

3. Referring to figure 4, we can see that the inductive kickback at the falling edge of the first pulse is small. Also the initial droop in $V_{dd\text{-pin}}$ is small at the rising edge of the pulse. These two clues indicate that the parasitic inductance of the decoupling capacitor is small.

Once the edge of the pulse is launched, the normally flat portion of the pulse begins and continues to droop. This is because the SO2 parallel termination requires continuous current and the decoupling capacitor is of insufficient size to keep $V_{dd\text{-pin}}$ and thus tline-in at a stable level.

We can also note that although the decoupling cap is connected to the PCB supply plane, its inductance is too large to keep the decoupling capacitor charged while the pulse is high. Between pulses however, the capacitor gets enough charge to launch a second incident wave,