J5 Vin_P1
SMD M4 Screw Terminal
J6 SMD M4 Screw Terminal
GND

EPC91125_BusCapacitors_Rev1_0.SCHDOC
Vin_P1 VIN GND
GND

Vin_P1 3V3
R4 0603 100k 0.1W 1%
Vdc
D5 30V 30mA SDM03U40-7
TP15 80mil
R8 0603 3.01k 0.1W 1%
C2 0603 10nF 50V
TP16 80mil
29.2 mV/V 112.9 V maximum
GND AGND

DC Link Voltage sense

Q1
AP1005_Rev3_1_QuadEncdr.SCHDOC
5V 3V3 EncA EncB EncI

Shaft encoder input
Quadrature with Index

Supports optical and hall

V1
AP1065_5V2_100mA_0805_Rev2_1.SCHDOC
Vin_P1 Vin VCC 5V TP1 80mil GND

Driver Supply

5 V Supply

5V J4 1 2 100mil TH EMPTY
GND

+5V external connector

Repeat(P,1,3)
EPC2367_MP8699B_MotorPhaseLeg.SCHDOC
PWMH1 PWMH2 PWMH3 PWMH[1..3] PWMH
PWML1 PWML2 PWML3 PWML[1..3] PWML
5V VCC
Repeat(PWMH)
Repeat(SW)
Repeat(PWML)
GND
Vin Vin_P1
SN SN[1..3] SN

3-phase Inverter

Repeat(F,1,3)
ACS72981LLRATR_100B3.SchDoc
3V3 3V3
Repeat(Vsns) Vsns Vsns[1..3] Vsns1 Vsns2 Vsns3
Repeat(Phase) Repeat(SW) Phase Phase[1..3] Phase1 Phase2 Phase3
Repeat(Isns) Isns Isns[1..3] Isns1 Isns2 Isns3
GND AGND

Phase voltage and current sense

TP2 SMD TP Phase3
TP3 SMD TP Phase2
TP4 SMD TP Phase1
TP5 SMD TP
GND

J3 Phase3 SMD M4 Screw Terminal
J2 Phase2 SMD M4 Screw Terminal
J1 Phase1 SMD M4 Screw Terminal

Motor Connection

TP11 SMD TP
GND

V3
AP1074_Rev1_0.SCHDOC
5V 5V 3V3 3V3 TP6 80mil GND

3V3 Regulator

3V3 Connect
JP1 50mil
3V3
J16 50mil TH
GND

0603
10E 0.125W
J60
PWMH1 R5
PWML1 R6
PWMH2 R7
PWML2 R9
PWMH3 R10
PWML3 R12
EncA R38
EncB R39
EncI R42
Vdc R43
Vsns1 R44
Vsns2 R45
Vsns3 R46
Idc R31 0E EMPTY
Isns1 R47
Isns2 R48
Isns3 R49
GPIO R14 0E EMPTY
Tsns R50 0603 10E 0.125W
0E R26 OCPn
R15 0E EMPTY
1mm Edge
AGND

Control interface connector

Repeat(OCP,1,3)
AP1034_Rev1_2_OverCurrentProtection.SCHDOC
Isns1 Isns2 Isns3 Isns[1..3] Isns
Repeat(Isns)
OCPn OCPn
3V3 3V3
AGND

