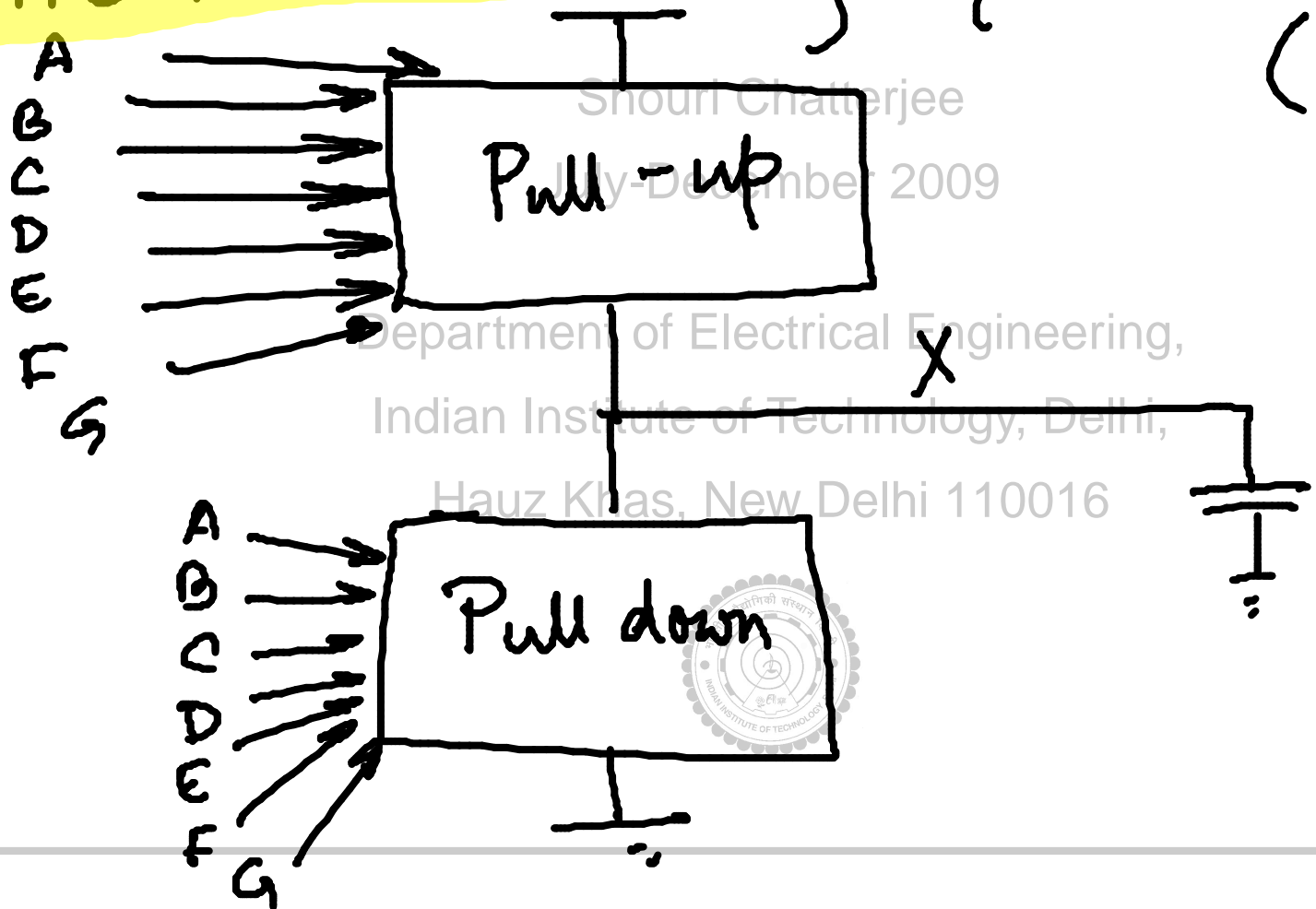


CMOS gates

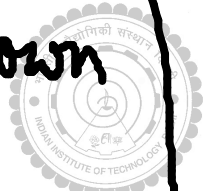
- NAND
- NOR
- NOT

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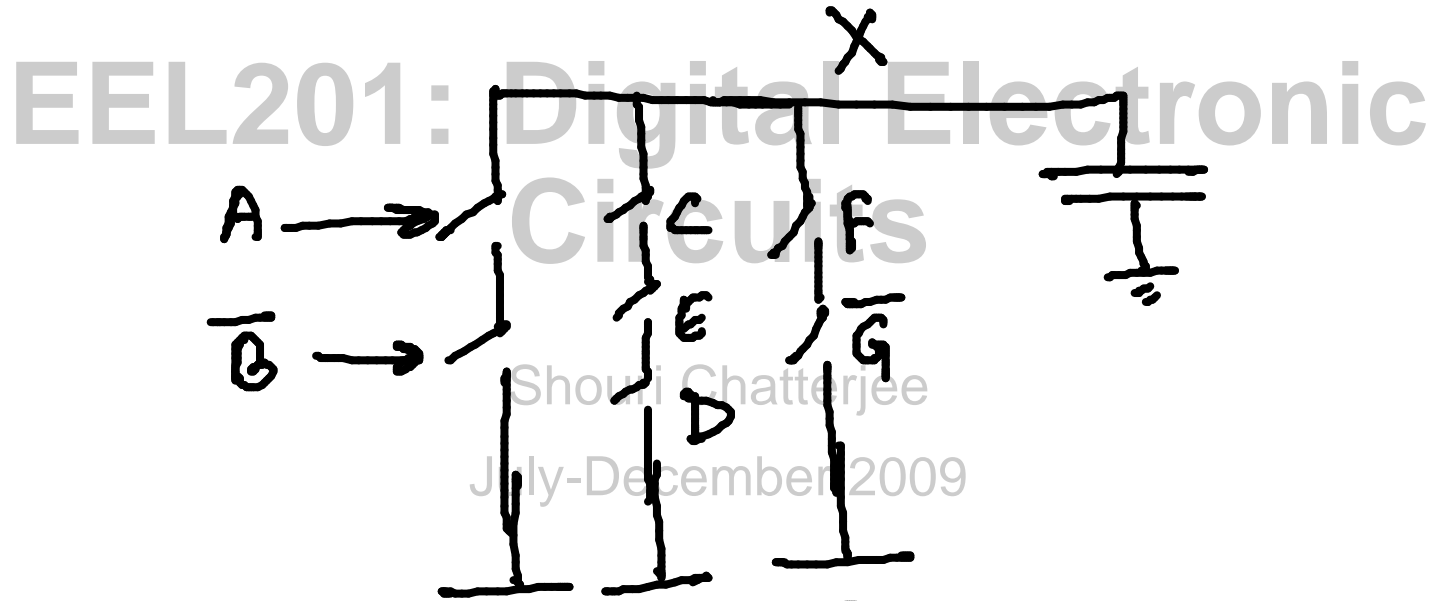
