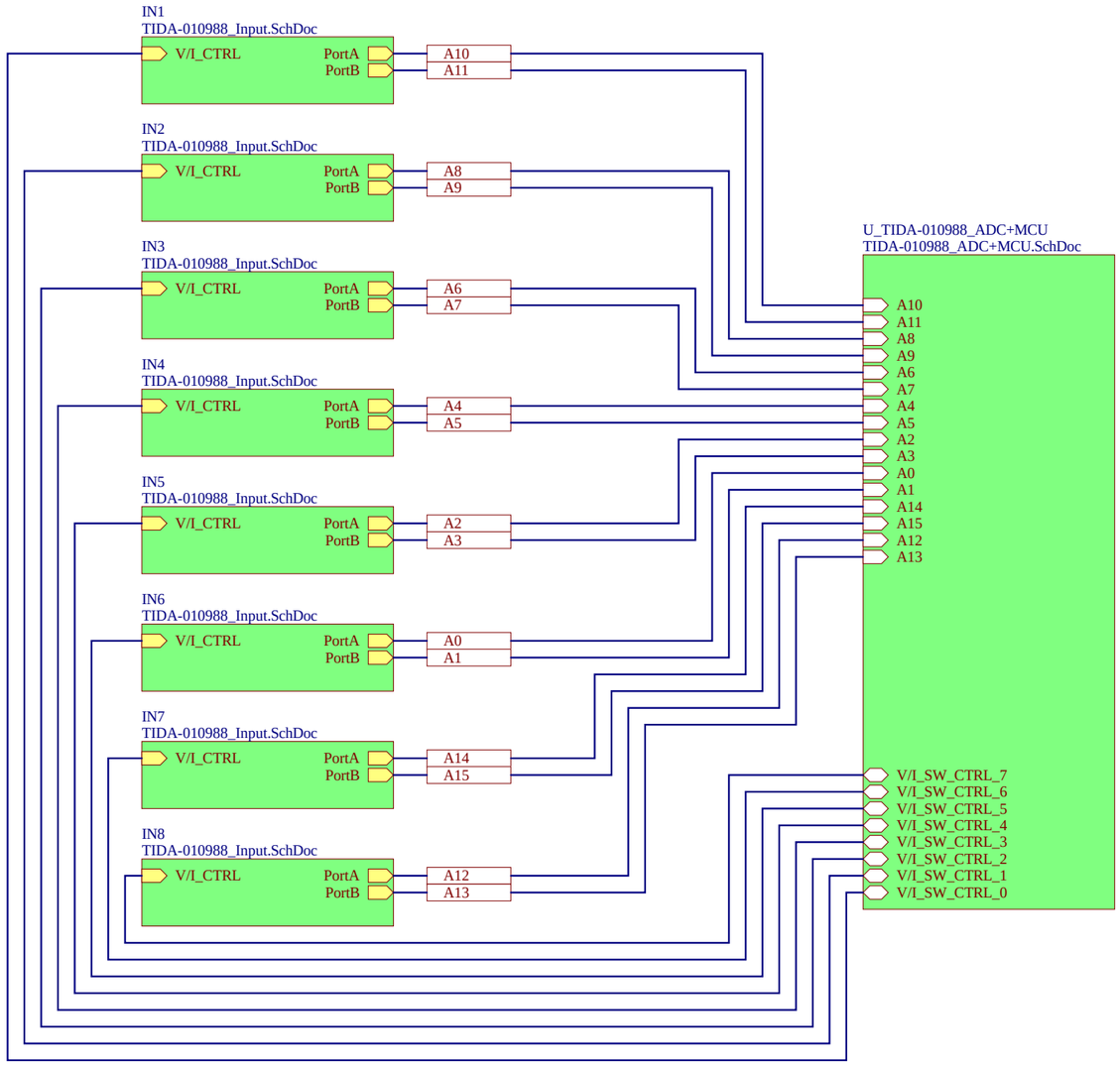
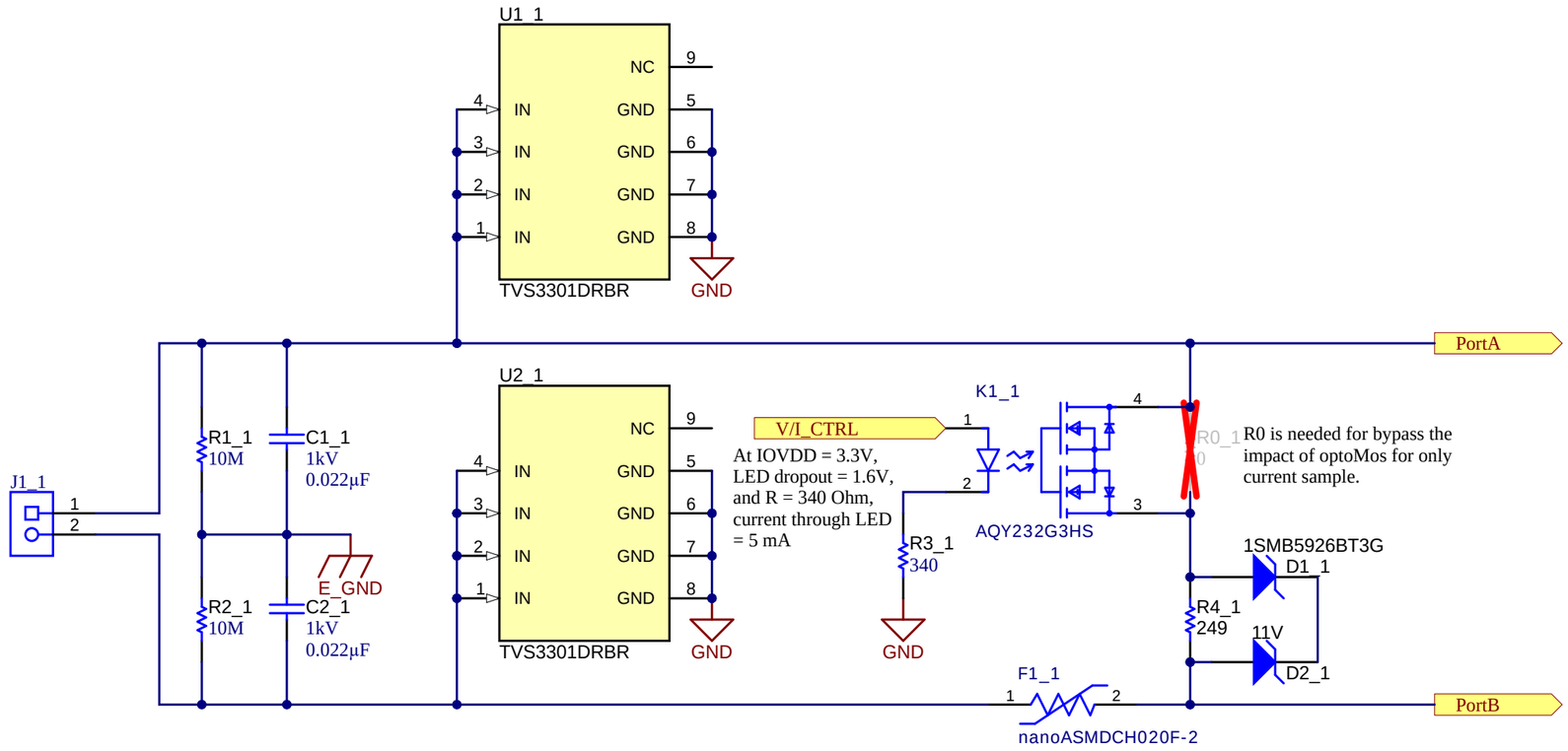

IN1
TIDA-010988_Input.SchDoc
V/I_CTRL
PortA
PortB
A10
A11
IN2
TIDA-010988_Input.SchDoc
V/I_CTRL
PortA
PortB
A8
A9
IN3
TIDA-010988_Input.SchDoc
V/I_CTRL
PortA
PortB
A6
A7
IN4
TIDA-010988_Input.SchDoc
