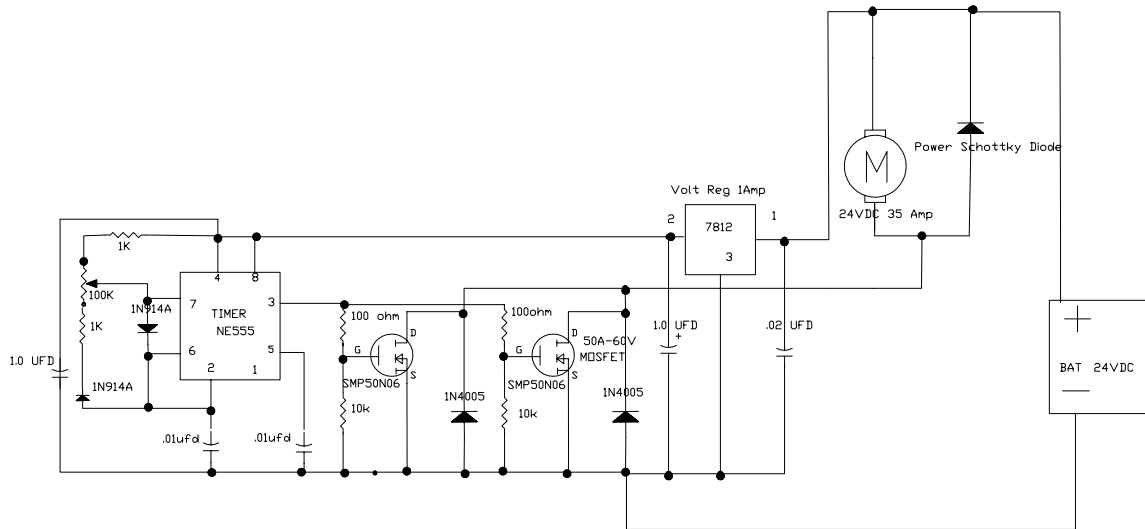


I am having difficulty with



I am having difficulty with this 555 timer based pulse width modulated circuit. All works well with an incandescent light up to 400 watts plus. The brilliance is smoothly adjustable through the complete range and none of the components exceed 115 deg F. I hooked up a 24 volt dc brush motor rated at 2 amps. It ran well for 20 minutes with me constantly varying the speed control pot to test the system. The Volt reg suddenly failed and took out the 555 timer with it. The power fets were ok. I thought it was a one off failure and reinstalled another 7812 and proceeded to test my 35 amp 24vdc motor. It ran well for 5 minutes at 5 to 20 amps with me constantly varying the speed pot and loading the motor. The 7812 failed again (shorted with input and out put at 24vdc)and took out the 555 timer. I was monitoring the heat on the 555, the 7812 and the mosfets. I could detect no abnormal heating? Should I be bypassing the regulator with a freewheel type diode like the one across the motor? Any assistance will be appreciated.

Cheers ..Gerry