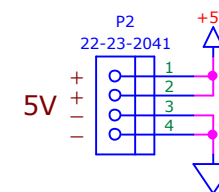
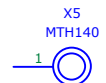
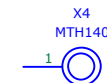
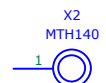
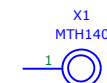
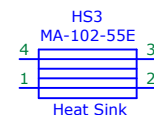
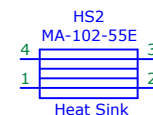
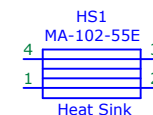
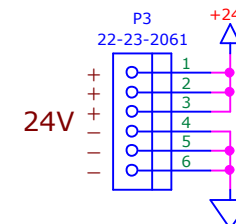


To MPU Board



From Power Supply



Mounting Holes

Rev. 8: built 2 boards
Rev. 9: reversed voltages on pins 1 and 3 of U1 and U2
added capacitors on output of U7-A and U7-B
added R52, wired SHUTDOWN to P1.11
Rev. 11: Changed all IGBTs to STGW35HF60WD from STGW35HF60W
The D suffix device has an integrated anti-parallel diode

Power
Line
Neutral



Digital
Ground



Safety
Ground

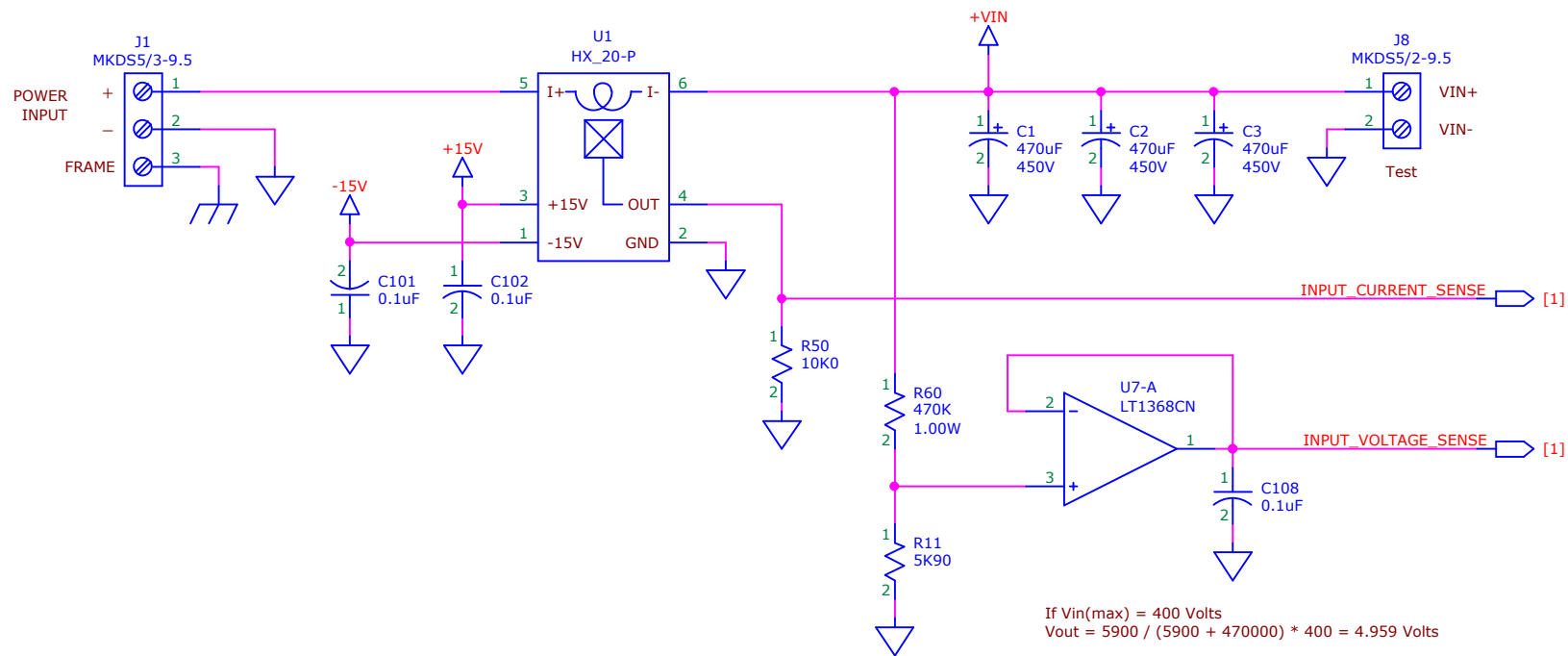


Val Gretchev Engineering

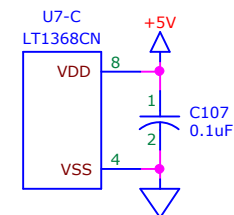
Title:
Grid-Tie Inverter

Size: Part Number: Rev.

