



specified:
 e in Ohms.

Resistors are 1/8 Watt, 5%
 Capacitance values are in microfarads.

- Interrupted lines coded with the same letter or letter combinations are electrically connected.
- Device type number is for reference only. The number can vary with the manufacturer.
- Date type format is - dd.mm.yyyy

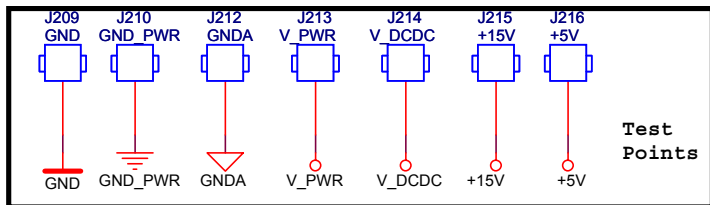
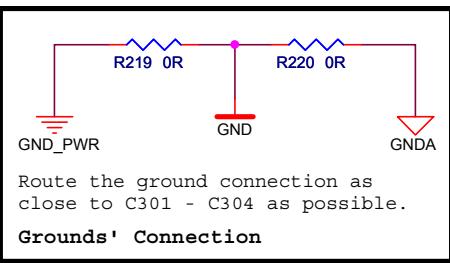
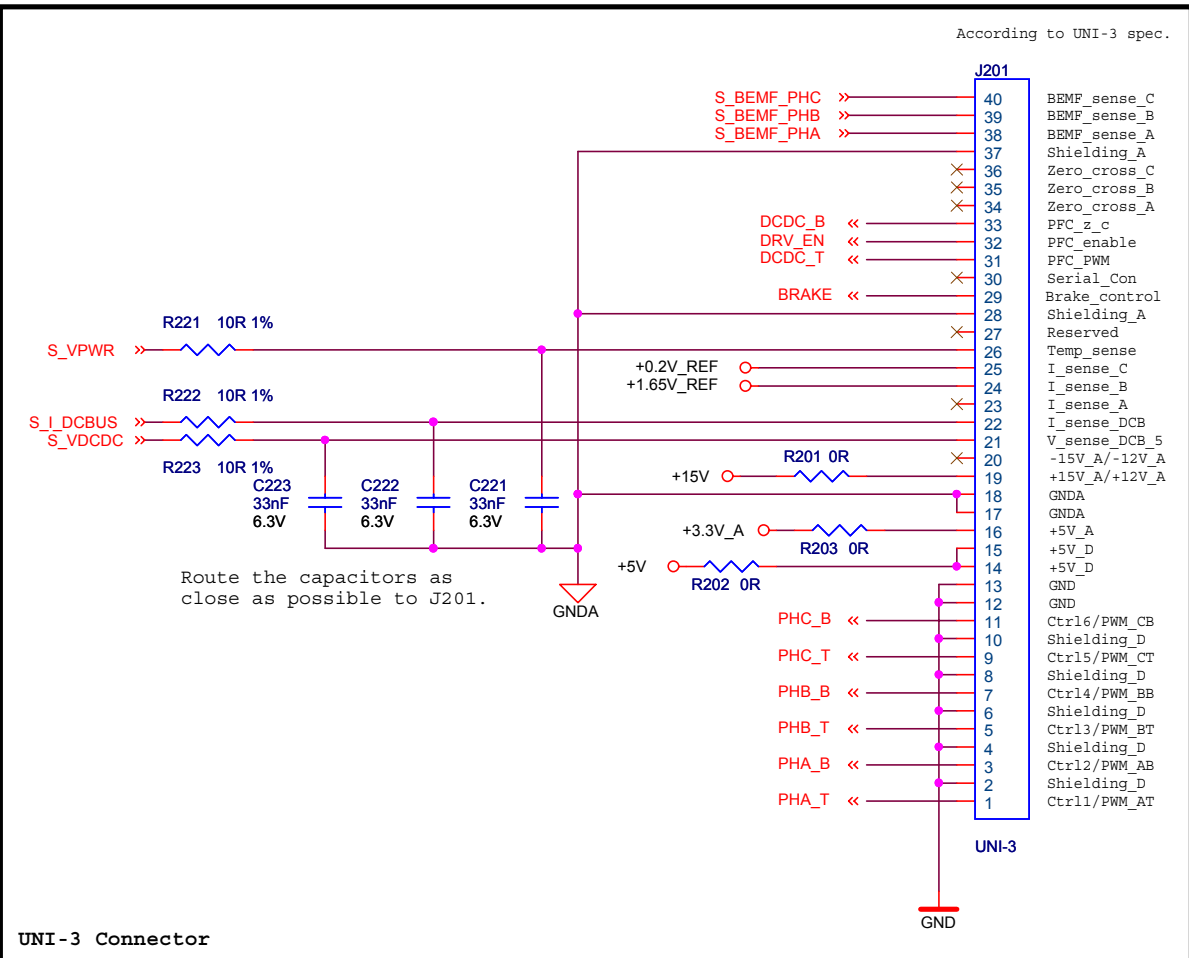
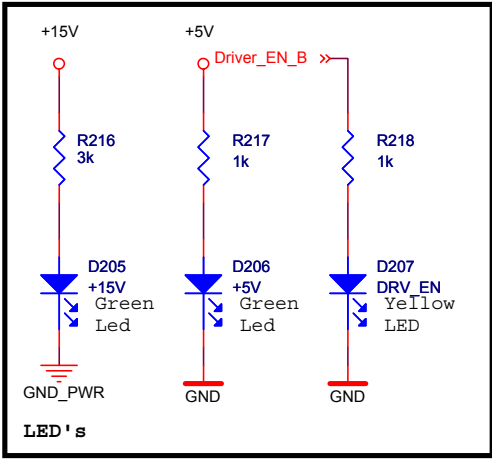
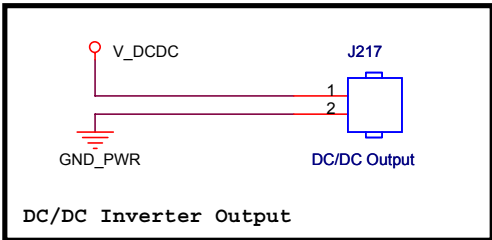
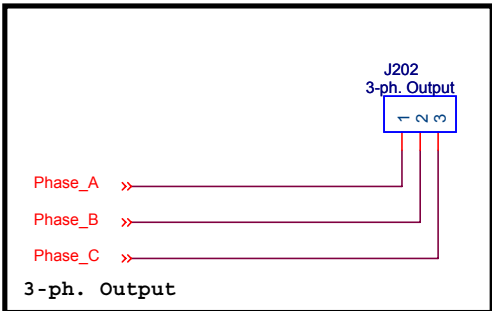
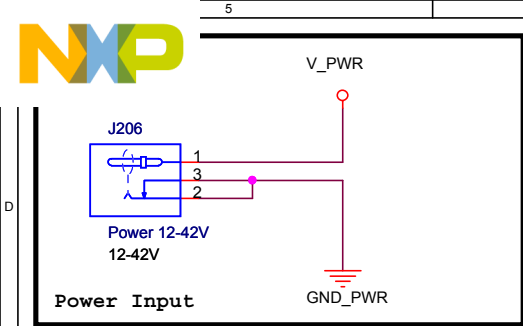
Revision 00:
 The 00220_00 used as base for this board.

