Rise and fall times and turn-on and turn-off times
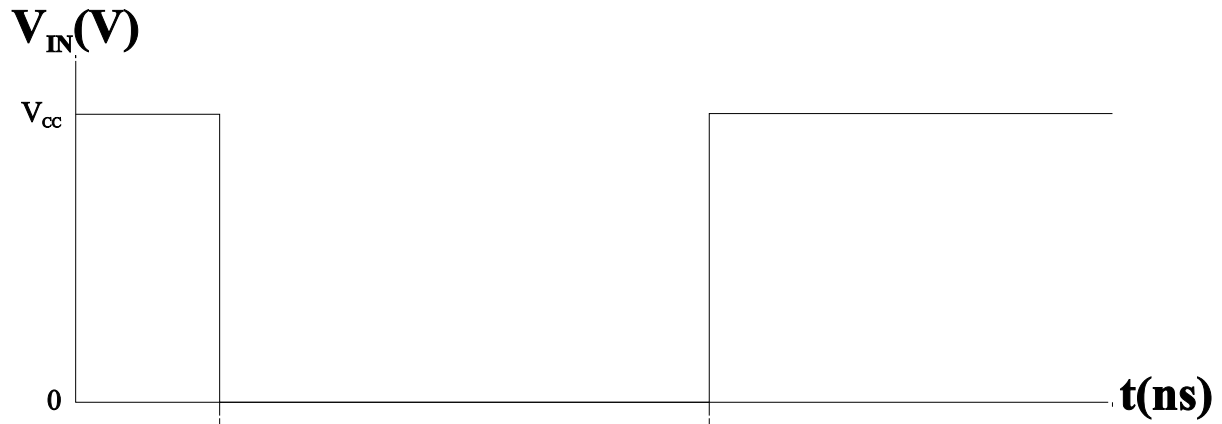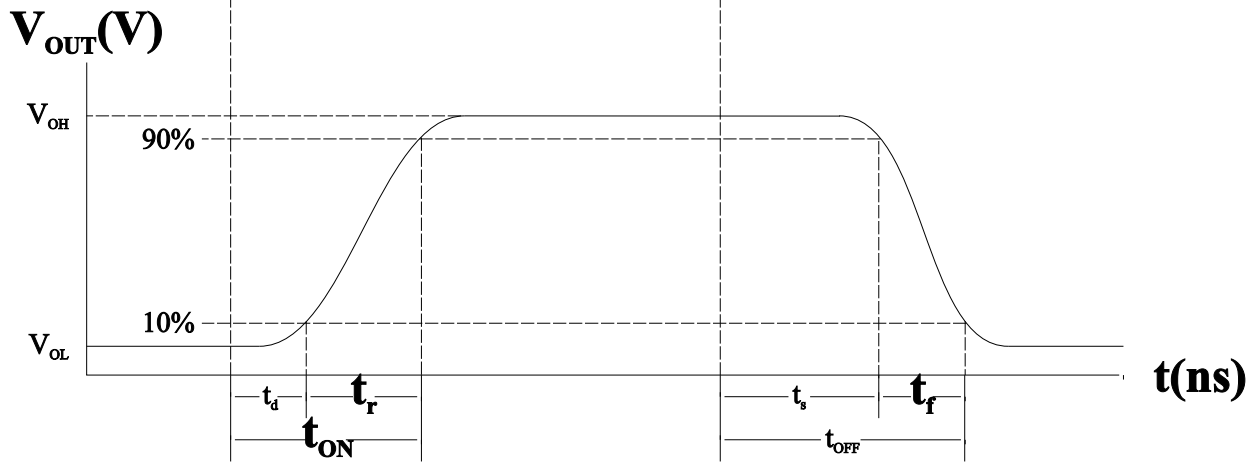
$V_{IN}(V)$

V_{CC}

0

$t(ns)$

(a)

$V_{OUT}(V)$

V_{OH}

90%

10%

V_{OL}

$t(ns)$

t_d t_r

t_{ON}

t_s t_f

t_{OFF}

(b)