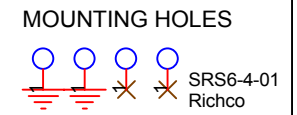
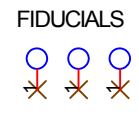


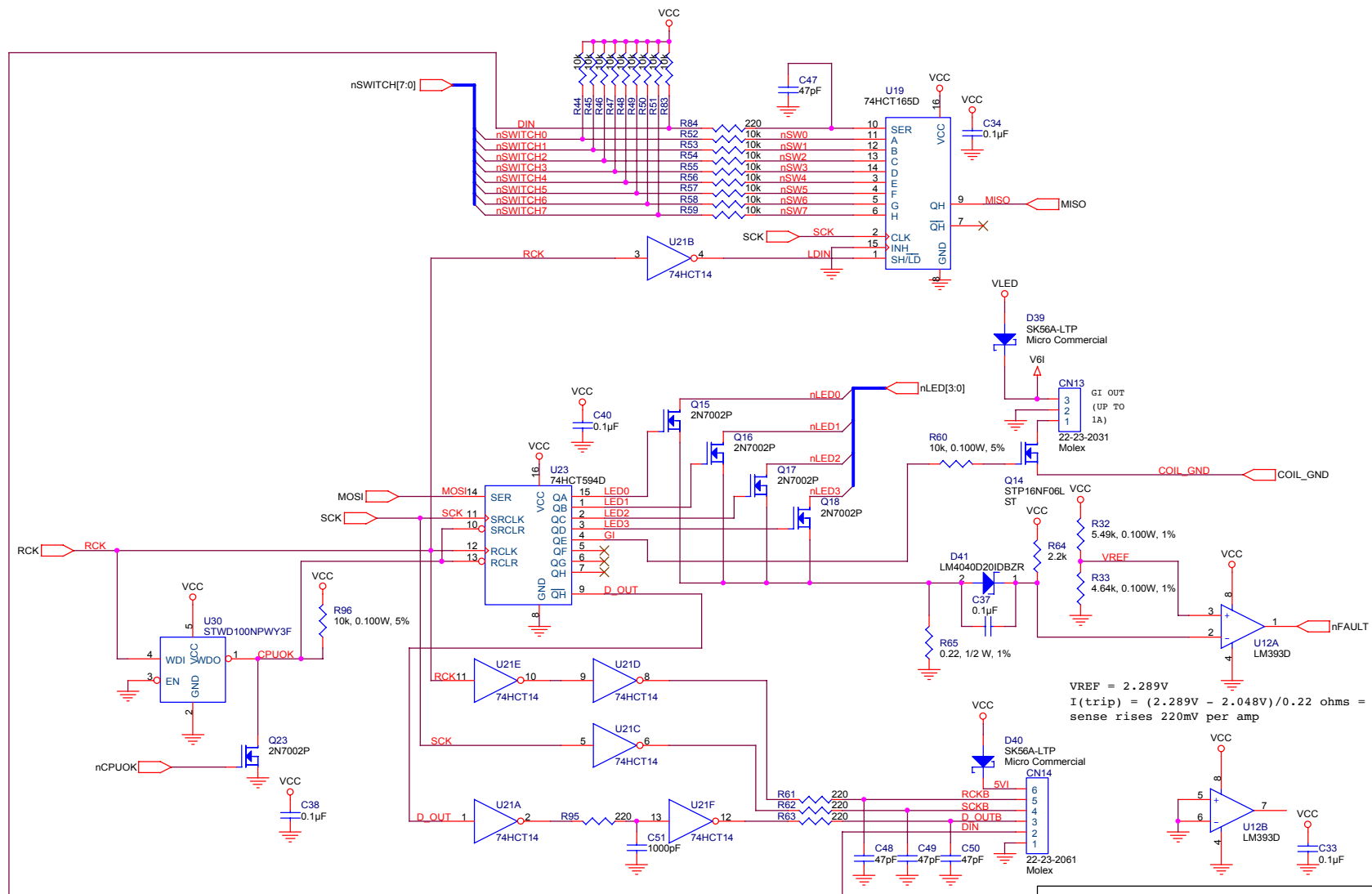
**VBB=48V**  
**VNB=8V**  
**VLED=6V**  
**VCC=5V**  
**VDD=3.3V**

**NODE ADDRESS CODING:**  
 PIO1.11: b3 (0=HARD WIRED, 1=SWITCHABLE)  
 PIO3.2: b2  
 PIO3.4: b1  
 PIO3.5: b0

PIO1.10/AD6 TIED LOW  
 INDICATES TXEN AND COIL  
 OUTPUTS SHOULD BE ACTIVE  
 LOW (WERE ACTIVE HIGH ON  
 EARLIER VERSIONS)



