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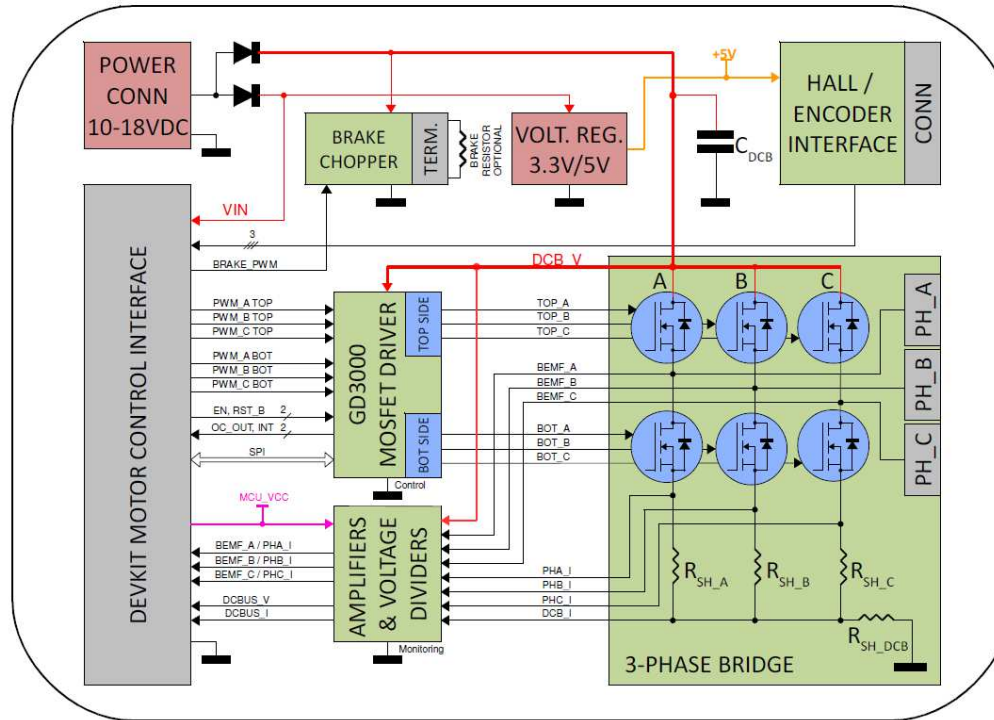
Revisions			
Rev	Description	Date	Approved
A	A085, Prototype Release	16 Sep 16	Jim/David
B	A085 (Final Schematic, BoM), Pilot Release	26 May 17	Phil/David
B1	IO Connector (J1 to J6) MFG. PN changed A085 (Final Schematic, BoM), Production Release	23 Jun 17	Alfredo A
B2	C16 (470pF) changed to DNP as per test feedback A085 (Final Schematic, BoM), Production Release	23 Aug 17	David C

DEVKIT-MOTORGD BLDC/PMSM - MOTOR CONTROL REFERENCE DESIGN

		Automotive, Industrial & Multi-market Solutions Group 6501 William Cannon Drive West Austin, TX 78735-8598	
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ICAP Classification: CP: _____ IUC: X PUI: _____			
Designer: Salsubramanian	Drawing Title: DEVKIT-MOTORGD		
Drawn by: Salsubramanian	Page Title: TITLE PAGE		
Approved: Phil / David Chung	Size C	Document Number SCH-29379 PDF: SPF-29379	Rev B2
Date: Thursday, August 24, 2017		Sheet 1 of 5	