V/I_CTRL
PortA
PortB
A4
A5
IN5
TIDA-010988_Input.SchDoc
V/I_CTRL
PortA
PortB
A2
A3
IN6
TIDA-010988_Input.SchDoc
V/I_CTRL
PortA
PortB
A0
A1
IN7
TIDA-010988_Input.SchDoc
V/I_CTRL
PortA
PortB
A14
A15
IN8
TIDA-010988_Input.SchDoc
V/I_CTRL
PortA
PortB
A12
A13
U_TIDA-010988_ADC+MCU
TIDA-010988_ADC+MCU.SchDoc
A10
A11
A8
A9
A6
A7
A4
A5
A2
A3
A0
A1
A14
A15
A12
A13
V/I_SW_CTRL_7
V/I_SW_CTRL_6
V/I_SW_CTRL_5
V/I_SW_CTRL_4
V/I_SW_CTRL_3
V/I_SW_CTRL_2
V/I_SW_CTRL_1
V/I_SW_CTRL_0
U_TIDA-010988_Power
TIDA-010988_Power.SchDoc
U_TIDA-010988_Hardware
TIDA-010988_Hardware.SchDoc



Orderable: N/A		Designed for: Public Release	Mod. Date: 3/19/2026
TID #: N/A		Project Title: 8 CH V and I AIN module	
Number: TIDA-010988	Rev: E1	Sheet Title: INPUT	
SVN Rev: Not in version control		Assembly Variant: 001	Sheet: 2 of 5