Revision 01:
 LED's D205, D206, D207 rotated, previously wrong oriented.
 Q304, Q309 changed to TO220.
 Footprint change at C306.
 C301, C302, C303 changed to 2200uF/50V.
 Added heatsink H301.
 R314, R318, R322 changed to 10R.
 R311, R315, R319 changed to 3.3R.
 Schematic part & footprint changed to newer version at J206.
 R323, R324, R325, R326 removed - no need of them.
 C307, C308, C309, C310 removed - no need of them.
 R303, R312, R316, R320 changed to 10R.
 R403, R406 changed to 4.7uF/25V, SM1206.
 R401 changed to 100nF/50V, SM0805.
 R411 changed to 33nF/50V, SM0805.

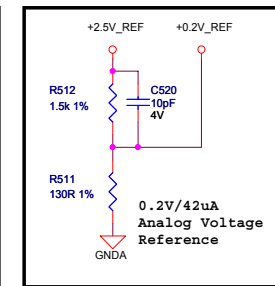
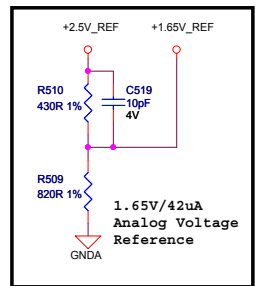
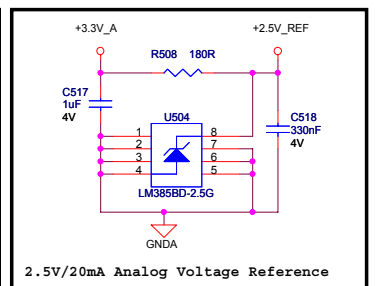
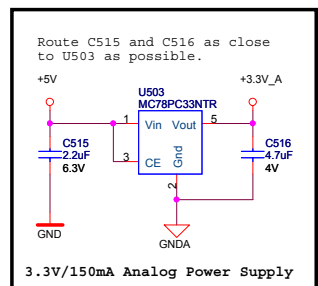
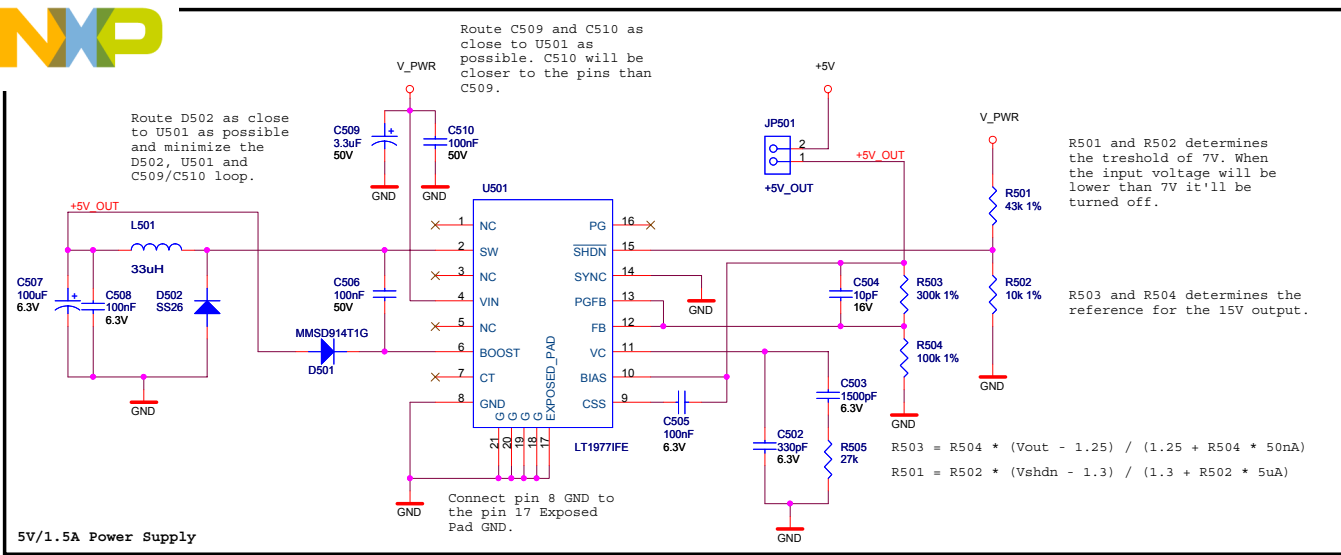
Revision 02:
 Added C423, C424.
 R401, R402, R403, R404, R411, R412, R413, R414, R415, R421 changed to 4.7k.
 Added U404, U405 buffers in between UNI3 and drivers.
 Footprint change at C306 to pitch 3.5mm.
 Footprint change at C301, C302, C303 to pitch 18x35x7.5mm.
 Added D310, D311, D312, D313 16V Zener diodes in between gate and source.
 Added J217 - to be able to connect to DC/DC Inverter output.
 Footprint change at Q304, Q309 for DPAK and TO220.
 Changed footprint for J206 with milling layer.