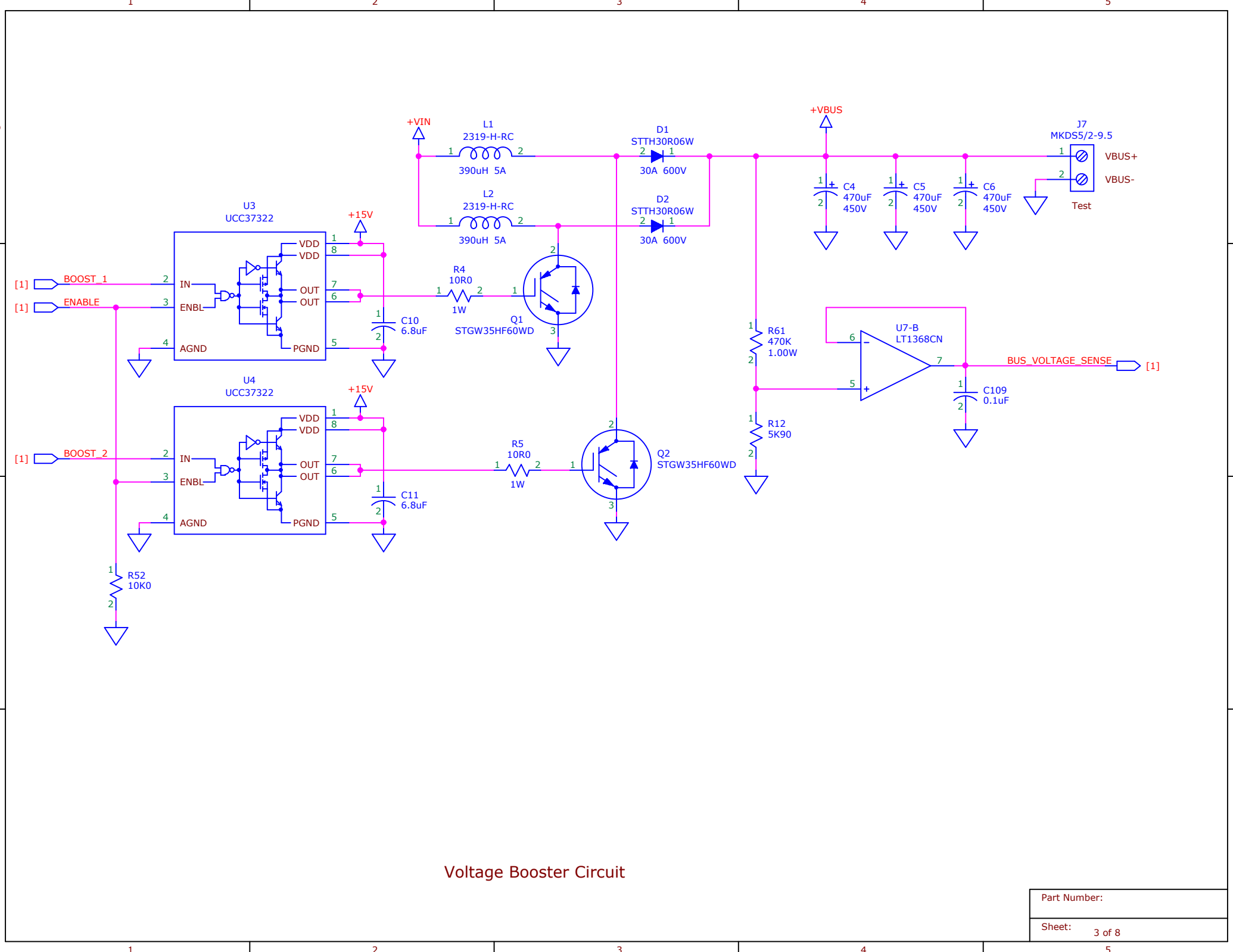
Scale: Sheet: 1 of 8



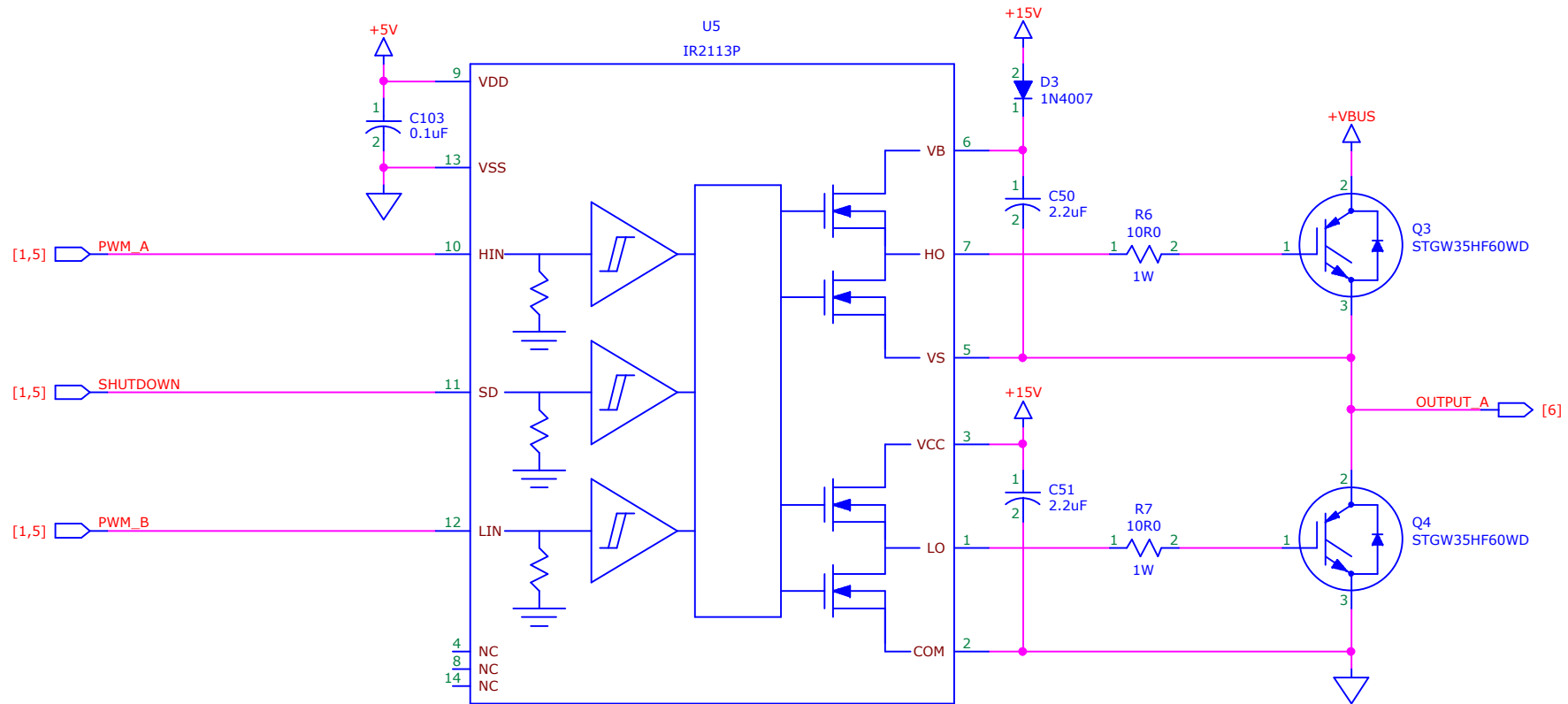
Input Current and Voltage Measurement



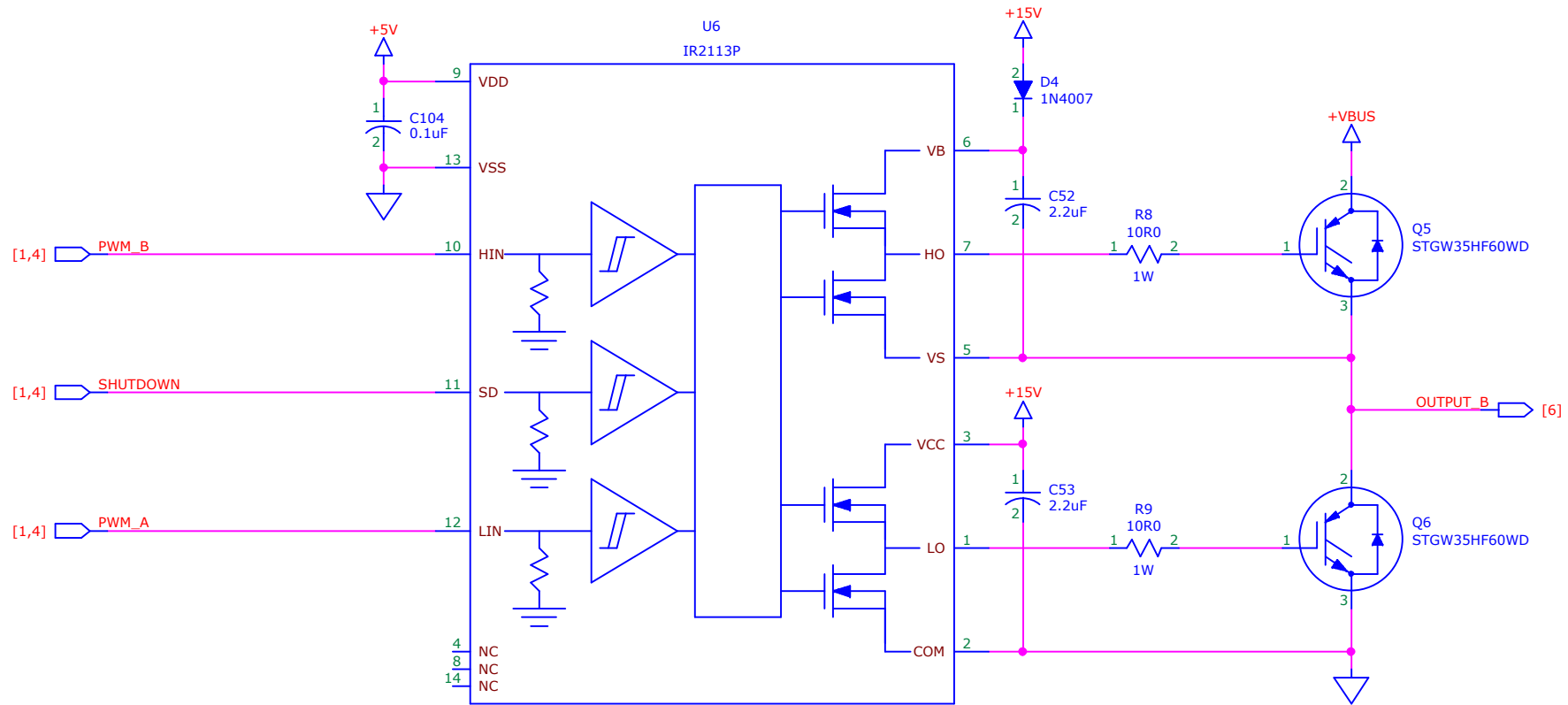