Title		
node CPU (switchable address)		
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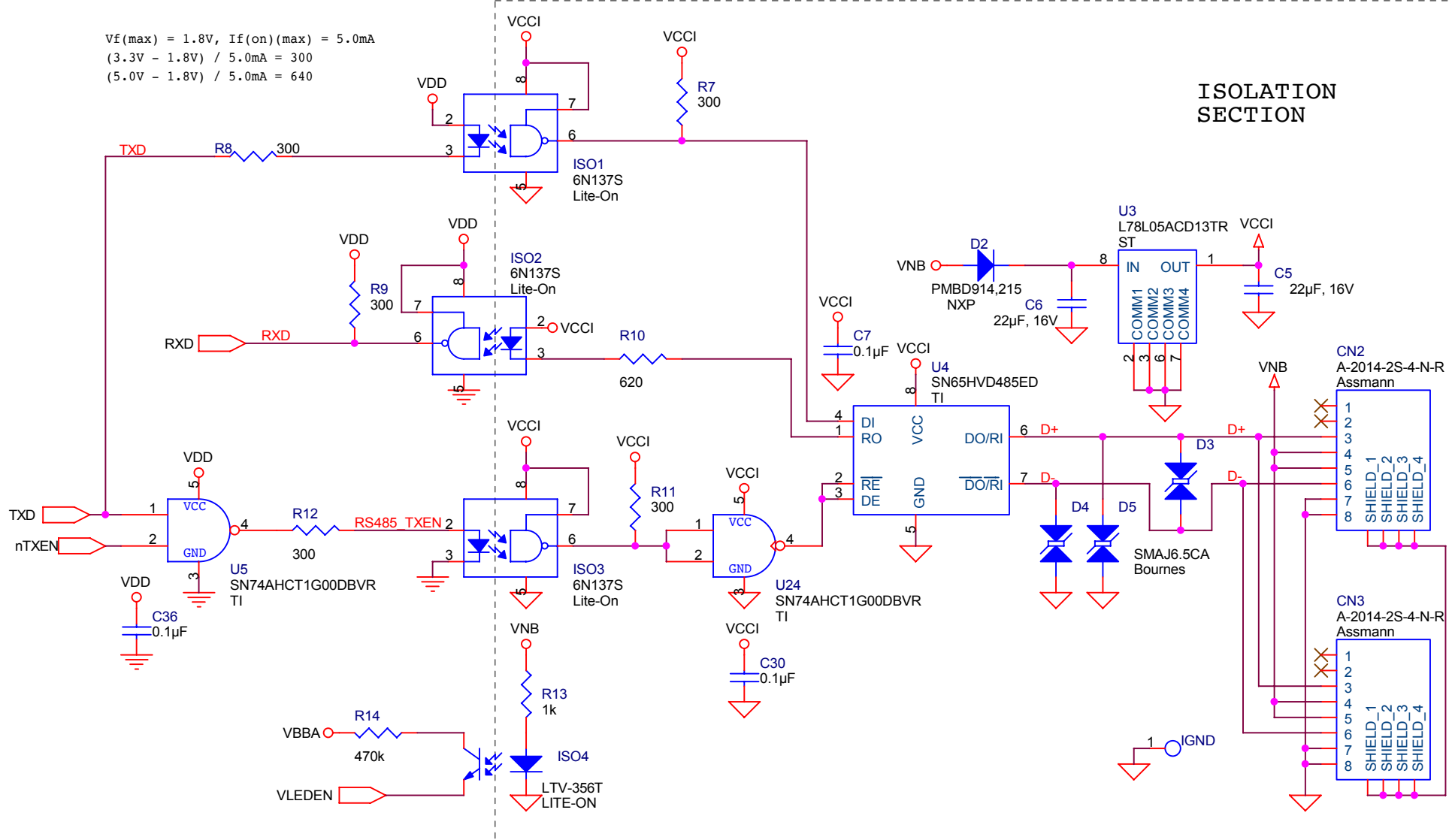


$V_{REF} = 2.289V$   
 $I(\text{trip}) = (2.289V - 2.048V) / 0.22 \text{ ohms} = 1.1A$   
 sense rises 220mV per amp