$$\{ \bar{X} = \bar{A}\bar{B} + CDE + FG \} \text{ or } \{ X = (\bar{A} + B)(\bar{C} + \bar{D} + \bar{E})(\bar{F} + G) \}$$



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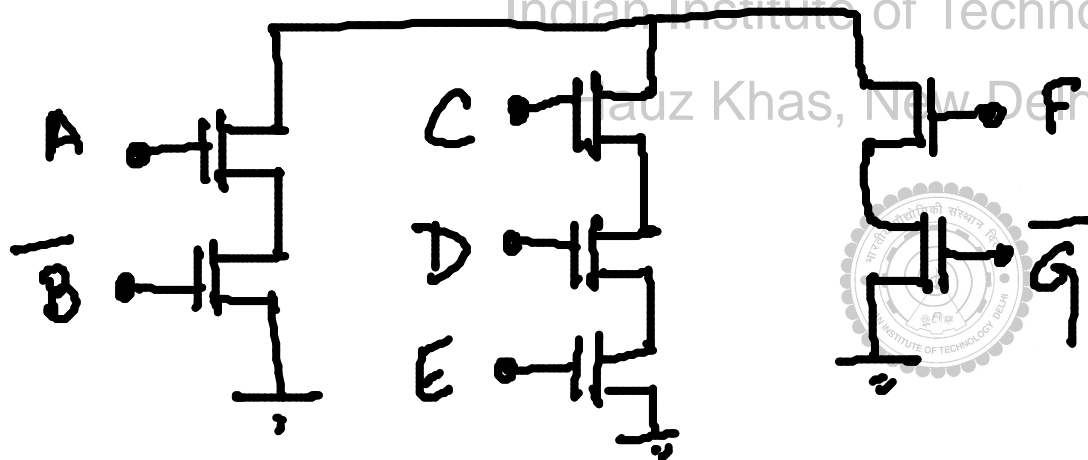