Over Current Protection

Serial# yyww-nnn
Serial# yyww-nnn

3V3 C3 0603 1uF 25V GND

ATTENTION ELECTROSTATIC SENSITIVE DEVICE
High Voltage

SO1 SO3 SO4 SO2
8834 8834 8834 8834

StandOffs

R13 0E
AGND GND

GND connection

ATTENTION HOT SURFACE
PCB1 B5538_1.0

FD1 FD2 FD3
Fiducial_Board

For evaluation only;
not FCC approved for resale

TS
AP1009_0805_2p3V_Rev3_1.SCHDOC
5V 5V °C °F Tsns Tsns GND
AGND

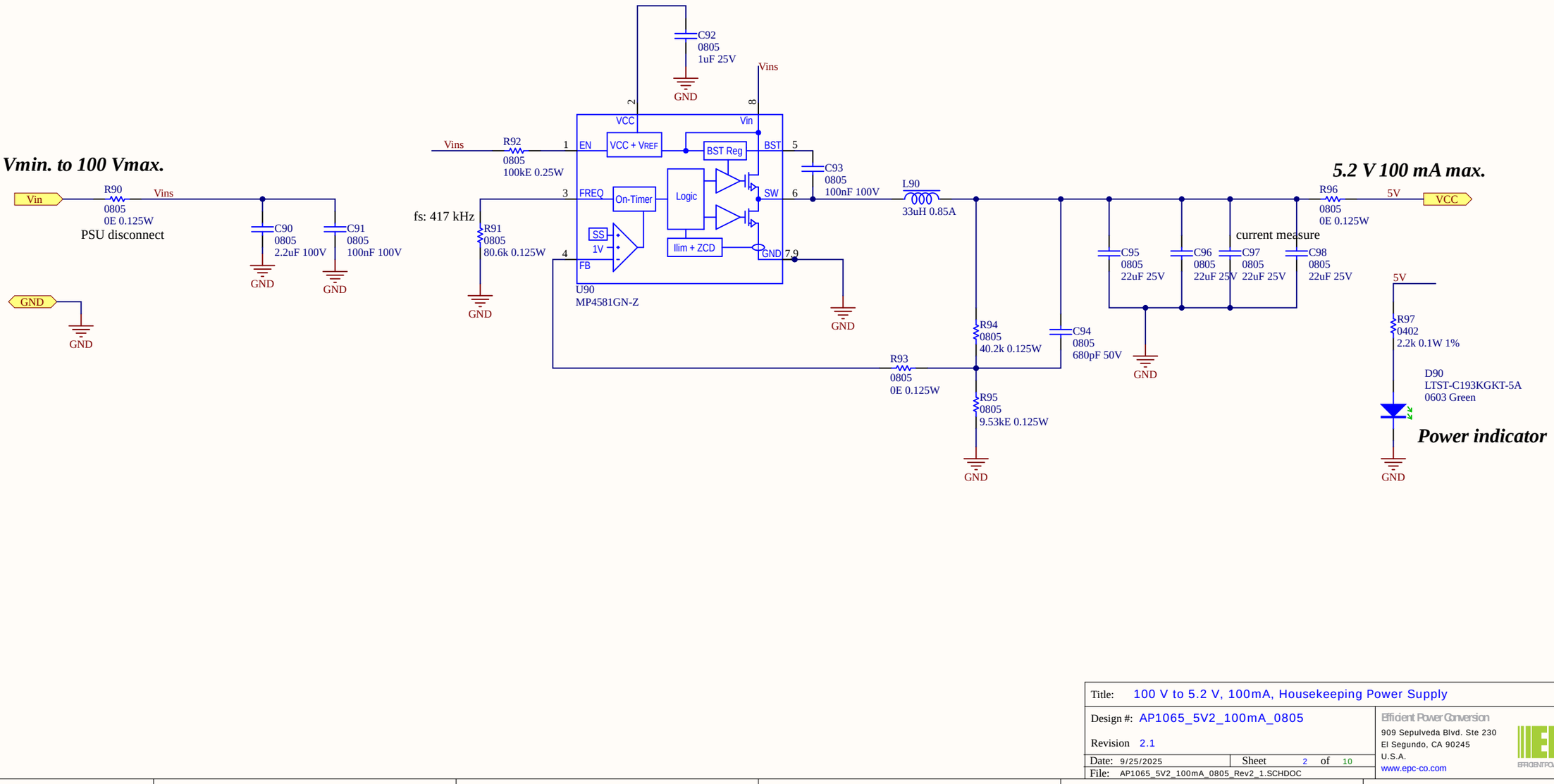
Temperature Sense

MC
AP1042_Rev1_0_ThermalKit.SCHDOC

Heatsink Kit

Title:	EPC91125 - three phase motor drive with EPC2367		© EPC 2025
Design #:	EPC91125	PCB #:	B5538
Revision	1.0	Revision:	1.0
Date:	10/13/2026	Sheet	1 of 10
File:	EPC91126_B5538_Rev2_0_Main.SCHDOC		

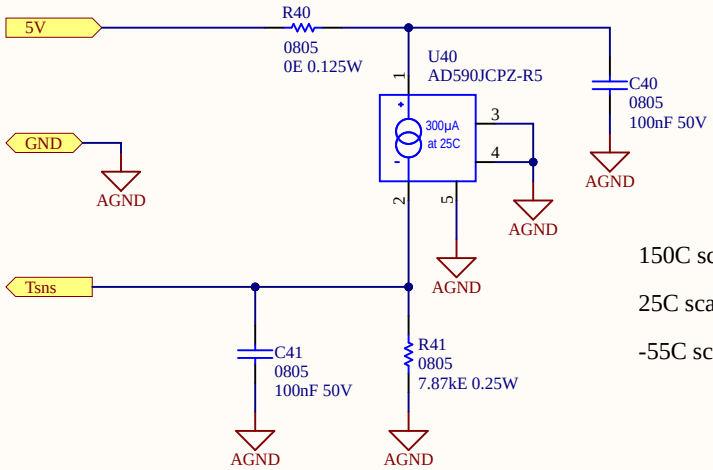
Efficient Power Conversion
909 Pacific Coast Hwy. Ste 230
El Segundo, CA 90245
U.S.A.
www.epc-co.com



Title:	100 V to 5.2 V, 100mA, Housekeeping Power Supply
Design #:	AP1065_5V2_100mA_0805
Revision	2.1
Date:	9/25/2025
Sheet	2 of 10
File:	AP1065_5V2_100mA_0805_Rev2_1.SCHDOC

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909 Sepulveda Blvd. Ste 230
El Segundo, CA 90245
U.S.A.
www.epc-co.com



150C scale to 3.3V

25C scale to 2.3V

-55C scale to 1.7V

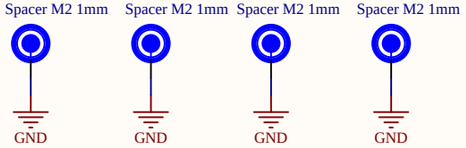
Title:	Temperature sense using AD590 - 0805 components	© EPC 2023
Design #:	AP1009_0805_2p3V	Efficient Power Conversion 909 Pacific Coast Hwy. Ste 230 El Segundo, CA 90245 U.S.A. www.epc-co.com
Revision	3.1	
Date: 9/3/2025	Sheet 3 of 10	
File: AP1009_0805_2p3V_Rev3_1.SCHDOC		

S1
Spacer M2 1mm

S2
Spacer M2 1mm

S3
Spacer M2 1mm

S4
Spacer M2 1mm

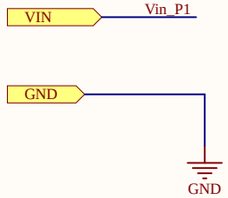


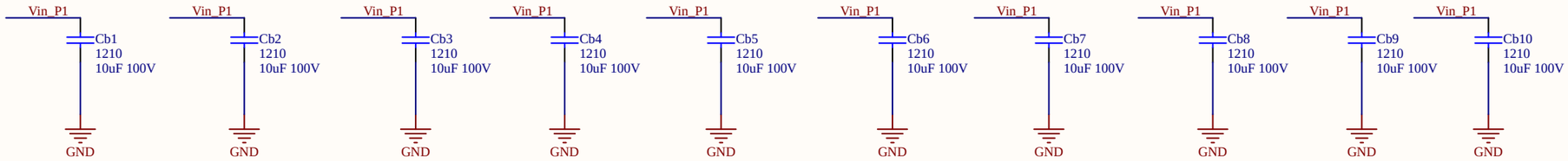
Heatsink Kit

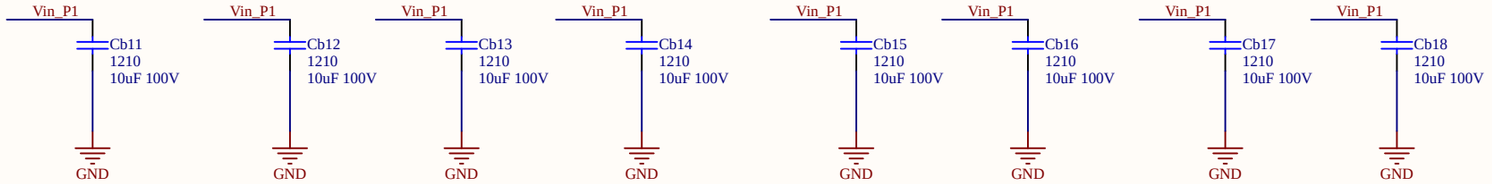
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Basic 4 screw heatsink kit