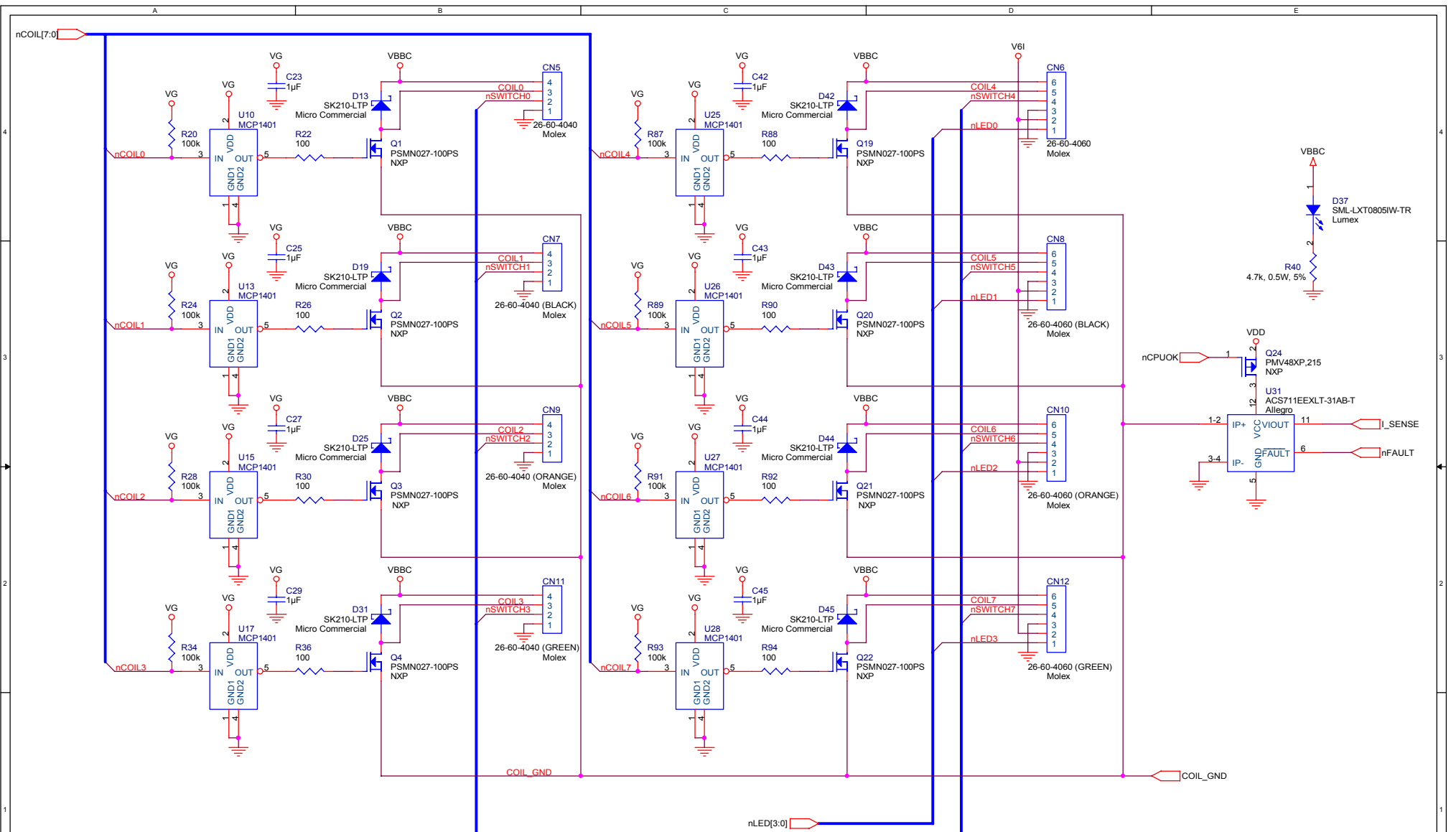
Title		
io		
Size	Document Number	Rev
B	520-6935-10	E
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$V_f(\max) = 1.8V$ ,  $I_f(\text{on})(\max) = 5.0mA$   
 $(3.3V - 1.8V) / 5.0mA = 300$   
 $(5.0V - 1.8V) / 5.0mA = 640$

### ISOLATION SECTION



Title		
communication -- isolated		
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I\_SENSE rises 33mV/A from its idle voltage of 1.225V. ADC should idle at about 380 (10-bit) and will rise by 10.24 per amp as coil current increases (e.g, 10A coil current should read 380 + 10 x 10.24 = 482).

$$I\_SENSE = 1.225V + I(\text{coil}) \times 0.033 \text{ ohms}$$

$$VREF = 5.00V \times 4.64k / (5.49k + 4.64k) = 2.290V$$

$$I(\text{trip}) = (2.290V - 1.225V) / 0.033 \text{ ohms} = 32A$$

Title		coils	
Size	B	Document Number	520-6935-10
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			Rev E

LED STATUS TABLE

48V 6V MCU STATUS

D37 D10 D1

RED GREEN YELLOW

OFF OFF OFF

48V not present: check that system is connected and powered

ON OFF OFF

48V present, no 6V: node bus is powered off by CPU, node bus cable is unplugged, or 6V supply is overloaded (shorted) or damaged