REVISIONS				
Zone	Rev	Description	Date	Approved
	00	Initial Revision		J.M.
	01	Minor changes	31.05.2005	J.M.
	02	Minor changes	23.09.2005	J.M.

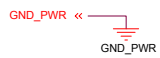
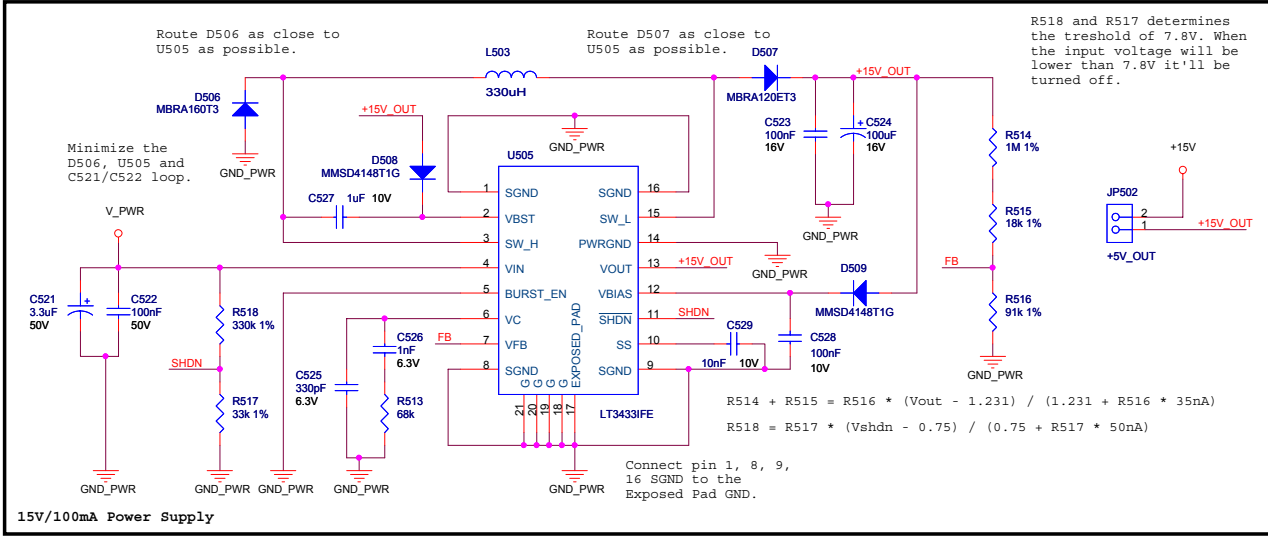
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		1. maja 1009	
		756 61 Roznov p.R., Czech Republic, Europe	
Title			
3-ph. Power Stage with DC/DC Inverter			
Author: Jaroslav Musil			
Design Name:			
X:\COMMON VIEW MAIN\MCMC214\PCB\002233\002233.DSN			
Schematic Name:		Rev 02	
Main		Size A4	
Modify Date: Monday, September 26, 2005	Sheet 1	of 6	
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		Freescale Semiconductor RCSC	
		1. maje 1009 756 61 Roznov p.R., Czech Republic, Europe	
Title 3-ph. Power Stage with DC/DC Inverter			
Author: Jaroslav Musil			
Design Name: X:\COMMON VIEW MAIN\MCMC214T\PCB\00233\00233.DSN			
Schematic Name: Main			Rev 02
Modify Date: Friday, September 23, 2005			Sheet 2 of 6
Copyright Freescale 2005		POPI Status: General Business Information	