Drawn By: Donna Xu		File: TIDA-010988_Input.SchDoc	Size: A4
Engineer: Donna Xu		Contact: http://www.ti.com/support	

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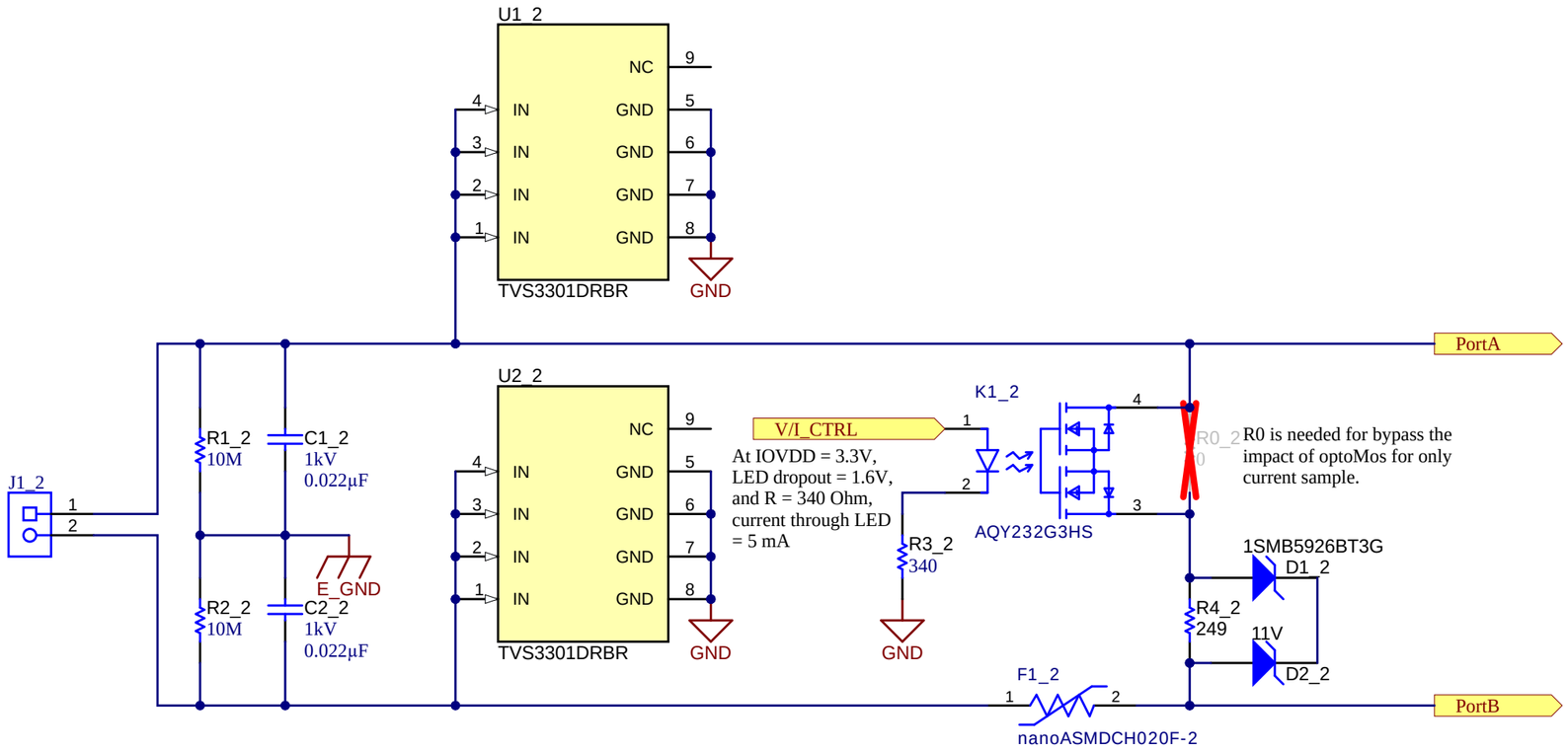

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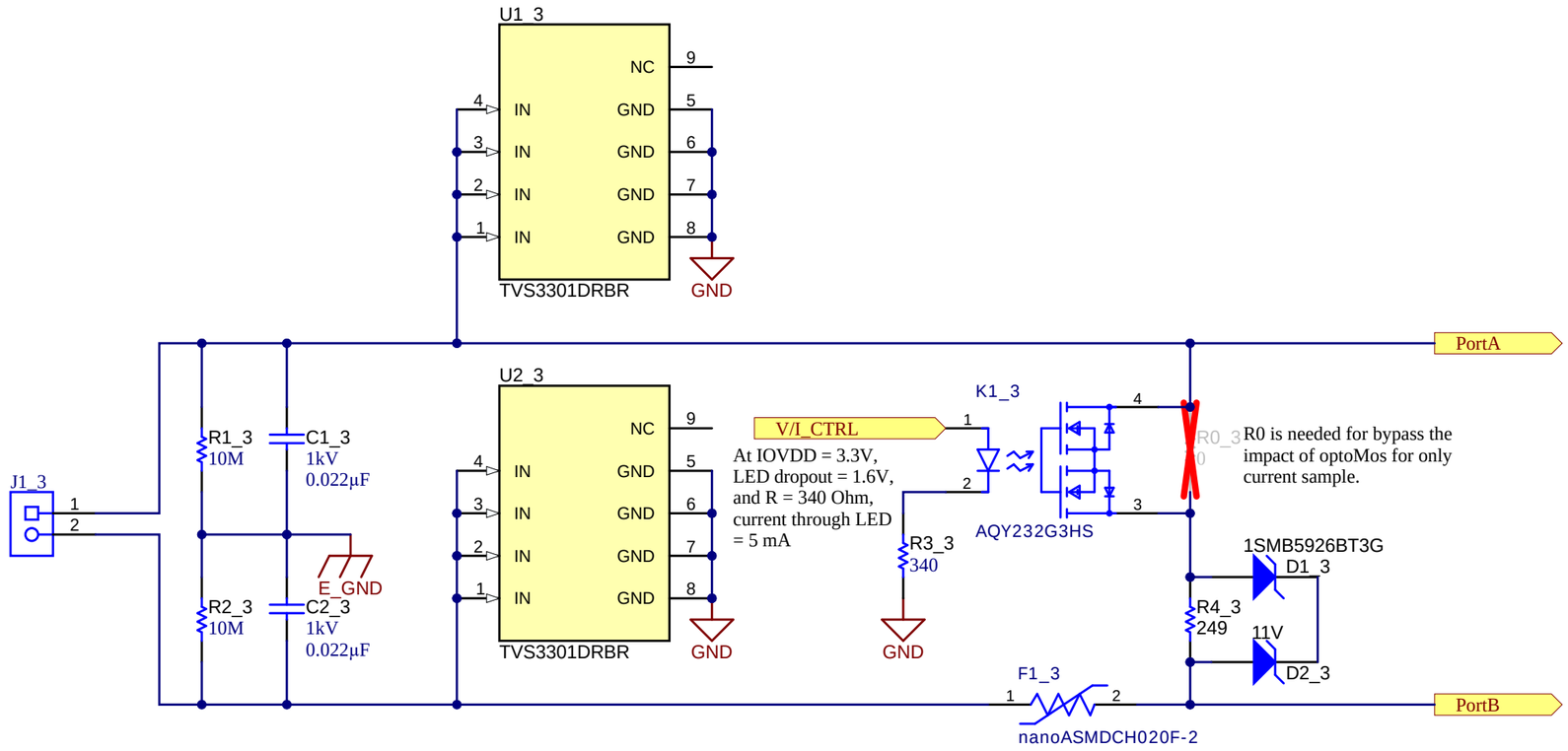

