NOTES:
PC-BOARD INTERCONNECT BEHAVING AS A TRANSMISSION LINE.
SIGNAL PROPAGATES AS ELECTROMAGNETIC WAVE (SPEED OF LIGHT ÷ \( \sqrt{\text{RELATIVE DIELECTRIC CONSTANT}} \)).

PROPAGATION TIME = \( \frac{\text{DISTANCE}}{\text{VELOCITY}} = \frac{D}{C/\sqrt{\varepsilon_R}} \).

With short interconnections or low-frequency signals, the applied signal voltage appears instantaneously at every point on the interconnection (a). In (b), by \( t_1 \), the applied signal voltage has traveled only a short distance from the source end. Only after the passage of time \( t_2 \) does the voltage appear at a point closer to the load.