

1-22-84

Motor speed control board Transistor design

1	Load	74LS75	25	X	7	= 175
		74153	36	X	2	72
		74LS193	52		1	52
		74LS86	24		1	24
		74LS00	10		1	10
		555	25		1	25
		75446	15ma	X	1	15
		74LS123	36		1	36
		74LS04	10		2	20
		74LS154	27		1	27
						<u>456 ma</u>

2 Supply $V = 5V$

3 Transistor 2N2907A $hFE = 30$

4 Series resistor - don't need

5-6

7 Collector current: 460 ma

8 Base current $I_B = \frac{2 I_C}{hFE} = \frac{.46 \times 2}{30} = .030 \text{ Amp}$

9 Base resistor $R_B = \frac{V_i - V_{BE}}{I_B}$
 $= \frac{5 - .7}{.030} = 143 \Omega$

