$$\begin{split} I_{DS} &= K* \ln \left(1 + exp \left(\frac{V_{GS} - 1.7}{\frac{slp}{26}} \right) \right) * \frac{V_{DS}}{1 + \max(x0_0 + x0_1*(V_{GS} + 4.1), 0.2)*V_{DS}} \quad V_{DS} > 0 \\ I_{DS} &= -K* \ln \left(1 + exp \left(\frac{V_{GD} - 1.7}{\frac{slp}{21}} \right) * \frac{V_{SD}}{1 + \max(x0_0 + x0_1*(V_{GD} + 6.1), 0.2)*V_{SD}} \right) \quad V_{DS} \leq 0 \\ K &= cur*0.8* \left(\frac{T - 25 + 273}{300} \right)^{-2.7} \\ cur &= \left\{ \left(\frac{0.85}{3.6} \right) * \left(0.069*\frac{75}{80} \right) * 295 \right\} = 0.4685890625 \\ Rd &= \frac{3.6}{4} * 0.95*0.82* \frac{1 - \left(-0.128*(T - 25) \right)}{295} * 18.2 \\ Rs &= \frac{3.6}{4} * 0.95*0.82* \frac{1 - \left(-0.128*(T - 25) \right)}{295} \end{split}$$