$$\overline{X} = A\overline{B} + DE + F\overline{G}$$



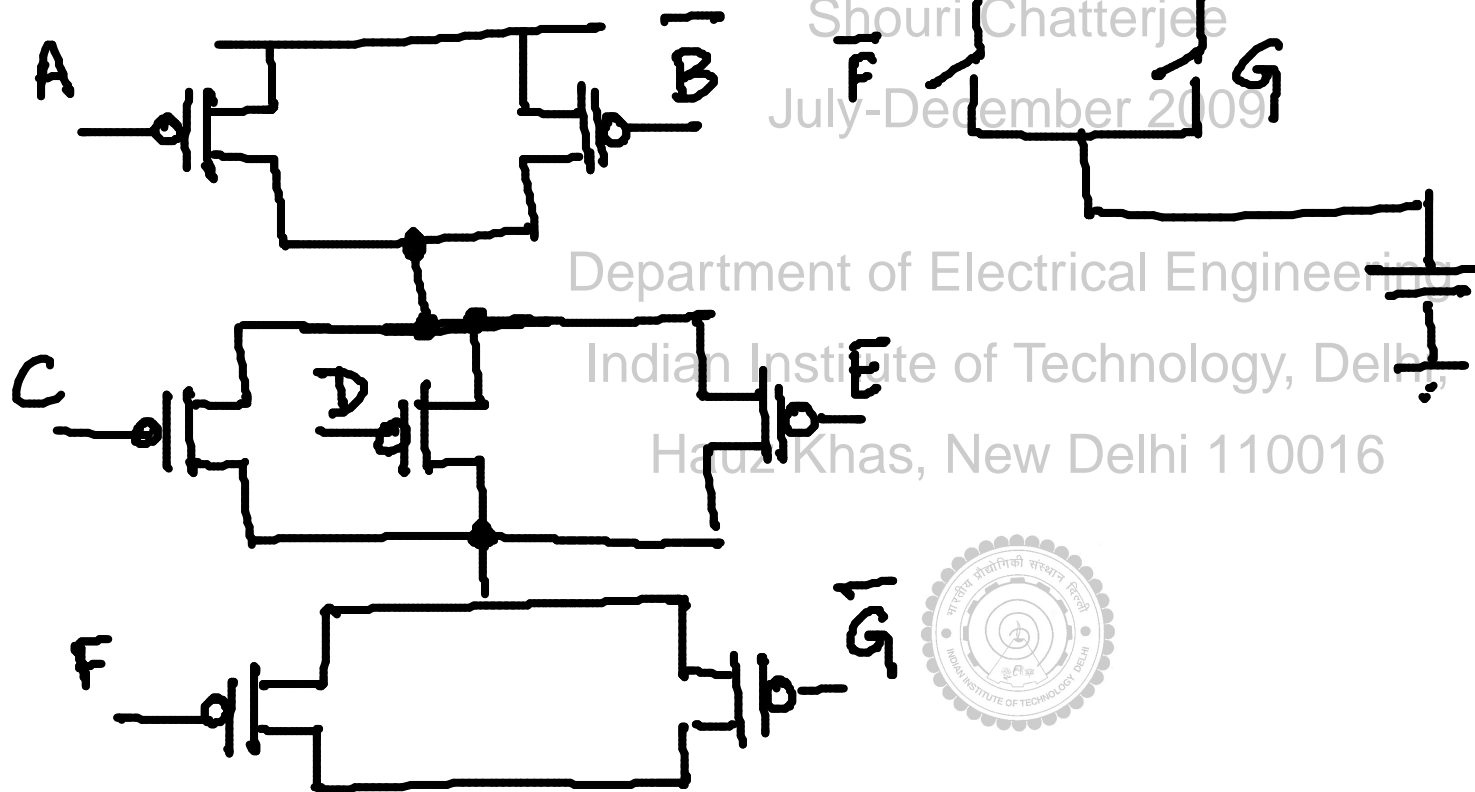
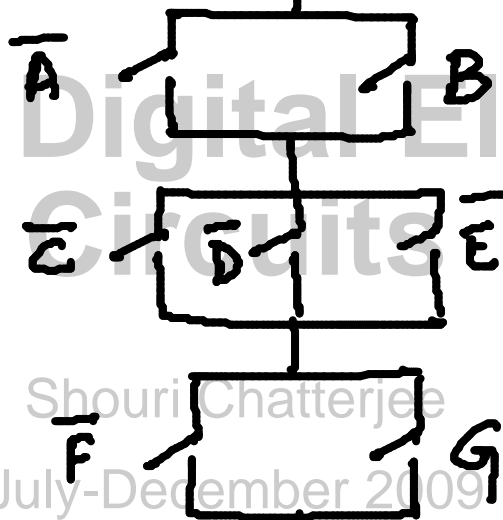
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$$X = (\bar{A} + B)(\bar{C} + \bar{D} + \bar{E})(\bar{F} + G)$$