Part Number:
Sheet: 2 of 8



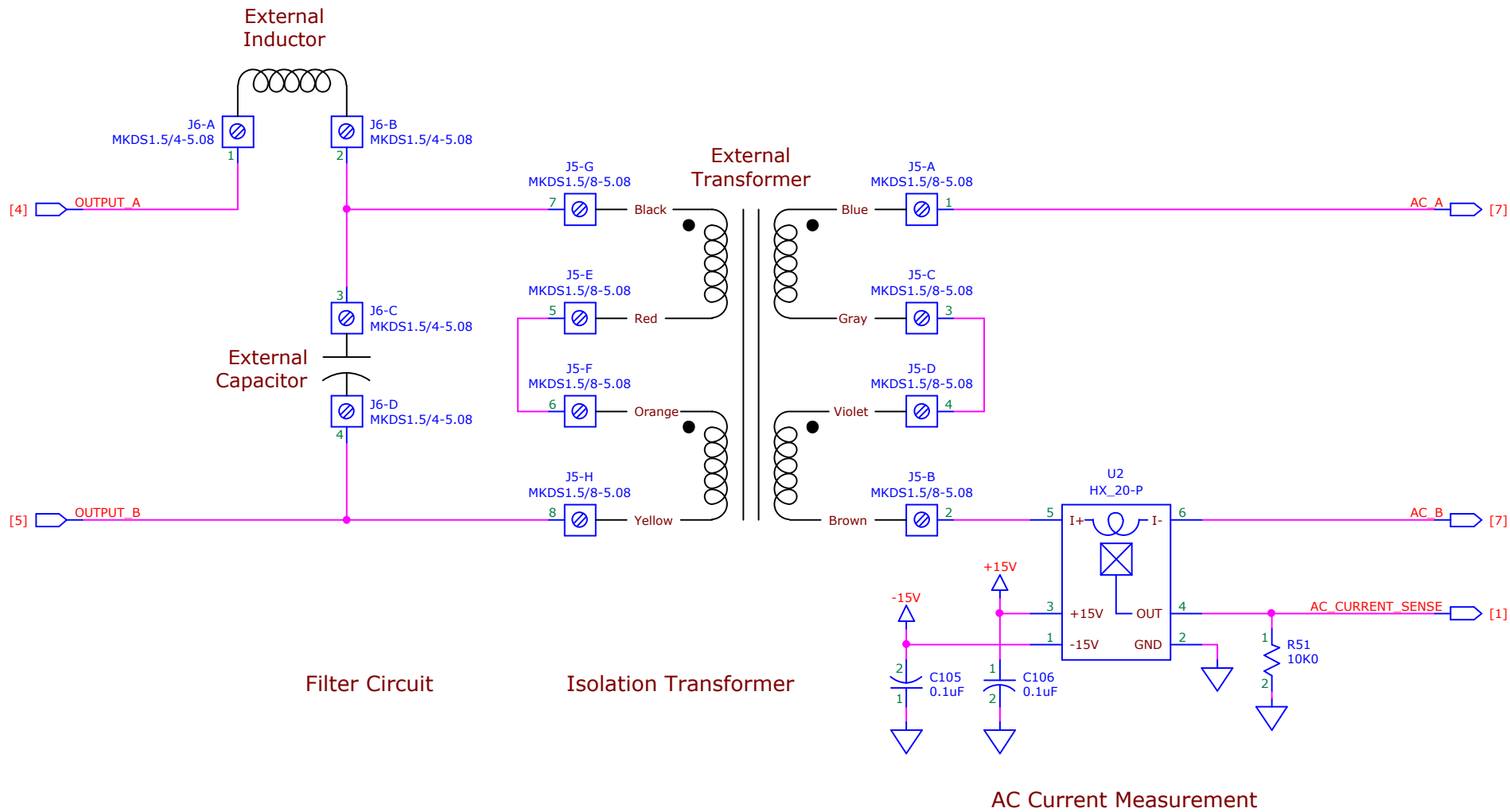
Voltage Booster Circuit



DC to AC Half-Bridge



DC to AC Half-Bridge



External Components				
Item	Manufacturer	Part Number	Specification	Digi-Key Number
Capacitor	Panasonic - ECG	DS441505-BA	5uF, 440VAC	P9660-ND
Inductor	Hammond Manufacturing	195J20	10mH, 20A	195J20-ND
Transformer	Hammond Manufacturing	182R117	234VAC, 4.3A, 1000VA	182R117-ND
Alt. Transformer	Triad Magnetics	VPT230-10870	230VCT, 10.87A, 2500VA	VPT230-10870-ND

