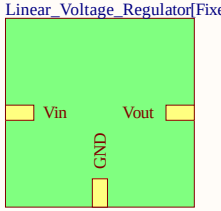
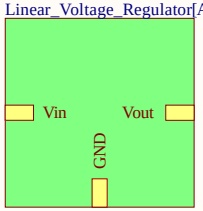
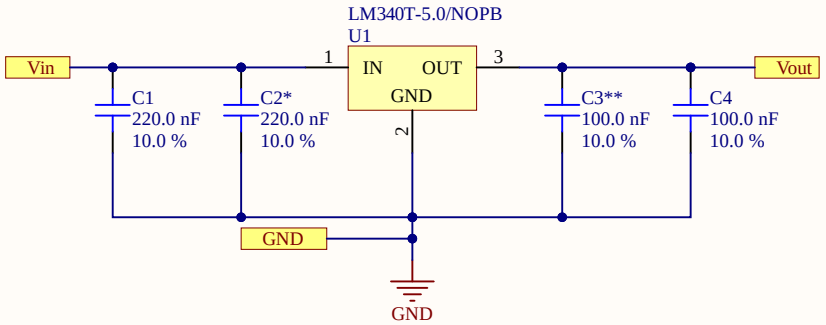
U_Linear_Voltage_Regulator[Fixed]
Linear_Voltage_Regulator[Fixed].SchDoc



U_Linear_Voltage_Regulator[Adjustable]
Linear_Voltage_Regulator[Adjustable].SchDoc

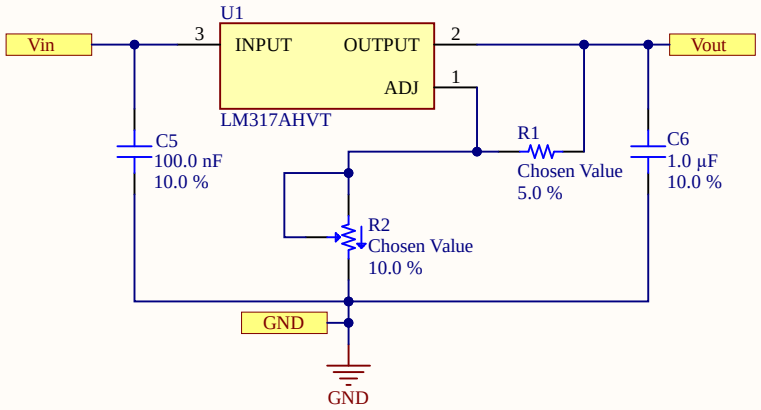


Title: Linear_Voltage_Regulators_Top_Level.SchDoc			
Project Name: Homework_1-Linear_Voltage_Regulators.PrjPcb			
Size: A4	Sheet Number: 1	Sheet Total: 3	Revision: 1
Date Created: 2/7/2022	Date Modified: 2/7/2022		Drawn By: JCG



*Required if the regulator is located far from the power supply filter.
**Although no output capacitor is needed for stability, it does help transient response. (If needed, use 0.1 uF, ceramic disc).

Title: Linear_Voltage_Regulator[Fixed].SchDoc			
Project Name: Homework_1-Linear_Voltage_Regulators.PrjPcb			
Size: A4	Sheet Number: 2	Sheet Total: 3	Revision: 1
Date Created: 2/7/2022	Date Modified: 2/7/2022		Drawn By: JCG



R1 = Chosen Value; Original Value = 1kohms
R2 = Chosen Value; Original Value = 10kohms

Vo = 1.25V (1+R2/R1) + Iadj*R2

3. C5 is required when regulator is located an appreciable distance from power supply filter. C6 is not needed for stability, however, it does improve transient response. Since IADJ is controlled to less than 100uA, the error associated

Title: Linear_Voltage_Regulator[Adjustable].SchDoc			
Project Name: Homework_1-Linear_Voltage_Regulators.PrjPcb			
Size: A4	Sheet Number: 3	Sheet Total: 3	Revision: 1
Date Created: 2/7/2022	Date Modified: 2/7/2022		Drawn By: JCG

Comment	Description	Designator	Footprint	LibRef	Quantity
Title_Block				Title_Block	3
220.0 nF	0.22µF ±10% 50V Ceramic Capacitor X8L Radial	C1, C2*	PCB - CAPACITOR - MLCC - CAP 0_2 RADIAL DISC	558	2
100.0 nF	0.1µF ±10% 50V Ceramic Capacitor X7R Radial	C3**, C4, C5	PCB - CAPACITOR - MLCC - CAP 0_2 RADIAL DISC	1340	3
1.0 µF	1µF ±10% 50V Ceramic Capacitor X5R Radial	C6	PCB - CAPACITOR - MLCC - CAP 0_2 RADIAL DISC	563	1
Chosen Value	___ kOhms ±5% 0.25W, 1/4W Through Hole Resistor Axial Carbon Film	R1	PCB - RESISTOR - AXIAL	72	1
Chosen Value	___ kOhms 0.5W, 1/2W PC Pins Through Hole Trimmer Potentiometer Cermet 1 Turn Side Adjustment	R2	PCB - RESISTOR - POTENTIOMETER TRIM POT BOURNS 3386	1349	1
LM317AHVT	IC REG LINEAR POS ADJ 1A TO220-3	U1	FP-340AT-MFG	CMP-07128-000014-1	1
LM340T-5.0/NOPB	Series 3-Terminal Positive Regulators, 3-pin TO-220, Pb-Free	U1	NDE0003A	CMP-0062-02433-3	1