7\,\mu m$

ER b_{masca} ER



$b_{masca} = b_{calc} - 2(\Delta x + \Delta y)$

$\Delta x = 0,2 \div 0,5\,\mu m$

$\Delta y = 0,6 \cdot 2,2 = 1,32\,\mu m$

60% de la h-bazei $= 2,2\,\mu m$

$b_{masca} = 26,7 - 2(0,5 + 1,3) =$

$\approx 24\,\mu m$

Din 4 $l_{masca} = b_{masca} \cdot K_f = 24 \cdot 5,33 \cong 128\,\mu m$