ON ON OFF

48V present, 6V present, processor not running: check 5V and 3.3V supplies

ON ON 10Hz 50%

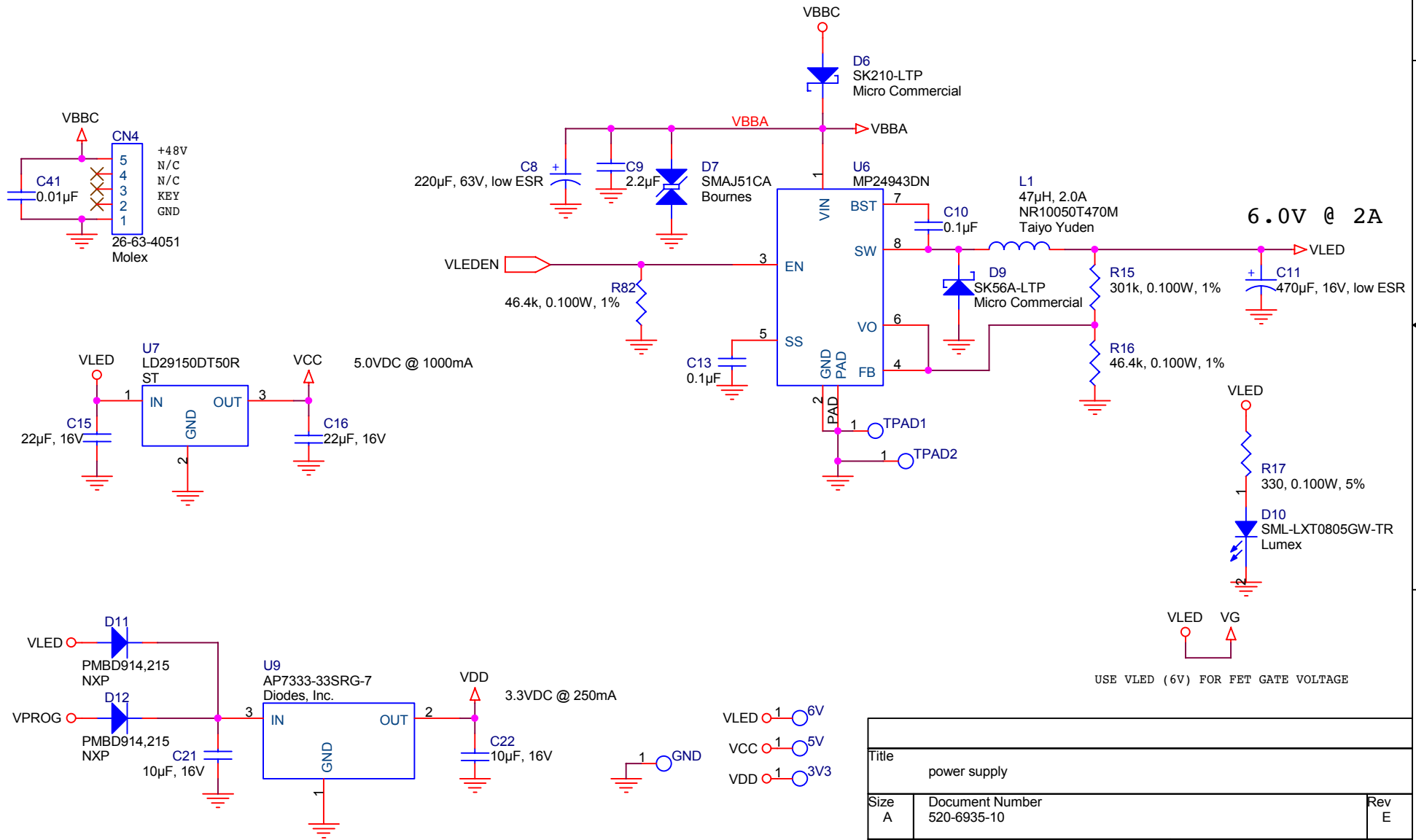
power okay, processor in boot mode waiting for runtime update: check node cable, ensure other nodes are communicating, check communication interface

ON ON 1Hz 90%

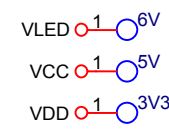
power okay, processor in runtime mode but not receiving from CPU: check node cable, ensure other nodes are communicating, check communication interface

ON ON flickering

power okay, processor communicating and operating correctly



USE VLED (6V) FOR FET GATE VOLTAGE



Title power supply		
Size A	Document Number 520-6935-10	Rev E
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