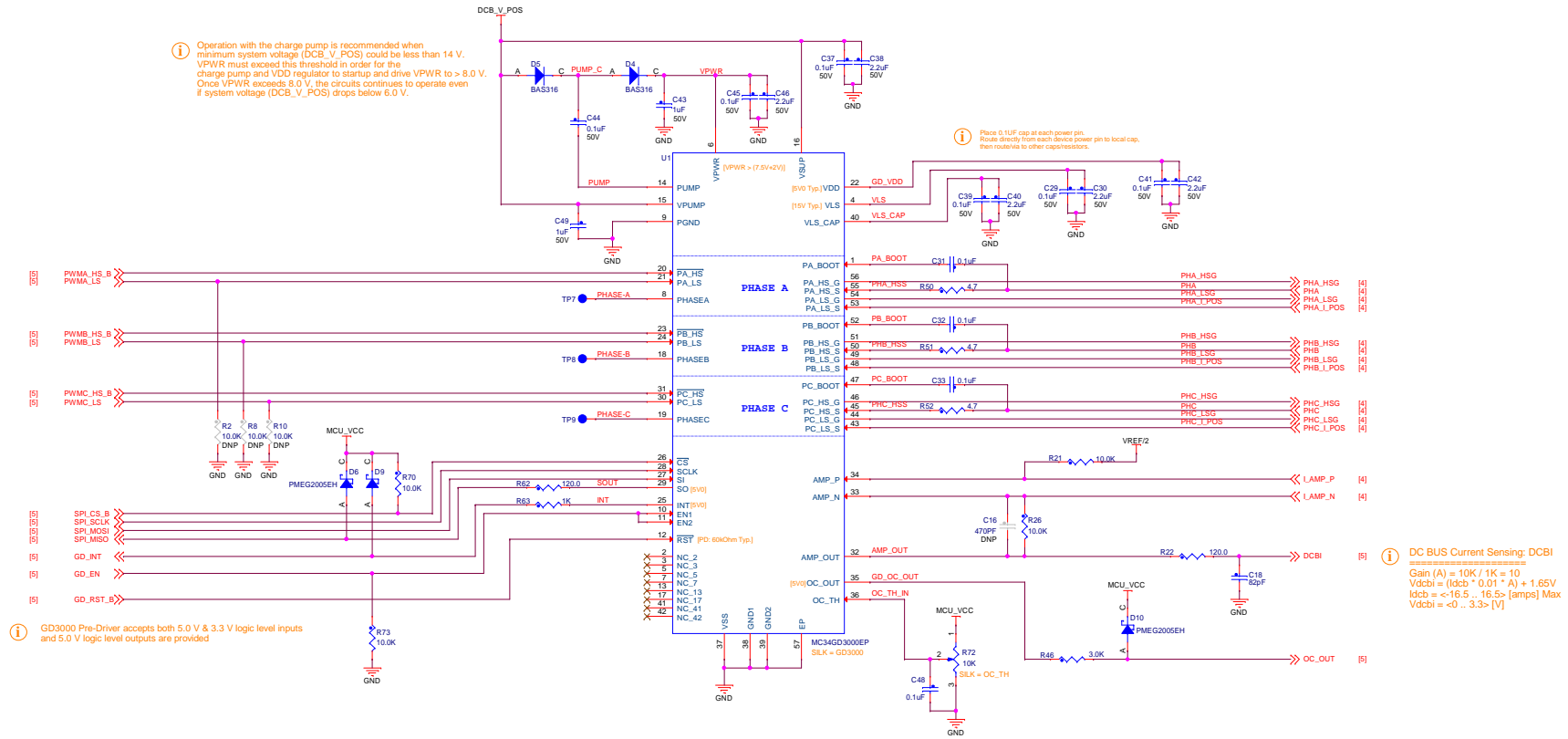
- Unless Otherwise Specified:
 All resistors are in ohms, 5%, 1/10 Watt
 All capacitors are in uF, 20%, 50V
 All voltages are DC
 All polarized capacitors are aluminum electrolytic
- Interrupted lines coded with the same letter or letter combinations are electrically connected.
- Device type number is for reference only. The number varies with the manufacturer.
- Special signal usage:
 _B Denotes - Active-Low Signal
 <> or [] Denotes - Vectors Signals
- Interpret diagram in accordance with American National Standards Institute specifications, current revision, with the exception of logic block symbology.


