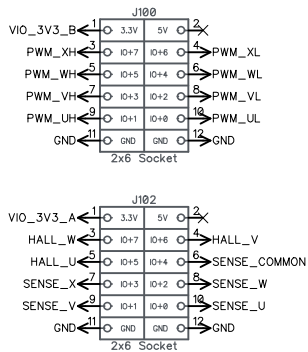
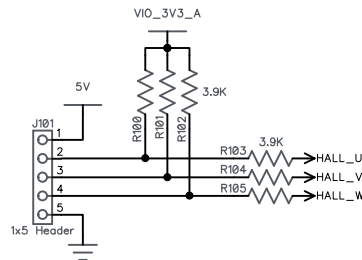


Headers and Signals

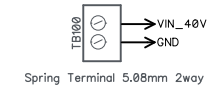
P2 Accessory Socket (Dual)



Hall-Effect Sensors Header



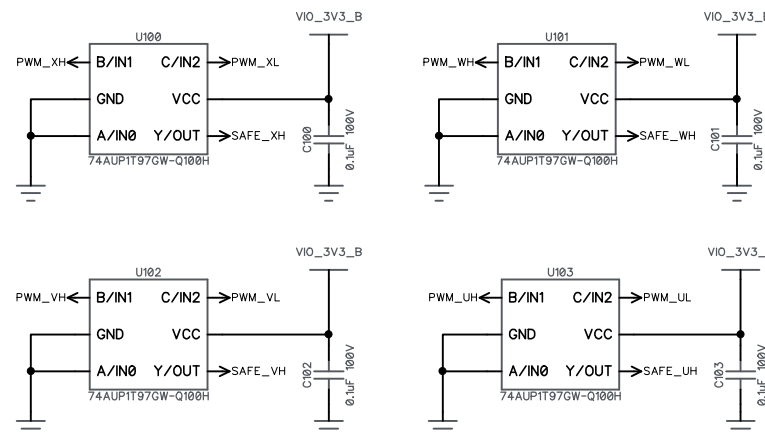
Screw-Terminal Header (VIN) Maximum 32A



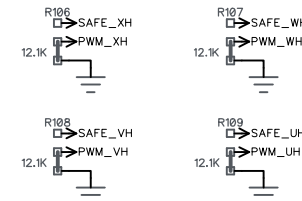
Mounting holes



Mosfet Driver Logic Signal Protection



Remove 12.1K resistor,
install shunt between SAFE and PWM
to remove logic when installing
alternative motor driver UCC27872



BOM only - mfg

PCB100
Raw PCB - UNIVERSAL-MOTOR-DRIVER-ADDON

Parallax Inc.
599 Menlo Drive
Rocklin, CA 95765

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Universal Motor Driver P2 Add-On

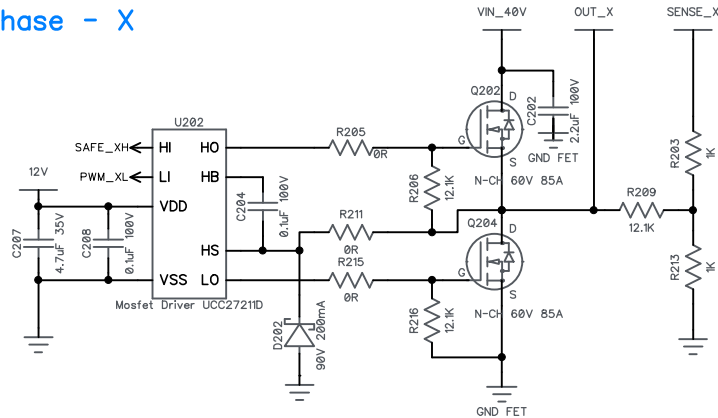
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Part Number: 64010
Revision: B

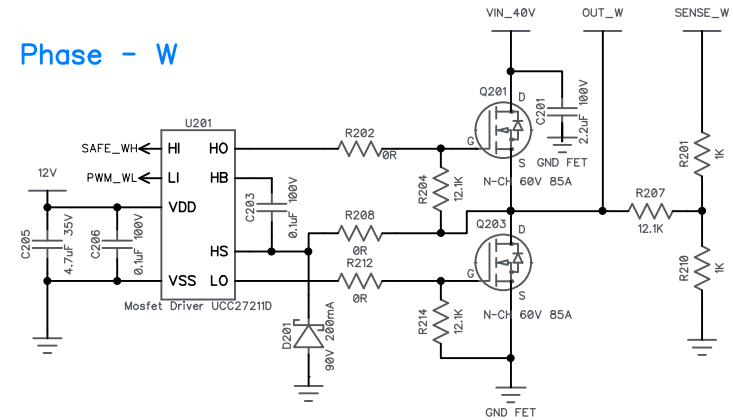
Last Update: 03 May 2022 (MM)

