REV	ECO #	DESCRIPTION	DATE

PIC24F PART

U3
PIC24FJ64GB002-I/SS

MCLRZ
SCL
SDA
PWM_IC
PWM_PIC
RESERVE1_PIC
PIC_LED_3
PIC_LED_2
PIC_LED_1
+VSEN
VBIAS_IC
3.3V
3.3V
3.3V
DIODE_SCHOTTKY_SMC
D4

*MCLR/VPP/RA5
*U1CTS/SCL1/CN22/RB8
*U1RTS/SDA1/CN21/RB9
SOSCI/*U2RTS/CN1/RB4
SOSCO/T1CK/*U2CTS/CN0/RA4
AN0/VREF+/CN2/RA0
AN1/VREF-/CN3/RA1
AN4/C1INB/C2IND/U1RX/U1BCLK/CN6/RB2
AN5/C1INA/C2INC/CN7/RB3
AN10/CVREF/RTCC/OCFA/C1OUT/INT1/CN12/RB14
AN11/SDO1/CTPLS/CN13/RB13
AN12/HLVDIN/CTED2/CN14/RB12/VUSB
VDD_2
VDD

U1TX/INT0/CN23/RB7
REFO/SS1/T2CK/T3CK/CN11/RB15
IC1/CN9/RA7
OC1/C2OUT/INT2/CTED1/CN8/RA6
OSCI/CLKI/CN30/RA2
OSCO/CLKO/CN29/RA3
PGC1/AN3/C1INC/C2INA/U2RX/U2BCLK/CN5/RB1
PGC2/SCK1/CN15/RB11/DN
PGC3/SCL1/CN24/RB6/VBUS
PGD1/AN2/C1IND/C2INB/U2TX/CN4/RB0
PGD2/SDI1/PMD2/CN16/RB10/DP
PGD3/SDA1/CN27/RB5
VSS_2
VSS

FG_IC
DIR_IC
PGEC
USB_D_N
V_BUS
PGED
USB_D_P
GND
10uF C19
5V_USB
R4 10k
R5 10k
R6 10k
PIC_LED_3
PIC_LED_2
PIC_LED_1

R7 10K
R8 470R
NET00017
MCLRZ
3.3V
PGED
PGEC
J2
100nF C8
GND
3.3V
100nF C6
100nF C7
GND
3.3V
R9 1k
SCL
3.3V
R10 1k
SDA

IC VOLTAGE AND CURRENT MONITORING PART

+ISEN
-ISEN
C3 100nF
MCP3421A1T-E/CH
NET00018
NET00017
VIN+
VSS
SCL
VIN-
VDD
SDA
SCL
SDA
3.3V
GND
100nF C4
10uF C5
GND
U1

LDO 3.3V

MCP1824T-3302E/OT
5V_USB
VIN
GND
VOUT
PWRGD
*SHDN
3.3V
5V_USB
10uF C2
1uF C1
GND

POWER PART (POL)

VIN
TP1
TP2
GND

C10 10uF
C9 10uF
GND

5.0V
R11 10K
MCLRZ_POL
PGED_POL
PGEC_POL
J5
GND

GPA0/AN0/AN_TEST
GPA1/AN1/CLKPIN
GPA2/AN2/T0CKI/INT
GPA3/AN3
PGEC_POL
SCL
PGED_POL
MCLRZ_POL
RESERVE1_PIC
SDA
GND
VIN
PGND
EP
GPA0/AN0/ANALOG_TEST
GPA1/AN1/CLKPIN
GPA2/AN2/T0CKI/INT
GPA3/AN3
GPA7/SCL/ICSPCK
GPA6/ICSPDAT
GPA5/MCLR
GPA4
GPB0/SDA
GND
VIN
PGND
GPB2/AN5
GPB1/AN4
-VSEN
+VSEN
+ISEN
-ISEN
VDD
BOOT
HDRV
PHASE
VDR
LDRV
U4

C12 10uF
100nF C13
C11 200nF
Q1
S1 G1 S2 G2
D1 D1 D2 D2
Dual N
L1 22uH - 33uH
VDD_ADJ
R12 0.1
+VSEN
VDD_IC
R13 4.0K
R14 4.0K
R15 4.0K
C14 10uF
C15 10uF
150uF C16
+ISEN
-ISEN
R1 1k
R2 1k
R16 1k
GND
VDR
5.0V
1uF C18
1uF C17
GND
GND

USB CONNECTION PART

5V_USB
V_BUS
100K R3
USB_D_N
USB_D_P
V_USB
DN
DP
GND
GND
J1

IC SOCKET PART

FG_IC
VBIAS_IC
FG
RPROG
VBIAS
GND
GND
J3 J4
PWM
DIR
VDD
VDD
VDD
GND
PWM_IC
DIR_IC
VDD_IC
VDD_IC
VDD_IC
GND

Drawn By: Gilles Di P.	
Engineer: Gilles Di P.	
Project Title	*12V 3-Phase BLDC Sinusoidal Drive Eval Bd.*
Sheet Title	03-10186-R1
Size C	Sch #:03-ProjectBoardNumber Revision:ProjectRevision$SH Date 2/7/2014 8:49:56 AM Sheet 1 of 1
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