DEVKIT-MOTORGD for BLDC/PMSM



ICAP Classification:	CP: _____	NO: X PUR: _____
Drawing Title:	DEVKIT-MOTORGD	
Page Title:	NOTES/ BLOCK DIAGRAM	
Size	Document Number	Rev
C	SCH-29379 PDF: SPP-29379	B2
Date:	Thursday, August 24, 2017	Sheet 2 of 5

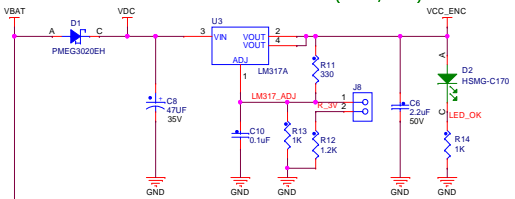
GD3000 - THREE PHASE FET PRE-DRIVER



		
ICAP Classification:	CP: _____	NO: X PURL: _____
Drawing Title: DEVKIT-MOTORGD		
Page Title: MOSFET PRE DRIVER GD3000		
Size C	Document Number: SCH-29379 PDF: SPP-29379	Rev B2
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MOTOR CONTROL - POWER STAGE

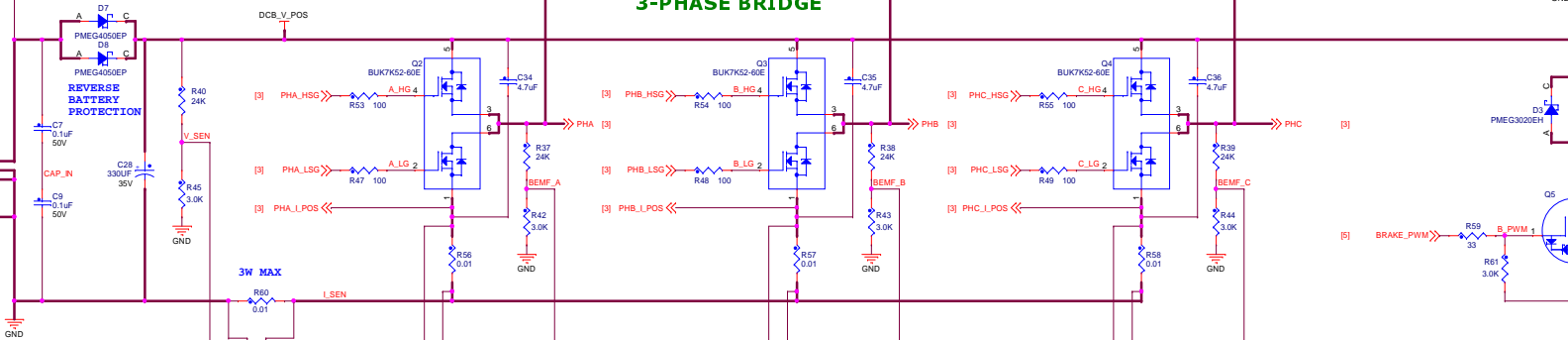
POWER SUPPLY - POSITION SENSOR (3.3V / 5V0)



J8 VOLTAGE SELECTOR

VOLTAGE	J8
3.3V	Short
5.0V	Open

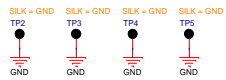
3-PHASE BRIDGE



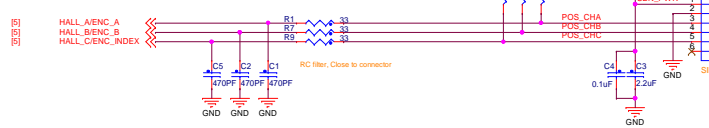
[10VDC - 18VDC]

Layout Note:
Single GND in the Design. High Current GND path to be separated in the Layout by making void.

