PIC VDD
C4 10u
PIC VSS
PIC VDD
C5 100n
PIC VSS

J2 CONN-SIL2
+12.0V
J3 CONN-SIL2
SCK
SDI
SDO
J4 CONN-SIL3
J5 CONN-SIL4
+12.0V
J6 CONN-SIL4
J7 CONN-SIL4

J8
P1A
P1B
P1C
P1D
FAN
SCL
SDA
SS
SCK
SDI
SDO
CHANGE OVER
FFEDBACK
LOAD CURRENT SENSE
MOSFET A TEMPERATURE
MOSFET B TEMPERATURE
MOSFET C TEMPERATURE
MOSFET D TEMPERATURE
CONN-SIL18

18 PIN CONN - USED AS TEST POINT FOR OSCILLOSCOPE / SALEAE LOGIC ANALYZER

U2 LM35 — MOSFET A TEMPERATURE
U4 LM35 — MOSFET B TEMPERATURE
U3 LM35 — MOSFET C TEMPERATURE
U6 LM35 — MOSFET D TEMPERATURE

U5 PIC16F46K22 E/P

FEEDBACK	2	RA0/C12IN0-/AN0	
LOAD CURRENT SENSE	3	RA1/C12IN1-/AN1	
MOSFET A TEMPERATURE	4	RA2/C2IN+/AN2/DACOUT/VREF-	
MOSFET B TEMPERATURE	5	RA3/C1IN+/AN3/VREF+	
	6	RA4/C1OUT/SRQ/T0CKI	
SS A	7	RA5/C2OUT/SRNQ/SST/HLVDIN/AN4	
	14	RA6/CLKO/OSC2	
	13	RA7/CLKI/OSC1	
	15	RC0/P2B/T3CKI/T3G/T1CKI/SOSCO	
	16	RC1/P2A/CCP2/SOSCI	
P1A	17	RC2/CTPLS/P1A/CCP1/T5CKI/AN14	
SCK	18	RC3/SCK1/SCL1/AN15	
SDI	23	RC4/SDI1/SDA1/AN16	
SDO	24	RC5/SDO1/AN17	
	25	RC6/TX1/CK1/AN18	
	26	RC7/RX1/DT1/AN19	
SCL	19	RD0/SCK2/SCL2/AN20	
SDA	20	RD1/CCP4/SDI2/SDA2/AN21	
MAINS SENSE	21	RD2/P2B/AN22	
	22	RD3/P2C/SS2/AN23	
	27	RD4/P2D/SDO2/AN24	
P1B	28	RD5/P1B/AN25	
P1C	29	RD6/P1C/TX2/CK2/AN26	
P1D	30	RD7/P1D/RX2/DT2/AN27	
	33	RB0/INT0/FLT0/SRI/AN12	
	34	RB1/INT1/C12IN3-/AN10	
	35	RB2/INT2/CTED1/AN8	
MOSFET C TEMPERATURE	36	RB3/CTED2/P2A/CCP2/C12IN2-/AN9	
MOSFET D TEMPERATURE	37	RB4/IOC0/T5G/AN11	
	38	RB5/IOC1/P3A/CCP3/T3CKI/T1G/AN13	
PGC	39	RB6/IOC2/PGC	
PGD	40	RB7/IOC3/PGD	
	8	RE0/P3A/CCP3/AN5	
CHANGE OVER	9	RE1/P3B/AN6	
NTC TEMPERATURE	10	RE2/CCP5/AN7	
FAN	1	MCLR/VPP/RE3	
MCLR/VPP			

R4 4.7k
R5 4.7k
SCL
SDA
R2 10k
MCLR
C12 100n

+12.0V
R8 1k
D4 LED-RED
C7 100n
D3 1N4007
RIGHT
LEFT
RIGHT
LEFT
Q1 MCH3474
FAN
R1 10
R3 10k
D1 UF4007

J15 CONN-SIL6
MCLR/VPP
VDD
VSS
PGD
PGC
PICKIT3-CONN

J9 AND J10 CAN BE CONNECTED TO GATE CIRCUIT ON A SMALL PCB WHOSE OUTPUT GOES TO HEATSINK MOUNTED ISOTOP MOSFETS

THESE SIGNALS CAN BE CHECKED WITH CLONES OF SALEAE LOGIC ANALYZER WHICH CAN MEASURE +/- 50V

HO1 J9 CONN-SIL4 HO2
LO1 LO2 J10 CONN-SIL4

R25 150k
BR2
V1 VSINE VA=230*1.4142 FREQ=50
R27 10k
RV2 5k
MAINS SENSE
C11 1000u
W10G
R26 150k

R9 330
D5 LED-RED
C6 100n
D2 1N4007
LOAD A
LOAD B
RL1 5V
F2 5A
F3 5A
J1 TBLOCK-I3
EARTH
R6 100
CHANGE OVER
Q2 BS170
R7 10k

C2 100n
U1 ACS712ELCTR-20A-T
1/2 IP+ VCC VIOUT FILTER GND IP- 3/4
LOAD CURRENT SENSE
C1 1nF

R22 100k
BR1
R24 10k
RV1 5k
FEEDBACK
C8 1000u
W10G
R23 150k

JP4 JUMPER2 — MCLR — MCLR/VPP
JP5 JUMPER2 — VDD
JP6 JUMPER2 — VSS
JP7 JUMPER2 — PGD
JP8 JUMPER2 — PGC
mikroProg for PIC Programmer/Debugger Header
J16 CONN-H6

MOSFET A TEMPERATURE — J11 CONN-SIL3
MOSFET B TEMPERATURE — J13 CONN-SIL3
MOSFET C TEMPERATURE — J12 CONN-SIL3
MOSFET C TEMPERATURE — J14 CONN-SIL3

LM35 CONNECTORS - FOR USE IF MOSFETS ARE MOUNTED ON HEATSINKS AND NOT ON PCB

+325.0V
U9 LM35
RT1 4c° 3.0R
NTC TEMPERATURE
F1 6A

+12.0V
C17 10u
D16 UF4007
C18 100n
C19 68uF
C9 100n
U7 IR2184 (VCC, IN, SD, COM, VB, HO, VS, LO)
HO1
R12 10
D17 UF4007
R13 10k
Q3 IXKK85N60C
LO1
R14 10
D18 UF4007
R15 10k
Q4 IXKK85N60C
P1A
R10 1k
P1B
R11 1k
LOAD A

+12.0V
D19 UF4007
C10 100n
C3 68uF
C13 10u
C14 100n
U8 IR2184 (VB, HO, VS, LO, VCC, SD, COM)
HO2
R18 10
D20 UF4007
R19 10k
Q5 IXKK85N60C
LO2
R20 10
D21 UF4007
R21 10k
Q6 IXKK85N60C
LOAD B
R16 1k
P1C
R17 1k
P1D

FILE NAME:	Full-Bridge Board.pdsprj
DESIGN TITLE:	Full-Bridge Board
PATH:	E:\Full-Bridge Board.pdsprj
BY:	Okada
REV:	I
DATE:	12/15/2016
PAGE:	1 of 1
TIME:	7:00:37 AM