Motor Drivers

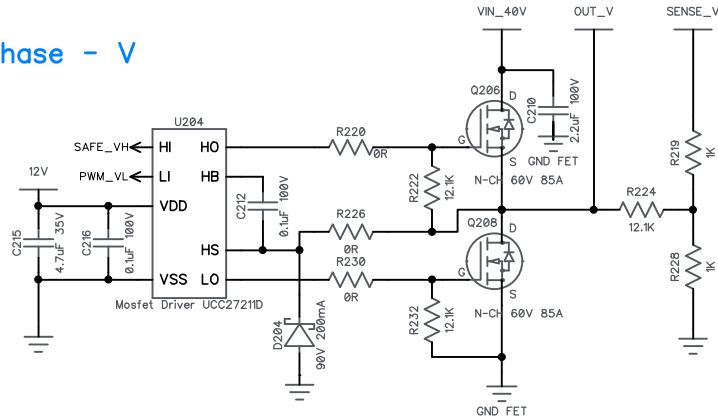
Phase - X



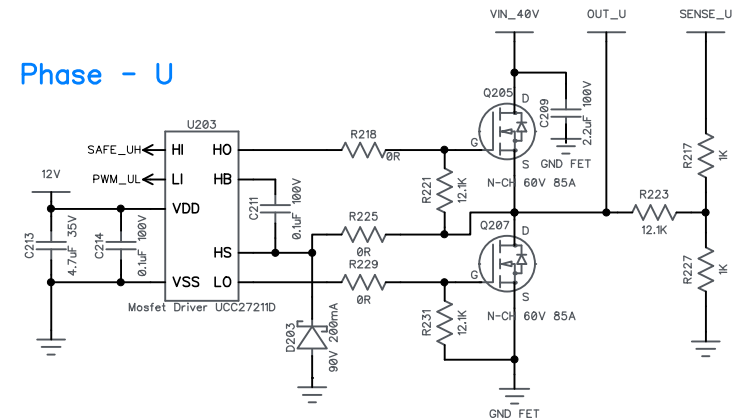
Phase - W



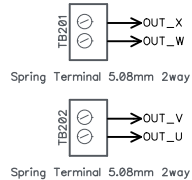
Phase - V



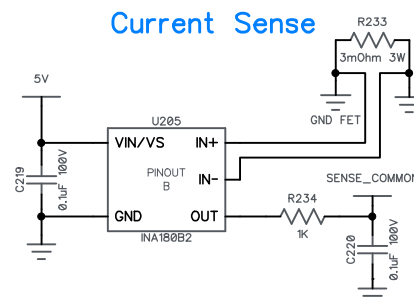
Phase - U



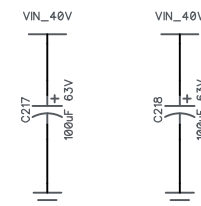
Spring Terminal Output Headers



Current Sense



Bulk Capacitance



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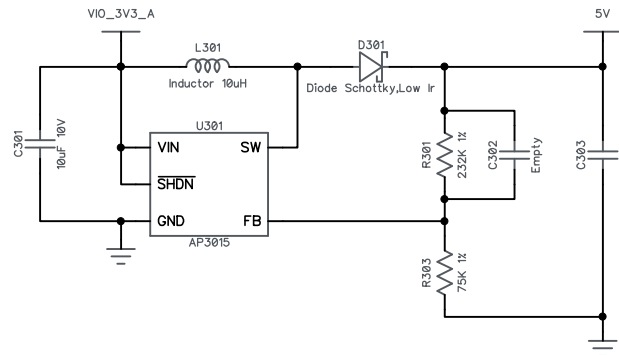
Universal Motor Driver P2 Add-On

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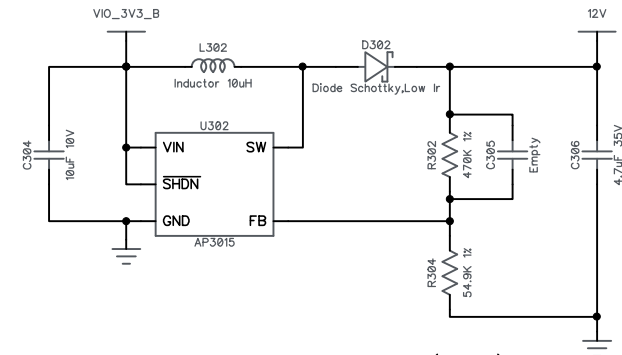
Part Number: 64010
Revision: B