Title AP1042 Rev. 1.0			Efficient Power Conversion 909 N. Pacific Coast Hwy, Ste. 23 El Segundo, CA 90245 United States www.epc-co.com
Size: A	9	Revision: 1	
Date: 9/3/2025		Sheet 4 of 10	
File: AP1042_Rev1_0_ThermalKit.SCHDOC			

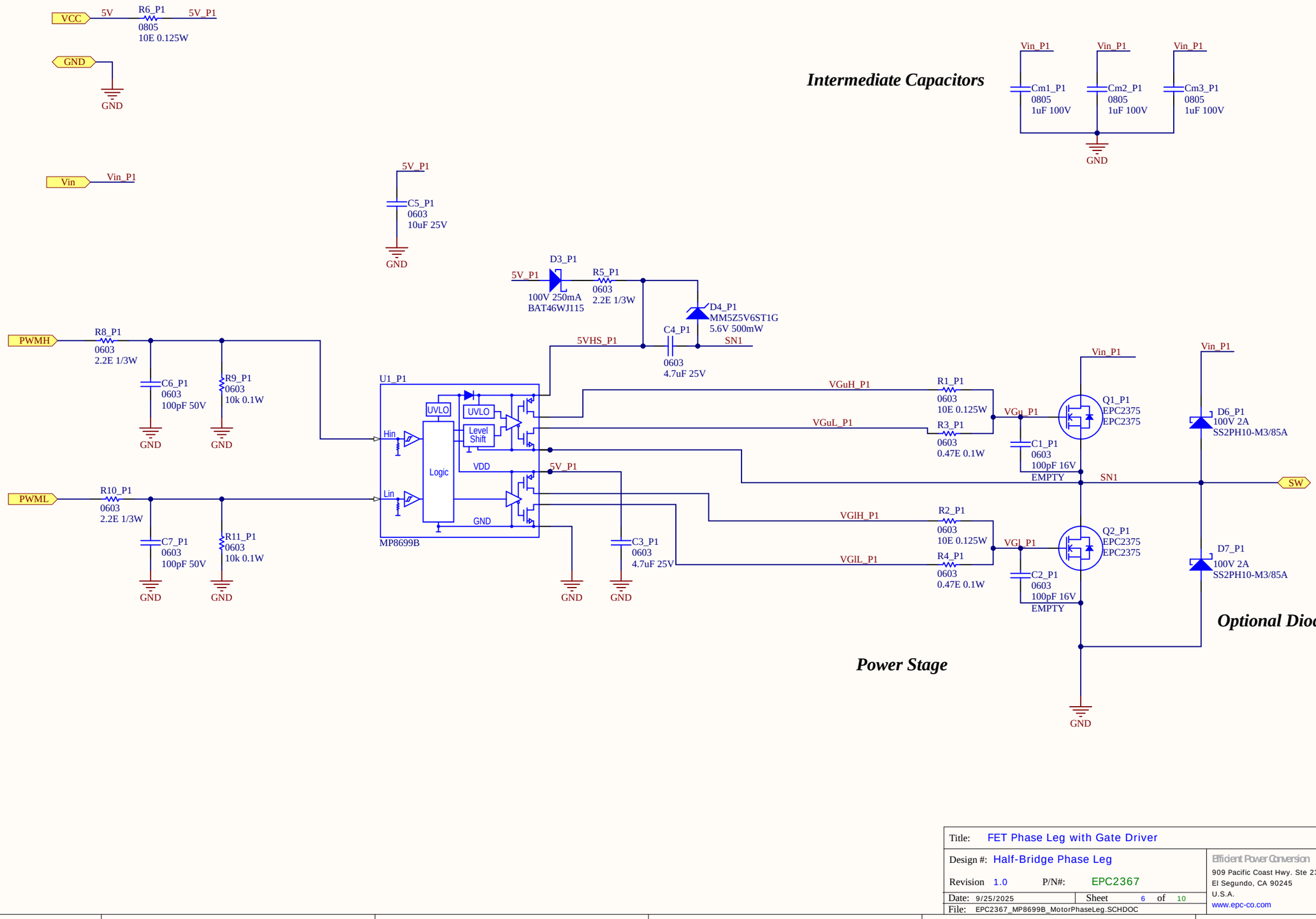






DC Bus Capacitors

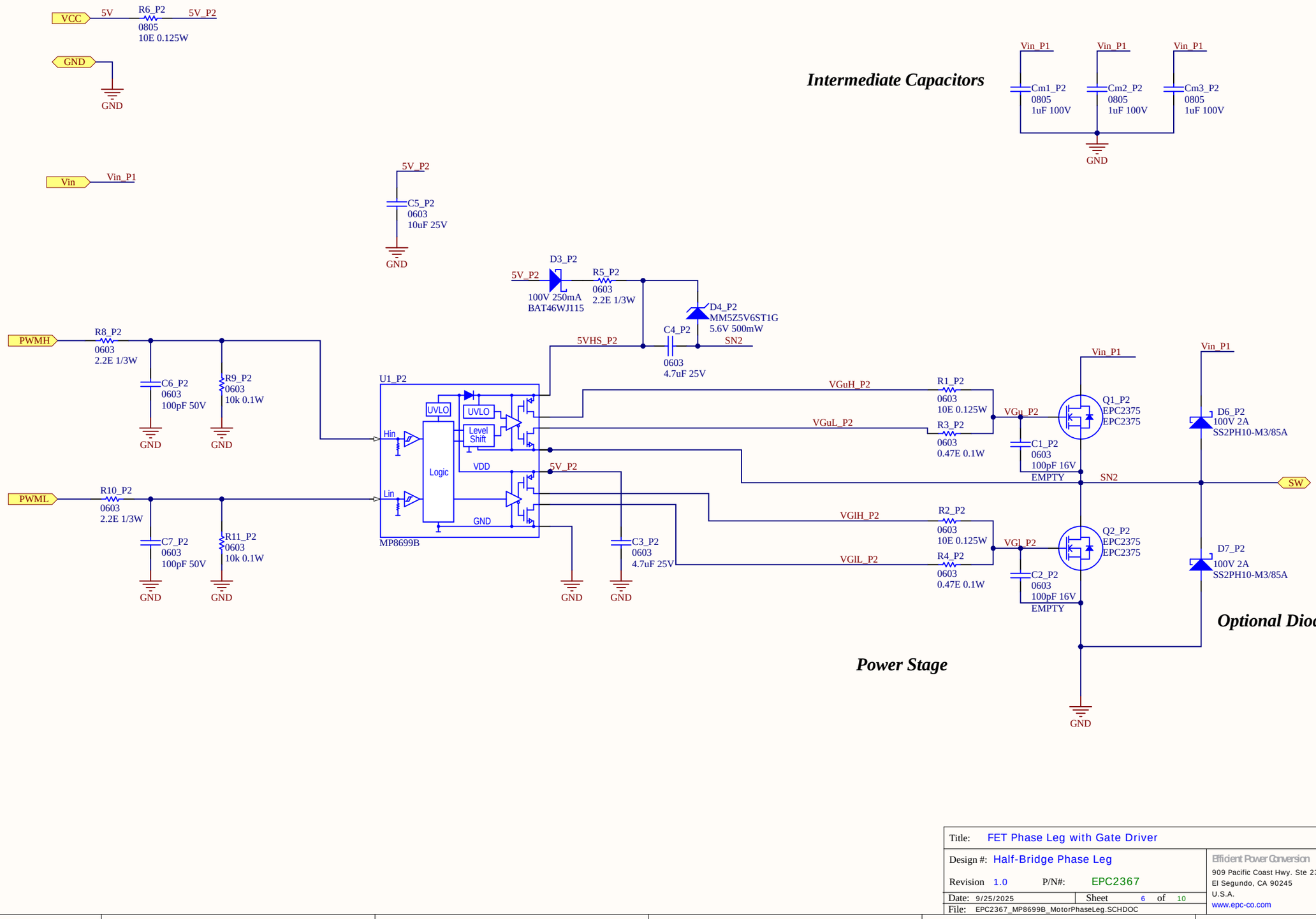
Title: EPC91125_BusCapacitors		© EPC 2023
Design #: *		Efficient Power Conversion
Revision 1.1		909 Pacific Coast Hwy. Ste 230