1

2

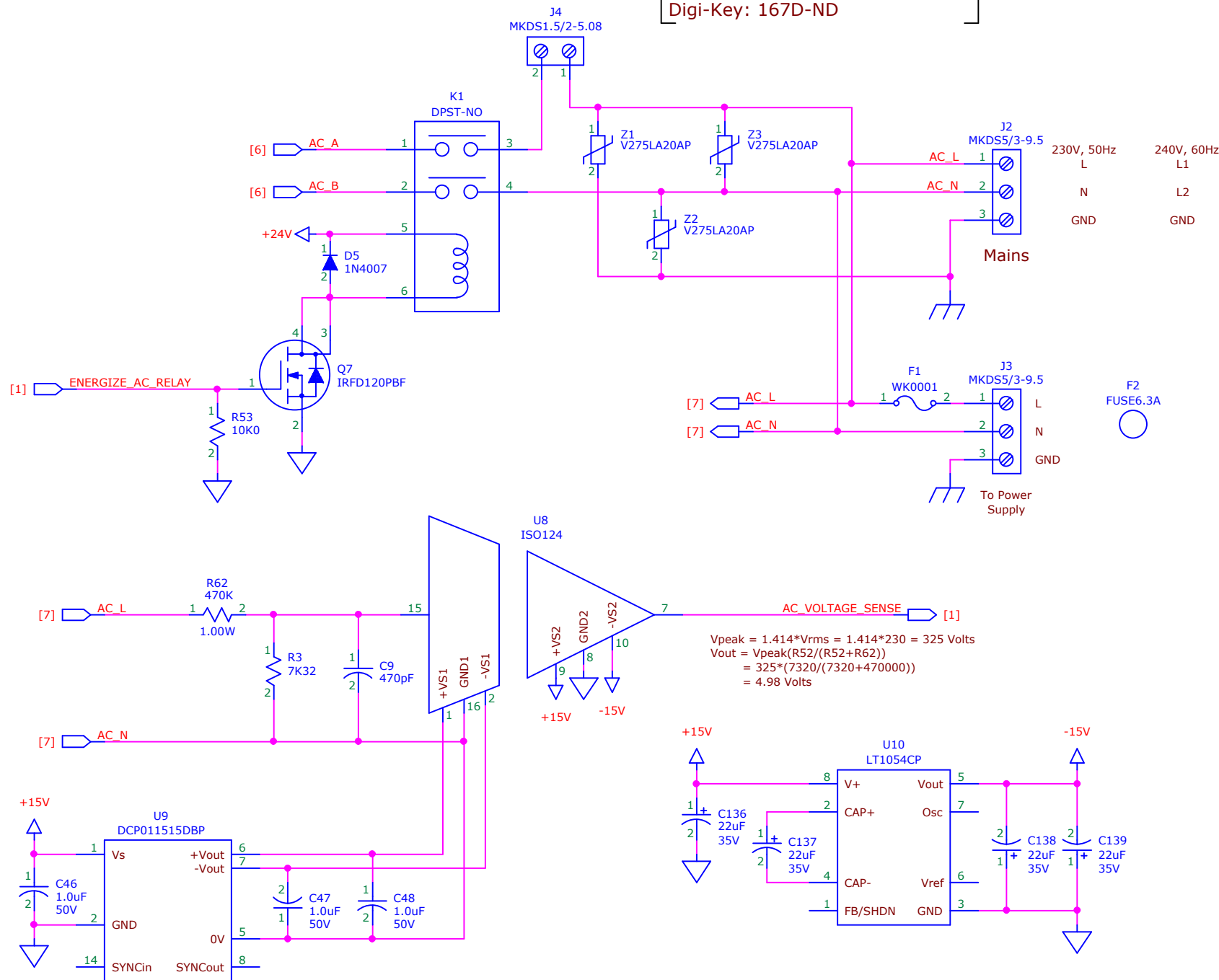
3

4

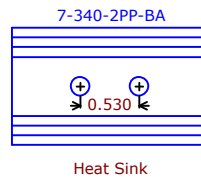
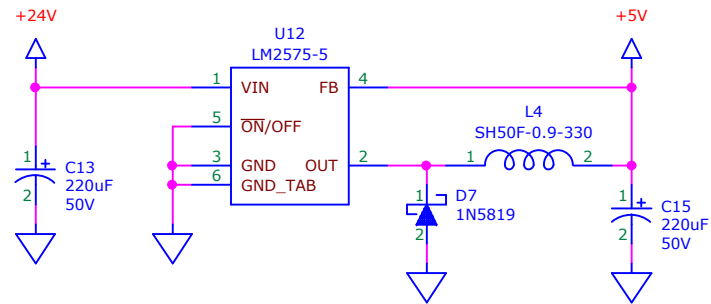
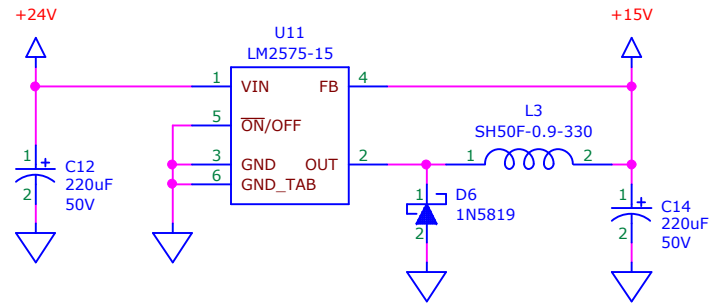
5

To Coupling
Inductor

Hammond Manufacturing: 157D
Specification: 1mH, 10A
Digi-Key: 167D-ND



Isolated AC Voltage Measurement



Switching Regulators for 15 Volt and 5 Volt Power Supplies