$$U_{out} = (U_{in} + R1 * I_{out}) / (1 + R1 / R2)$$

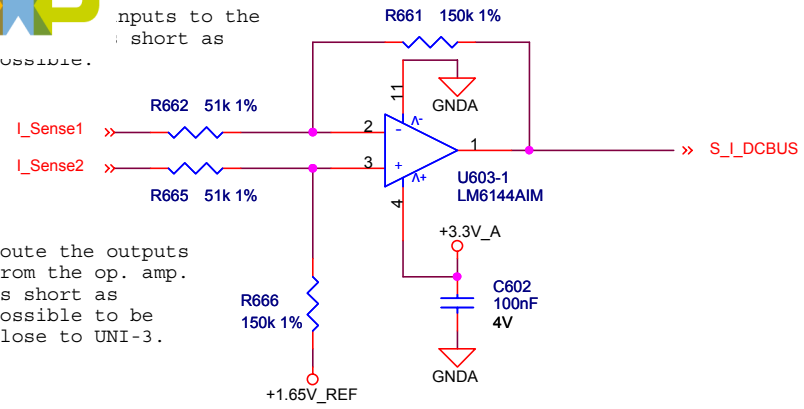


		Freescale Semiconductor RCSC	
		1. maja 1009 756 61 Roznov p.R., Czech Republic, Europe	
Title: 3-ph. Power Stage with DC/DC Inverter			
Author: Jaroslav Musil			
Design Name: X:COMMON VIEW MAIN/MCMC214T/PCB00233/00233.DSN			
Schematic Name: Main		Rev 02	
Modify Date: Sunday, September 04, 2005		Sheet 5 of 6	
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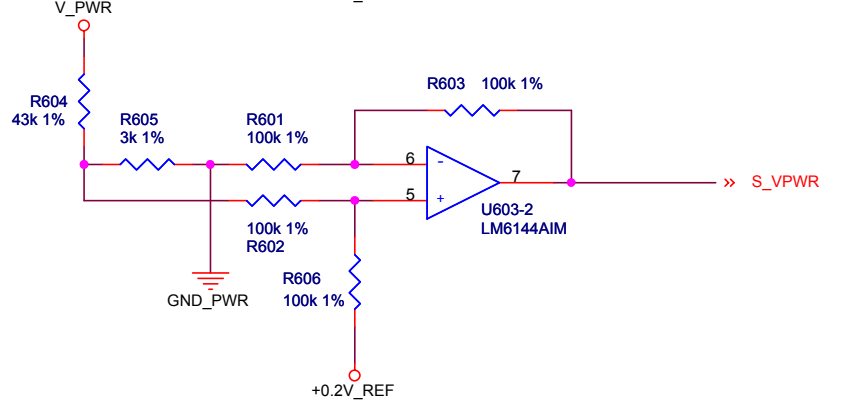
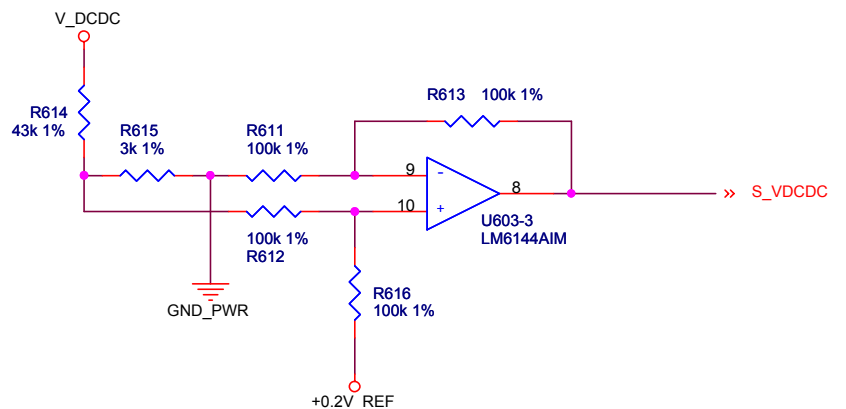


inputs to the
short as

possible.

