

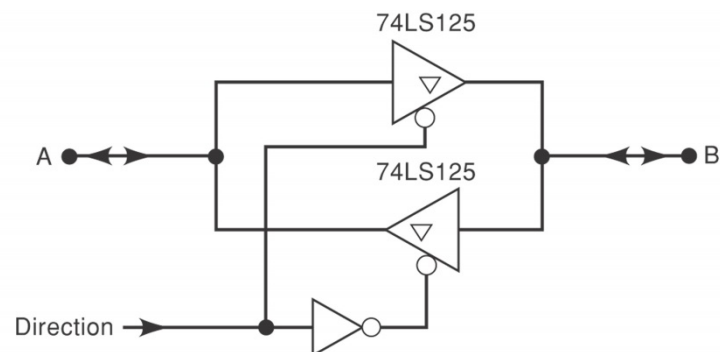
L11 practice problems

1. Two different logic circuits have the characteristics shown below.
 - (a) Which circuit has better Low-state dc noise immunity?
 - (b) Which circuit has better High-state dc noise immunity?
 - (c) Which circuit can operate at higher frequencies?

	Circuit A	Circuit B
V _{cc} (V)	6	5
V _{IH} (min) (V)	1.6	1.8
V _{IL} (max) (V)	0.9	0.7
V _{OH} (min) (V)	2.2	2.5
V _{OL} (max) (V)	0.4	0.3
t _{PLH} (ns)	10	18
t _{PHL} (ns)	8	14
PD (mW)	16	10

(Tocci, Widmer and Moss, ed. 10)

2. The figure below shows how two tristate buffers can be used to construct bidirectional transceiver that allows digital data to be transmitted from A to B, or from B to A. Describe the circuit operation. (Tocci, Widmer & Moss, ed. 10)



3. Describe the operation and hence obtain the Boolean expression for this CMOS circuit. (Wakerly Ex. 3.59)