Power supply



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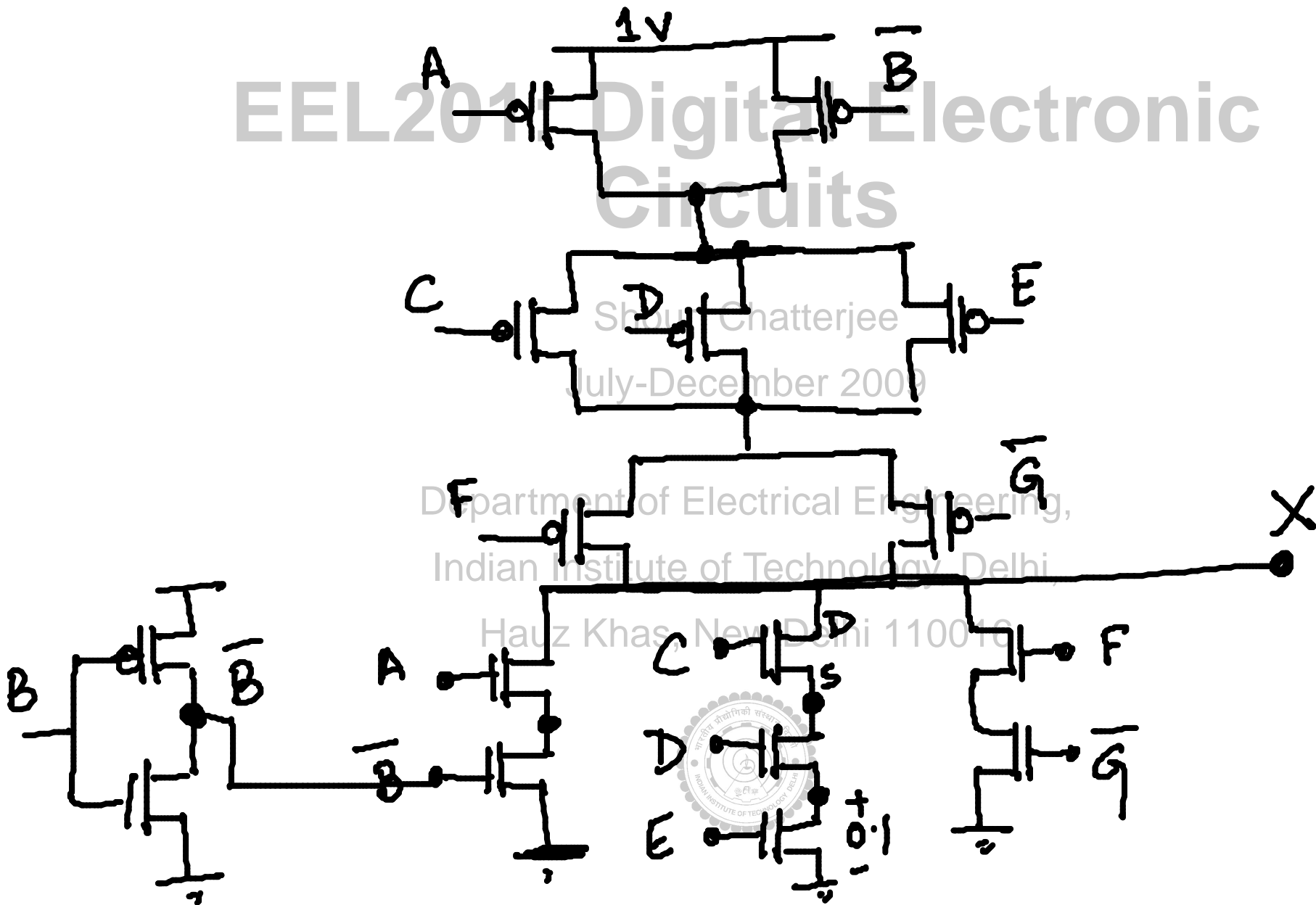
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TTL Gates