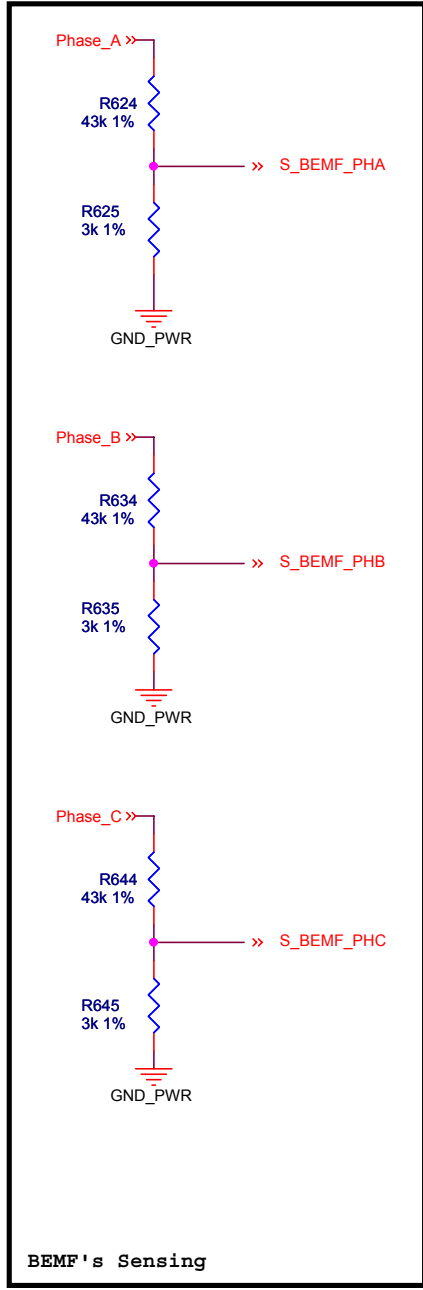


Route the outputs
from the op. amp.
as short as
possible to be
close to UNI-3.

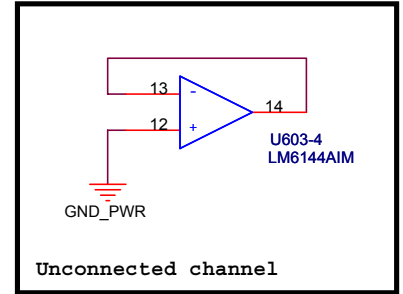


DC Bus Current & Voltage Sensing

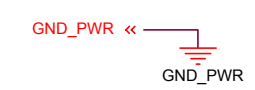
Current sensing: Shunt 0.040R, Gain 2.941, Shift 1.65V, Scale -14.025A to +14.025A @ 0 to 3.3V
 Voltage sensing: 0 to 47.53V @ 0.2 to 3.3V, Shift 0.2V, Gain 0.065
 Voltage sensing: 0 to 31V @ 0.2 to 3.3V, Shift 0.2V, Gain 0.1 -> requires resistors R614, R604 to 27k 1%.



BEMF's Sensing



Unconnected channel



		Freescale Semiconductor RCSC 1. maje 1009 756 61 Roznov p.R., Czech Republic, Europe	
		Title 3-ph. Power Stage with DC/DC Inverter	
Author: Jaroslav Musil			
Design Name: X:\COMMON VIEW MAIN\MCMC214\PCB\00233\00233.DSN			
Schematic Name: Main			Rev 02 Size A4
Modify Date: Sunday, September 04, 2005		Sheet 6 of 6	
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