Date: 9/5/2025	Sheet 5 of 10	El Segundo, CA 90245
File: EPC91125_BusCapacitors_Rev1_0.SCHDOC		U.S.A.
		www.epc-co.com



Title:	FET Phase Leg with Gate Driver
Design #:	Half-Bridge Phase Leg
Revision	1.0
P/N#:	EPC2367
Date:	9/25/2025
Sheet	6 of 10
File:	EPC2367_MP8699B_MotorPhaseLeg.SCHDOC

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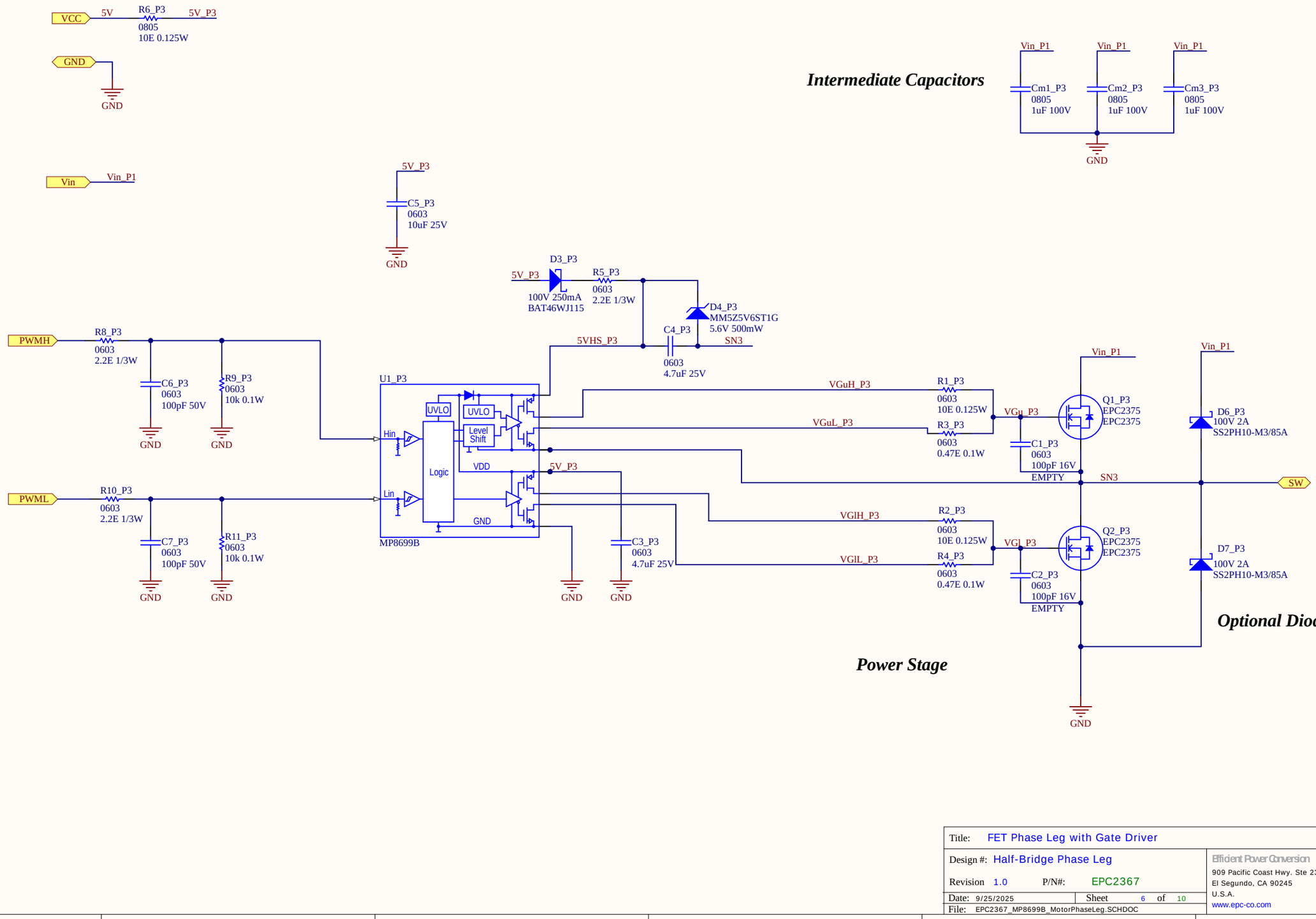
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El Segundo, CA 90245
U.S.A.
www.epc-co.com