transistor - transistor - logic

ECL
emitter-coupled logic

DTL
diode-transistor logic

CMOS

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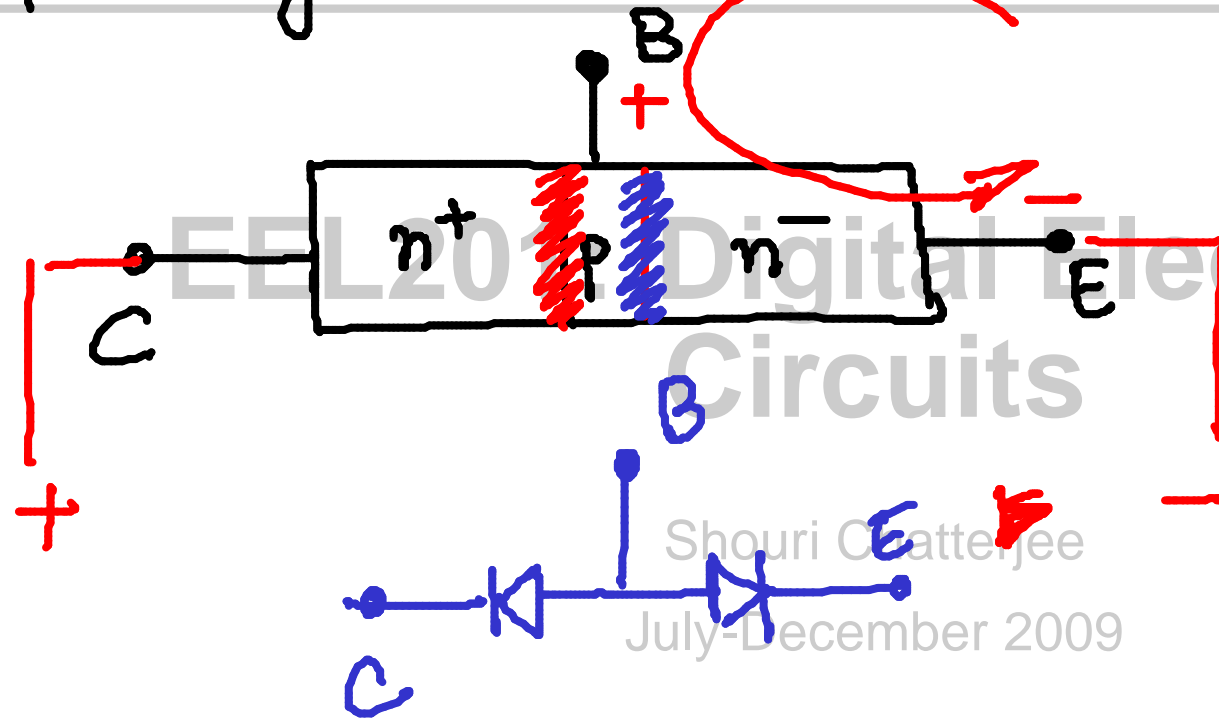
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Bipolar junction transistors

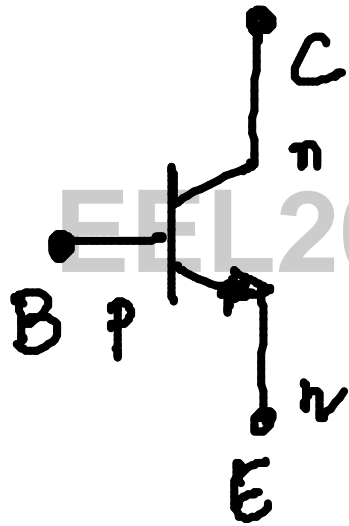


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