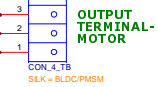
GND - TEST POINTS



HALL / ENCODER INTERFACE



OUTPUT TERMINAL MOTOR



BRAKE RESISTOR TERMINAL




PMSM/BLDC, Jumper Selection

MODE	TP2	TP3	TP4	TP5
J10	1-2	2-3	1-3	2-3
J11	1-2	2-3	1-3	2-3
J12	1-2	2-3	1-3	2-3

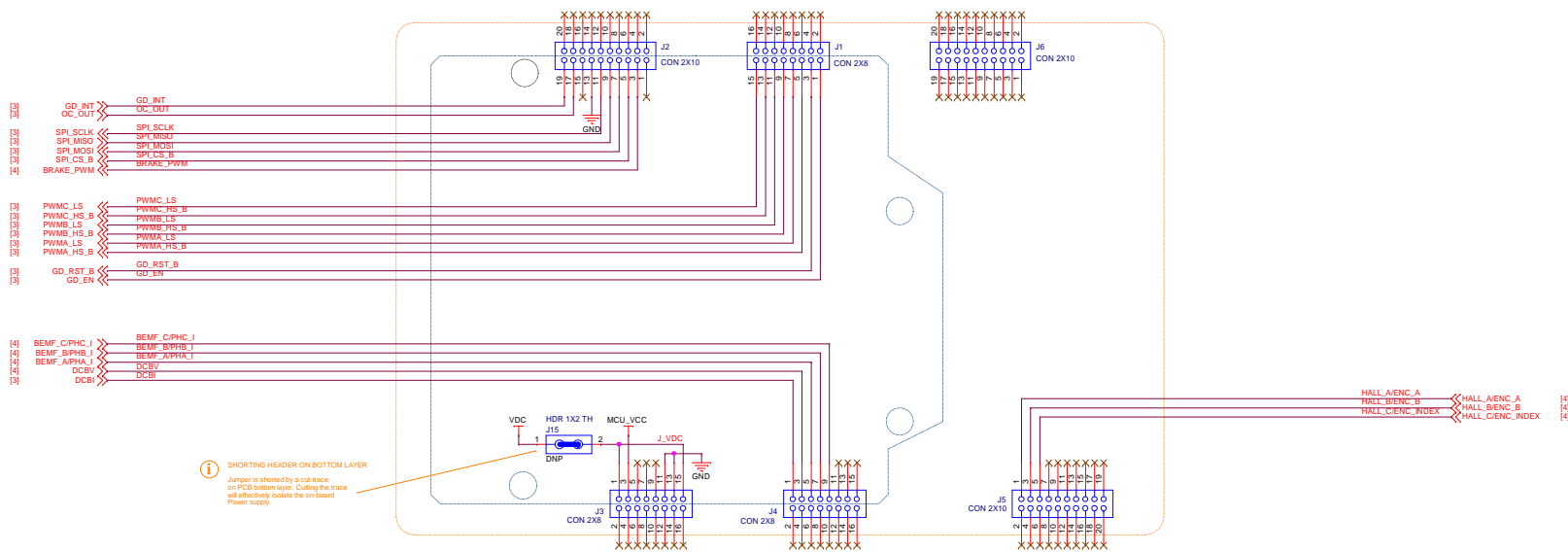
*Default

DC BUS Voltage sensing: DCBV
3.3V @ 29.75V *(3K/(24K+3K))
5.0V @ 45.0V *(3K/(24K+3K))



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DEVKIT / FRDM+ - IO CONNECTORS



① SHORTING HEADER ON BOTTOM LAYER
 Jumper is shorted by a cut-trace on PCB bottom layer. Cutting the trace will effectively isolate the on-board Power supply.

NOTE:
 =====
Arduino compatible headers:
 J1, J2, J3, J4 (INNER ROW)

DEVKIT / FRDM+ compatible headers:
 J1, J2, J3, J4, J5, J6