Last Update: 03 May 2022 (MM)

5V 50mA Boost Regulator



12V 50mA Boost Regulator



$$V_{OUT} = 1.23V \cdot (1 + R1/R2)$$

VOUT from 12V Boost regulator approx. 11.76V

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Universal Motor Driver P2 Add-On

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BOM

RefDes	Quantity	Name	Manufacturer
C100, C101, C102, C103, C203, C204, C206, C208, C211, C212, C214, C216, C219, C220	14	200-11500 : CAP-CER,0.1UF,100V,X5R,0402	Murata : GRM155R62A104ME14D
C201, C202, C209, C210	4	200-11547 : CAP-CER,2.2UF,100V,X5R,1206	Taiyo Yuden : HMK316ABJ225ML-TE
C205, C207, C213, C215, C306	5	213-04752 : CAP-CER,4.7uF,35V,X5R,0603	Murata : GRM188R6YA475KE15D
C217, C218	2	200-11546 : CAP-POLY,100uF,63V,30mOhm,SMT	KEMET : A780MS107M1JLAV030
C301, C303, C304	3	200-11527 : CAP-CER,10uF,X7R,10V,0805	Murata : GRM21BR71A106KA73K
C302, C305	2	Empty	
D201, D202, D203, D204	4	501-10043 : Diode,Schottky,90V,200mA,490mV	Rohm : RB021VAM90TR
D301, D302	2	501-10037 : Diode,Schottky,Low Ir,40V,2A,SOD-123F	Rohm : RB068MM-40TR
J100, J102	2	450-01902 : CON-SCKT,2X6,0.1",PT,SMT	4UCON : 21289
J101	1	450-00154 : CON-HDR,1x5,0.1",Straight,TH	4UCON : 00806
L301, L302	2	275-00184 : Ind,10uH,1.7A,Shielded,4.9mm	Taiyo Yuden : NRS5030T100MMGJ
MH100, MH101	2		
PCB100	1	300-64010 : Raw PCB - UNIVERSAL-MOTOR-DRIVER-ADDON	
Q201, Q202, Q203, Q204, Q205, Q206, Q207, Q208	8	500-10043 : MOSFET N-CH 60V 85A DFN5060	MCC : MCAC85N06Y-TP
R100, R101, R102, R103, R104, R105	6	150-11051 : Res,3.9k,0402	Yageo : RC0402JR-073K9L
R106, R107, R108, R109, R204, R206, R207, R209, R214, R216, R221, R222, R223, R224, R231, R232	16	172-10228 : RES,12.1K,1%,0402	Stackpole : RMCF0402FT12K1
R201, R203, R210, R213, R217, R219, R227, R228, R234	9	173-10002 : RES,1K,5%,0402	Stackpole : RMCF0402JT1K00
R202, R205, R208, R211, R212, R215, R218, R220, R225, R226, R229, R230	12	172-15007 : RES,0603,0 OHM, 1/10W	Stackpole : RMCF0603ZT0R00
R233	1	172-16027 : RES,3mOhm,1%,3W,2512	Bourns : CRE2512-FZ-R003E-3
R301	1	172-16012 : RES,232K,1%,0402	Yageo : RC0402FR-07232KL
R302	1	172-16011 : RES,470K,1%,0402	Yageo : RC0402JR-07470
R303	1	172-16014 : RES,75K,1%,0402	Yageo : RC0402FR-0775KL
R304	1	172-10222 : Res,54.9K,1%,0402	Stackpole : RMCF0402FT54K9
TB100, TB201, TB202	3	452-00100 : TERMINAL,SPRING,2P,R/A,5.08MM	Phoenix Contact: 1017503
U100, U101, U102, U103	4	603-10045 : IC-BUF,MULT-FUNC,3BIT,SOT363	NXP : 74AUP1T97GW-Q100H
U201, U202, U203, U204	4	604-00092 : IC GATE DRV,HALF-BRIDGE,8SOIC	Texas Instruments : UCC2721ID
U205	1	602-00040 : IC CURR SENSE,GAIN 50x,PINOUT B,SOT23-5	Texas : INA180B2QDBVRQ1
U301, U302	2	601-10356 : IC-REG,BOOST,ADJ,300MA,SOT23-5	Diodes Inc : AP3015KTR-G1

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Universal Motor Driver P2 Add-On

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