Title:	FET Phase Leg with Gate Driver
Design #:	Half-Bridge Phase Leg
Revision	1.0
P/N#:	EPC2367
Date:	9/25/2025
Sheet	6 of 10
File:	EPC2367_MP8699B_MotorPhaseLeg.SCHDOC

© EPC 2025

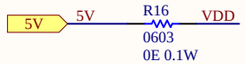
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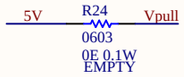
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Design #:	Half-Bridge Phase Leg
Revision	1.0
P/N#:	EPC2367
Date:	9/25/2025
Sheet	6 of 10
File:	EPC2367_MP8699B_MotorPhaseLeg.SCHDOC

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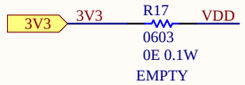
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El Segundo, CA 90245
U.S.A.
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Default = 5 V

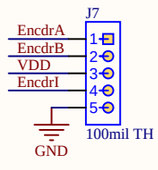


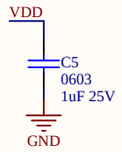
Pull Up Voltage for microcontroller input signals



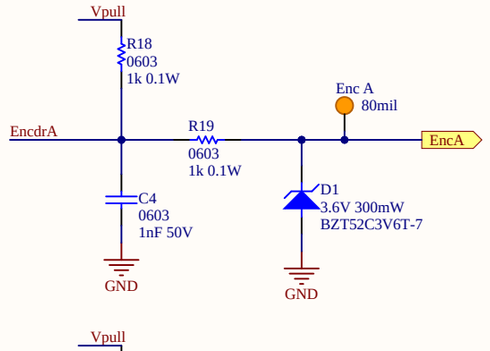


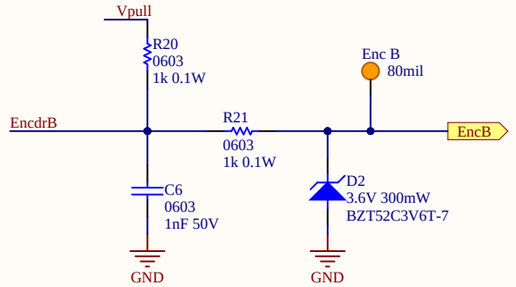
Sensors supply Voltage selection

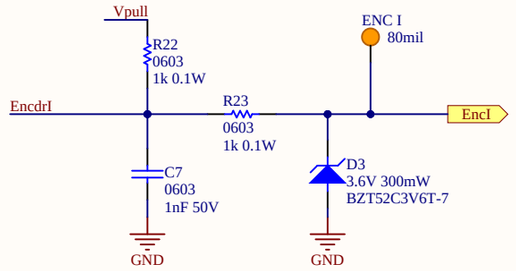




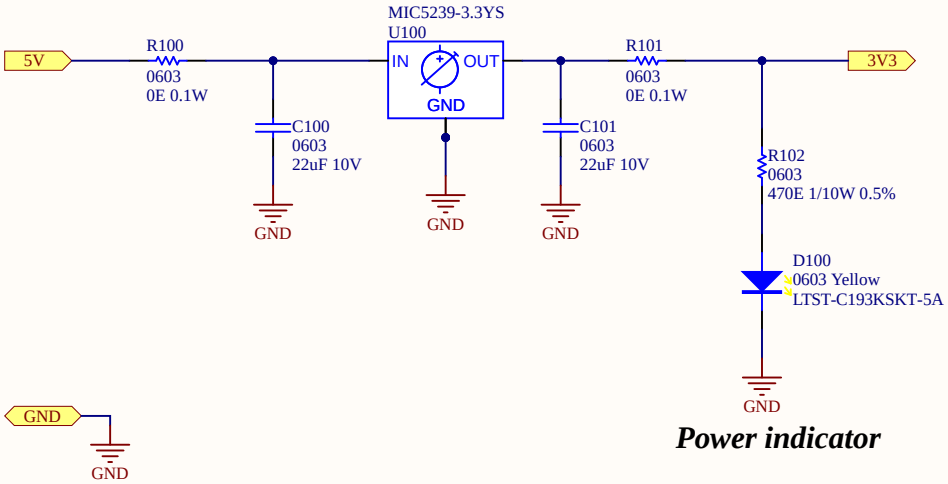
Shaft encoder connection
Quadrature with Index
Supports optical and hall





