

$$11) \frac{R7 \cdot R8}{R8 + R7}$$

$$R78 = \frac{47K \cdot 18K}{18K + 47K} = \underline{\underline{13K}}$$

$$I_E = I_B + I_C$$

$$I_E = 12\mu A + 3000\mu A = \underline{\underline{3,01mA}}$$

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$$\beta = \frac{3mA}{12\mu A} = \underline{\underline{0,25}}$$

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$$U_{R4} = 330\Omega \cdot 3,01mA = \underline{\underline{1174mV}}$$

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$$U_{R3} = U_E - U_{R4}$$

$$U_{R3} = 2,68V - 1,174V = \underline{\underline{1,51V}}$$

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$$R3 = \frac{1,51V}{3mA} = \underline{\underline{0,50\Omega}}$$

$$R36 = R6 + \beta \cdot R3$$

$$R36 = 220\Omega + 0,25 \cdot 0,50\Omega = \underline{\underline{220,13\Omega}}$$

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$$\frac{R36 \cdot R78}{R78 + R36}$$

$$R3678 = \frac{220,13\Omega \cdot 13K}{13K + 220,13\Omega} = \underline{\underline{12,28\Omega}}$$

$$C1 = \frac{1}{2\pi \cdot 25Hz \cdot 12,28\Omega} = \underline{\underline{0,52\mu F}}$$

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