



$$t_1 = \frac{d}{v_{L\text{on}}} \sim 150 \text{ m/s}$$

$$t_2 = \frac{d}{v_{E\text{on}}} \sim 50 \text{ m/s}$$

$$t_2 - t_1 = 4 \times 10^{-3}$$

$$d \left(\frac{1}{v_1} - \frac{1}{v_2} \right) = \Delta t$$

$$d \left(\frac{3}{150} - \frac{1}{150} \right) = 4 \times 10^{-3}$$

$$\frac{150}{2} = 0.30 \text{ m}$$
$$= 30 \text{ cm}$$