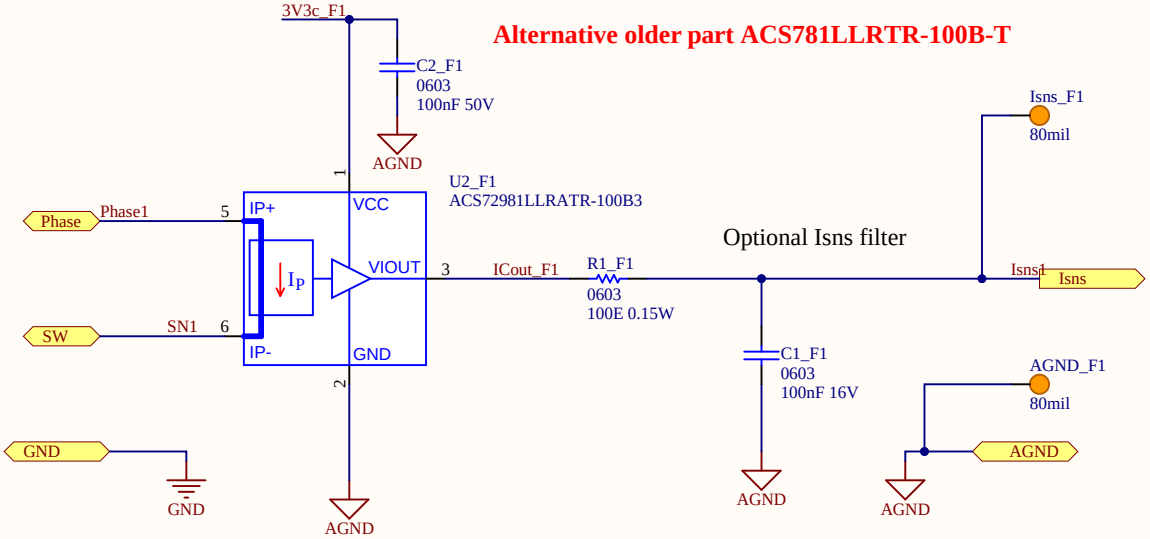


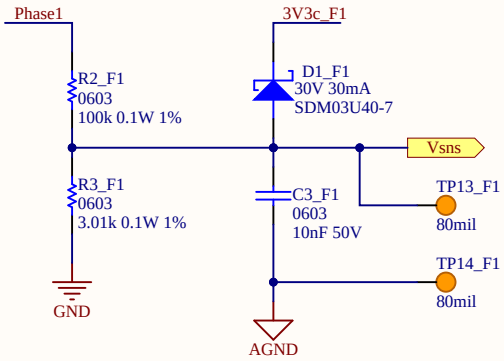
Title:	Quadrature Encoder interface	© EPC 2023
Design #:	AP1005	Efficient Power Conversion 909 Pacific Coast Hwy. Ste 230 El Segundo, CA 90245 U.S.A. www.epc-co.com
Revision	3.1	
Date: 9/3/2025	Sheet 7 of 10	
File: AP1005_Rev3_1_QuadEncdr.SCHDOC		



Power indicator

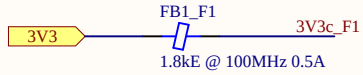
Title:	5V to 3V3 500mA LDO using MIC5239-3.3YS	© EPC 2023
Design #:	AP1074	Efficient Power Conversion 909 Pacific Coast Hwy. Ste 230 El Segundo, CA 90245 U.S.A. www.epc-co.com
Revision	1.0	
Date: 9/3/2025	Sheet 8 of 10	
File: AP1074_Rev1_0.SCHDOC		



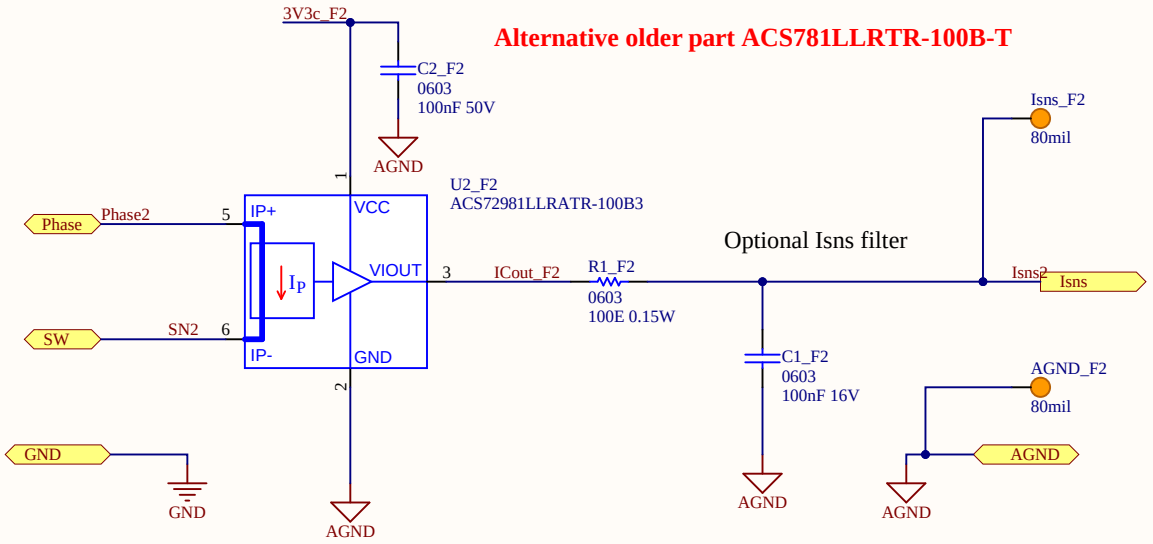


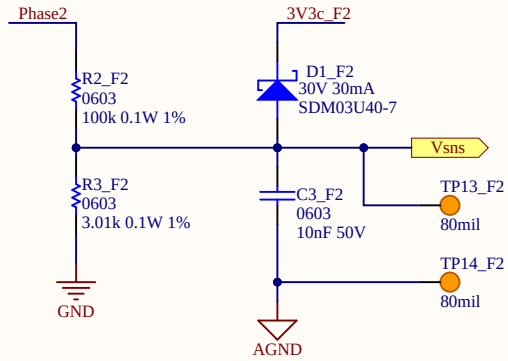
Phase Voltage sense

112.9 V scale to 3.3V



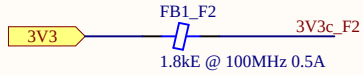
Title:	Bidirectional current sense using Hall effect sensor ACS72981	© EPC 2023
Design #:	AP1075	Efficient Power Conversion 909 Pacific Coast Hwy. Ste 230 El Segundo, CA 90245 U.S.A. www.epc-co.com
Revision	1.0	
Date: 9/4/2025	Sheet 9 of 10	
File: ACS72981LLRATR_100B3.SchDoc		



