$$\frac{-V_{DD}}{2} = -V_{DD}\left(1 - e^{\frac{-T_{OFF}}{RC}}\right) \Rightarrow \boxed{T_{OFF} = RC\ln(2)}$$

$$\boxed{T = T_{ON} + T_{OFF} = RC\ln(3)}$$

$$\boxed{DC = \frac{T_{ON}}{T} = \frac{\ln(3/2)}{\ln(3)}}$$

$$\overline{P_C} = 0W$$

$$\overline{P_D} = 0W$$

T_{ON}:

$$I_{R_1} = I_{R_2} = 0A \rightarrow P_{R_1} = P_{R_2} = 0W$$

T_{OFF}:

$$I_{R_1} = I_{R_2} = \frac{V_{DD}}{2R} \Rightarrow P_{R_1} = P_{R_2} = R\frac{V_{DD}^2}{4R^2} = \frac{V_{DD}^2}{4R}$$

$$\boxed{\overline{P_{R_1}} = \overline{P_{R_2}} = \frac{V_{DD}^2}{4R}\frac{T_{OFF}}{T_{ON}} = \frac{V_{DD}^2}{4R}\frac{\ln(2)}{\ln(3)}}$$

T_{ON}: $\quad i_{RC} = \frac{-V_{DD} - v_C}{R}$

$$i_{R_C}(t) = \frac{-V_{DD}}{2} - \frac{3}{2}V_{DD}\left(1 - e^{\frac{-t}{RC}}\right) = i_{RC}^{ON}(t)$$

T_{OFF}: $\quad i_{RC} = \frac{+V_{DD} - v_C}{R}$

$$i_{RC}(t) = V_{DD} + V_{DD}\left(1 - e^{-t/RC}\right) = i_{RC}^{OFF}(t)$$

$$\overline{P_{RC}} = \frac{1}{T_{ON}+T_{OFF}}\left[\int_0^{T_{ON}} R\left(i_{RC}^{ON}(t)\right)^2 dt + \int_0^{T_{OFF}} R\left(i_{RC}^{OFF}(t)\right)^2 dt\right]$$