

1

2

3

4

A

A

B

B

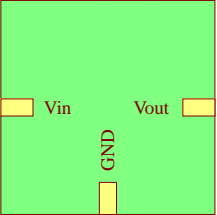
C

C

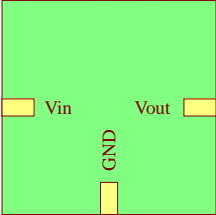
D

D

U\_Linear\_Voltage\_Regulator[Fixed]  
Linear\_Voltage\_Regulator[Fixed].SchDoc



U\_Linear\_Voltage\_Regulator[Adjustable]  
Linear\_Voltage\_Regulator[Adjustable].SchDoc



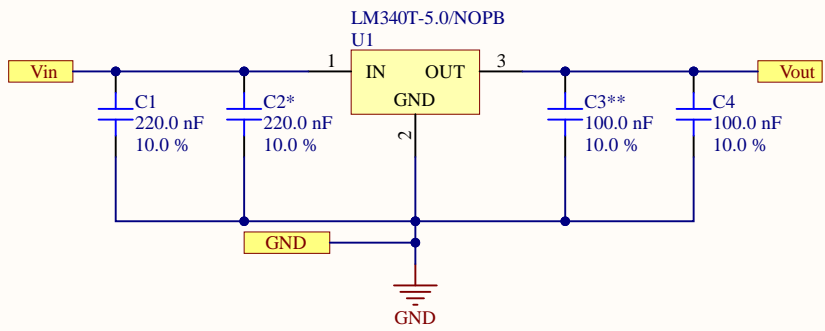
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Size	Number	Revision
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Date:	2/07/2022	Sheet of
File:	C:\Users\...\Linear_Voltage_Regulators_TopLevel.BrdDoc	

1

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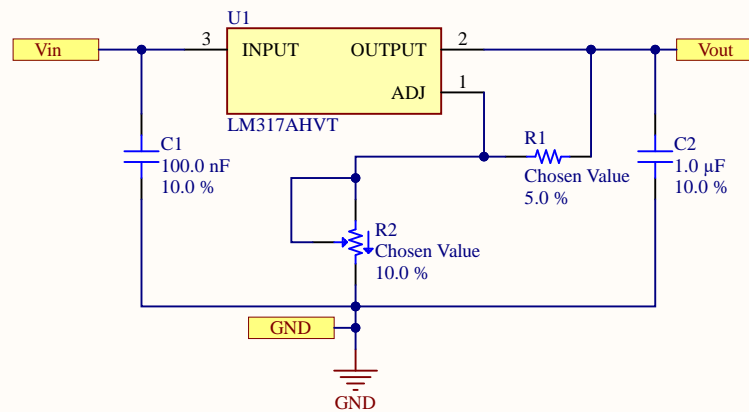
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4



\*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).

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

△  $V_o = 1.25V (1 + R2/R1) + I_{adj} * R2$

△ 3. C1 is required when regulator is located an appreciable distance from power supply filter. C2 is not needed for stability, however, it does improve transient response. Since  $I_{ADJ}$  is controlled to less than 100uA, the error associated

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Comment	Description	Designator	Footprint	LibRef	Quantity
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	C1, C3**, C4	PCB - CAPACITOR - MLCC - CAP 0_2 RADIAL DISC	1340	3
1.0 μF	1μF ±10% 50V Ceramic Capacitor X5R Radial	C2	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