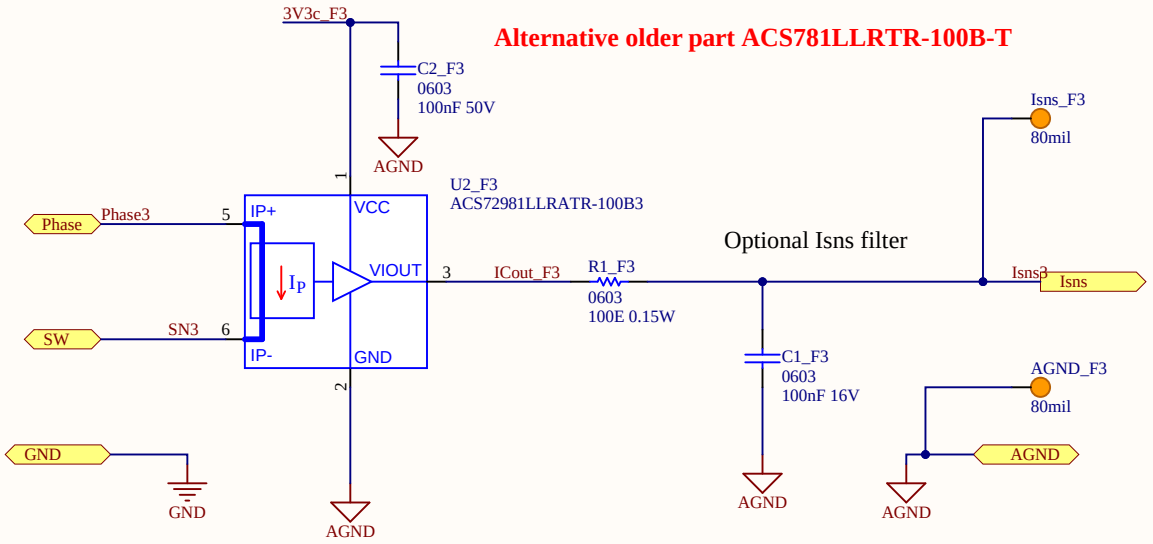


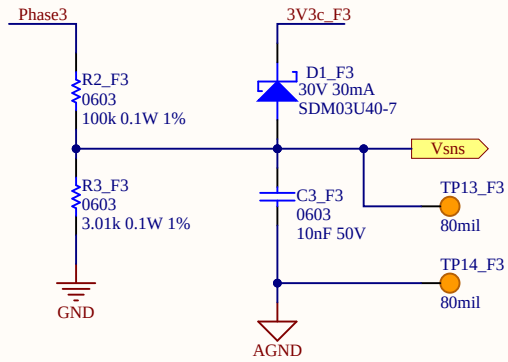
Phase Voltage sense

112.9 V scale to 3.3V



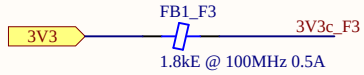
Title:	Bidirectional current sense using Hall effect sensor ACS72981		© EPC 2023
Design #:	AP1075	Efficient Power Conversion 909 Pacific Coast Hwy. Ste 230 El Segundo, CA 90245 U.S.A. www.epc-co.com	
Revision	1.0		
Date:	9/4/2025	Sheet 9 of 10	
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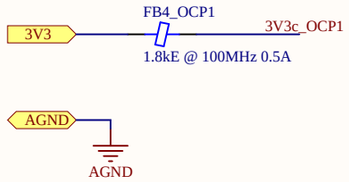


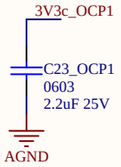
Phase Voltage sense

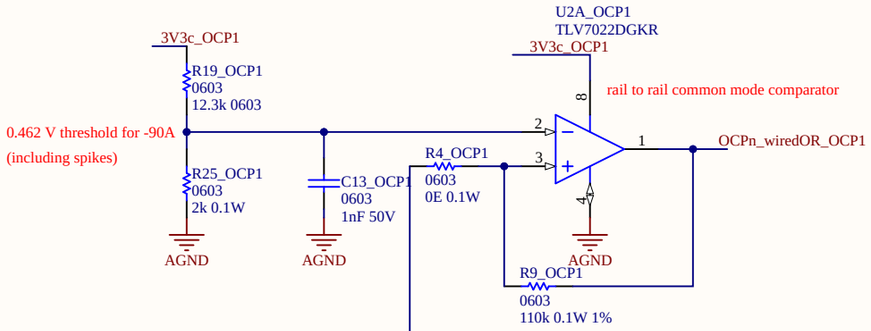
112.9 V scale to 3.3V

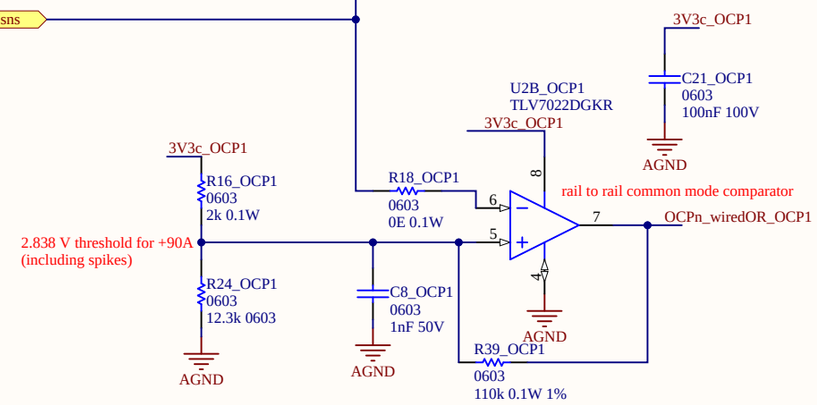


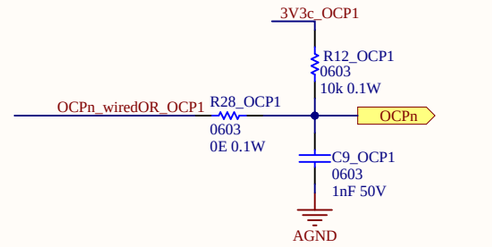
Title:	Bidirectional current sense using Hall effect sensor ACS72981	© EPC 2023
Design #:	AP1075	Efficient Power Conversion 909 Pacific Coast Hwy. Ste 230 El Segundo, CA 90245 U.S.A. www.epc-co.com
Revision	1.0	
Date: 9/4/2025	Sheet 9 of 10	
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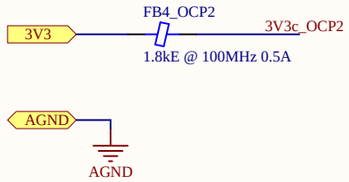


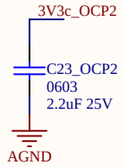
R12 and C9 are not mounted because they are mounted in front of the gate driver.

