PAC5256

U1 PAC5256

VCC18 VCCIO PE5 PE4 PE3 RX1 TX1 PE0 SWDIO SWDCL PD2 PD3 PD4 PD5 VSS GND

PC5 PC4 PC3 PC2 VCC33 PC1 VSYS AIO7 AIO8 AIO9 AIO5 AIO4 AIO3 AIO2 AIO1 AIO0 AIO6 BST_CHG

DXB2 DRB5
DXH2 DRH5
DXS2 DRS5
DXB1 DRB4
DXH1 DRH4
DXS1 DRS4
DXB0 DRB3
DXH0 DRH3
DXS0 DRS3

DRL2 DRL1 DRL0 VP SW CSM VM SRC DRM BST

V5V VCCIO
C3 4.7 uF 10V
C1 2.2 uF 25V
V3P3
C2 2.2 uF 25V
R3 0

J1 JTAG: SWDIO SWDCL
J4 UART: RX1 TX1

R5 330
D2 VSYS

L4 750 mA 10uH
C20 10uF 25V
C22 10uF 25V
C36 2.2 uF 25V

R11 1K
C4 0.1 uF 630V
HV_VM

Power Stage

VP R55 0 VPD D12 600V DRB3 DRH3 DRS3

D9 75V R27 150 C23 25V 1 uF C11 0.1 uF R23 10K DNP Q2 600V AOB15B65M1 J10

D10 75V R28 150 C24 25V 1 uF C12 0.1 uF R24 10K DNP Q3 600V AOB15B65M1 J11

D11 75V R29 150 C25 25V 1 uF C13 0.1 uF R25 10K DNP Q4 600V AOB15B65M1 J12

D18 75V R33 150 R26 10K DNP Q5 600V AOB15B65M1 DRL0 AIO10_P R36 100 AIO10_N R42 100 C26 3300 pF R39 0.05

D19 75V R34 150 R30 10K DNP Q6 600V AOB15B65M1 DRL1 AIO32_P R37 100 AIO32_N R43 100 C27 3300 pF R40 0.05

D20 75V R35 150 R31 10K DNP Q7 600V AOB15B65M1 DRL2 AIO54_P R38 100 AIO54_N R44 100 C28 3300 pF R41 0.05

C14 1 uF 450V
C15 1 uF 450V
C16 0.1 uF 630V
C32 0.1 uF 630V
C33 0.1 uF 630V

J3 Header 20: PC5 PC4 PC3 PC2 PC1 AIO7 AIO8 AIO9 AIO54_P AIO54_N AIO32_P AIO32_N AIO10_P AIO10_N AIO6

J2 Header 14: PE5 PE4 PE3 RX1 TX1 PE0 SWDIO SWDCL PD2 PD3 PD4 PD5

R2 1 M
R9 1 M
R17 10K
C46 1000 pf

C29 1000 pf
C31 1000 pf
C30 1000 pf
R56 200K
R57 200K
R58 200K
R45 200K
R46 200K
R47 200K
R48 2.4K
R49 2.4K
R50 2.4K

AC Input

J6 Header 3: L N E
L3 ET24: AC1I AC1O AC2I AC2O
HV_VAC2
C8 0.22nF 760 VDC
C10 820 pF 2000 V
C21 820 pF 2000 V
BR1 Bridge_Rect: AC1 AC2
EARTH

C6 220 uF 450V
C34 220 uF 450V DNP
C7 6.8 uF 450V

Power Stage

Q1 FQP2N60C
C17 25V DNP
DRM R6 0
C5 2.2 uF 25V
SRC BST D4 MUR160 BST_CHG
C35 220 pF 50V
L1 Inductor 1 mH
CSM R7 0.33
D1 MUR160
C19 10uF 25V
C18 220 uF 25V

Analog Inputs

JMP1 JMP1X3: PD2 PWMB0
R4 4.3K DAC1 C37 1000 pf C9 1000 pf TP18 DAC1 R1 100 HALL_U

JMP2 JMP1X3: PD3 PWMB1
R8 4.3K DAC2 C42 1000 pf C39 1000 pf TP19 DAC2 R52 100 HALL_V

JMP3 JMP1X3: PD4 PWMD1
R10 4.3K DAC3 C43 1000 pf C40 1000 pf TP20 DAC3 R54 100 HALL_W

J15 Header 5: HALL_U HALL_V HALL_W
C41 0.1 uF

Test Points

GND TP8 GND TP11 GND TP10 GND TP21 VM TP4 VP TP1 DRM TP2 CSM TP3 BST TP13 DRL0 TP5 DRL1 TP6 DRL2 TP7 SW TP14 BSTCHG TP16 SRC TP17 DRH3 TP9 DRH4 TP12 DRH5 TP15

Isolated Gate Driver

J7 Header 2
R21 330
C44 1000 pf
U2 LTV817: An Cat Col Em
VCCIO R19 10K
AIO6 DNP R20 0
R22 2K
PD5
C45 1000 pf

active-semi™ Solutions for Sustainability

PAC5256EVK1

Size	FCSM No.	DWG No.	Rev
C			A
Scale		9/28/2018	Sheet 1 of 1