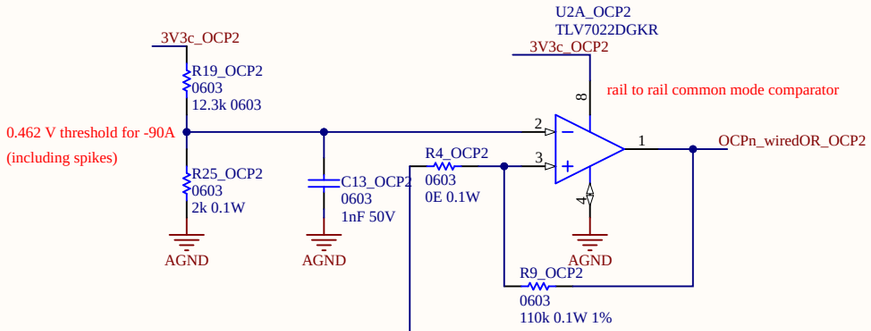
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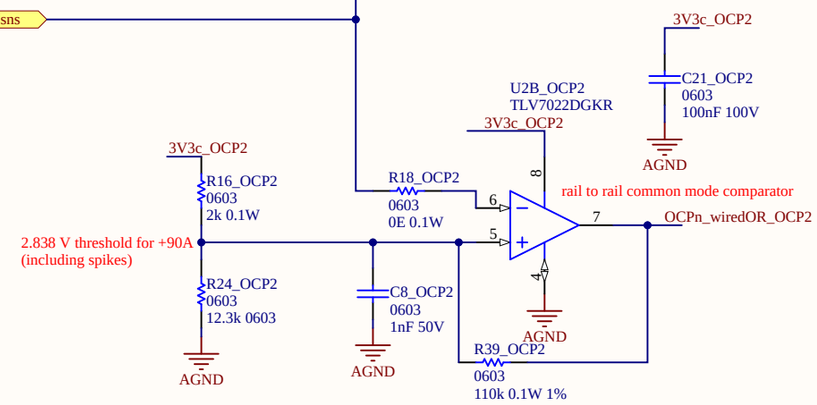
Bi-Directional Over Current Detection

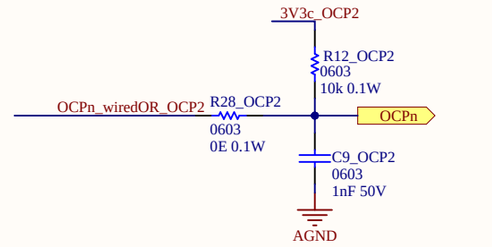
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Date: 9/17/2026	Sheet 10 of 10	
File: AP1034_Rev1_2_OverCurrentProtection.SCHDOC		









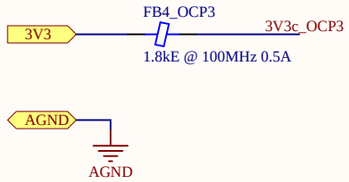


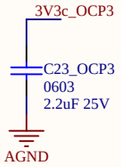
R12 and C9 are not mounted because they are mounted in front of the gate driver.

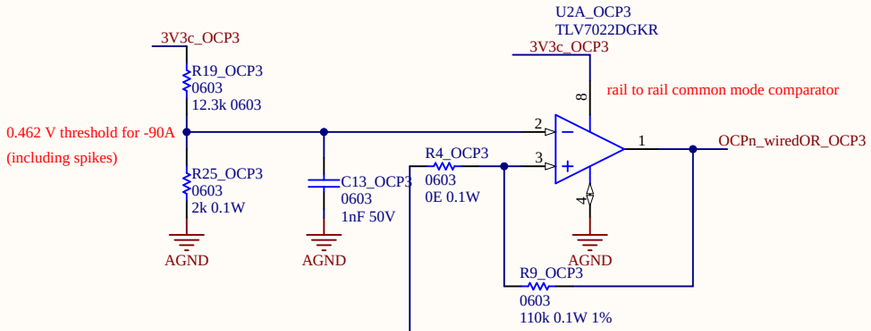
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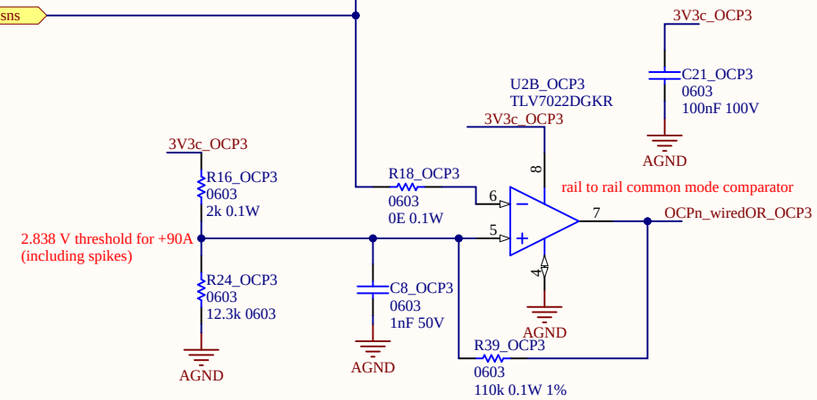
Bi-Directional Over Current Detection

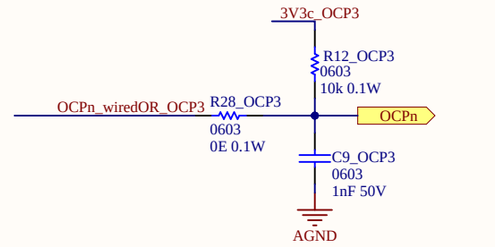
Title AP1034 Rev. 1.1		Efficient Power Conversion 909 N. Pacific Coast Hwy, Ste. 23 El Segundo, CA 90245 United States www.epc-co.com
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R12 and C9 are not mounted because they are mounted in front of the gate driver.

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Bi-Directional Over Current Detection

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