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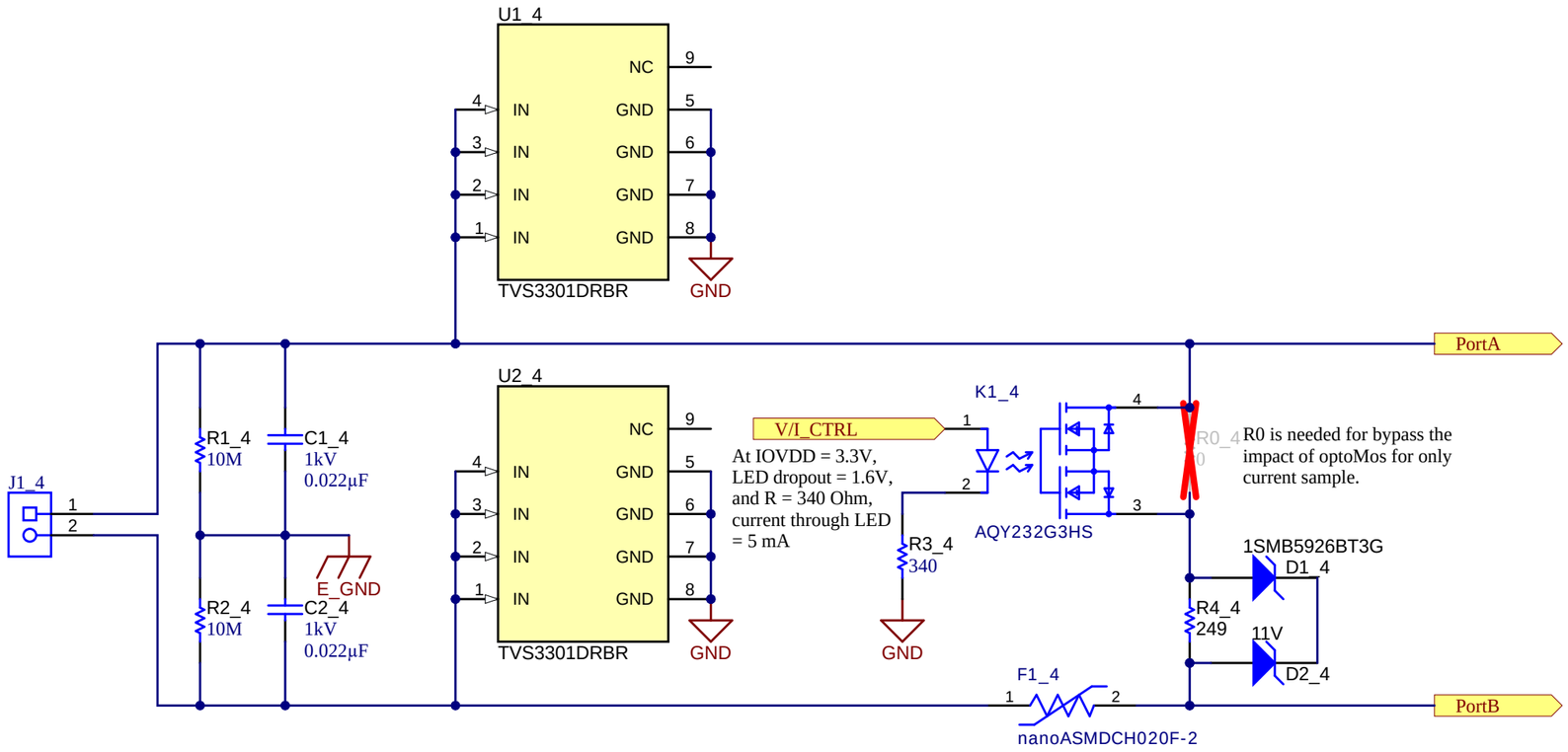

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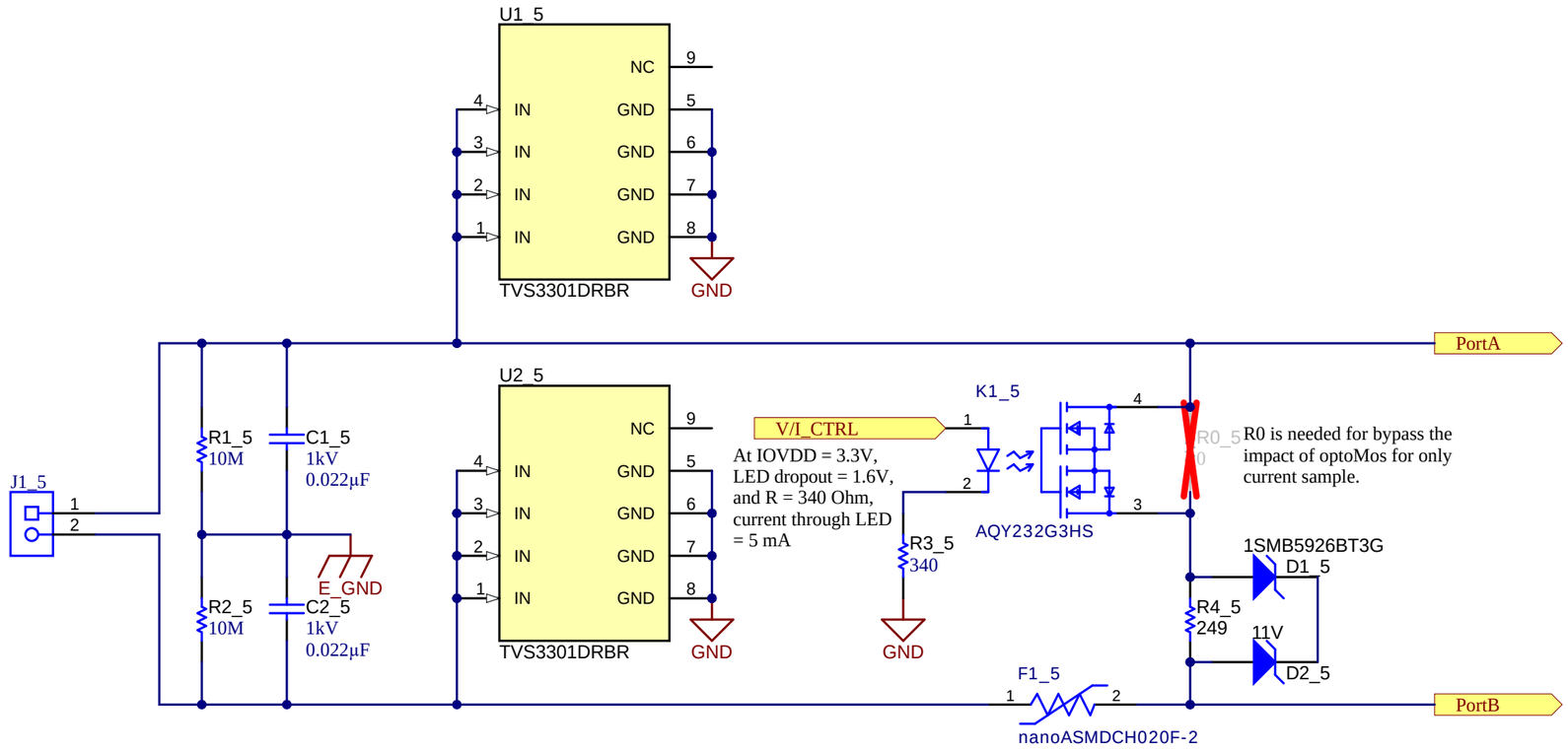

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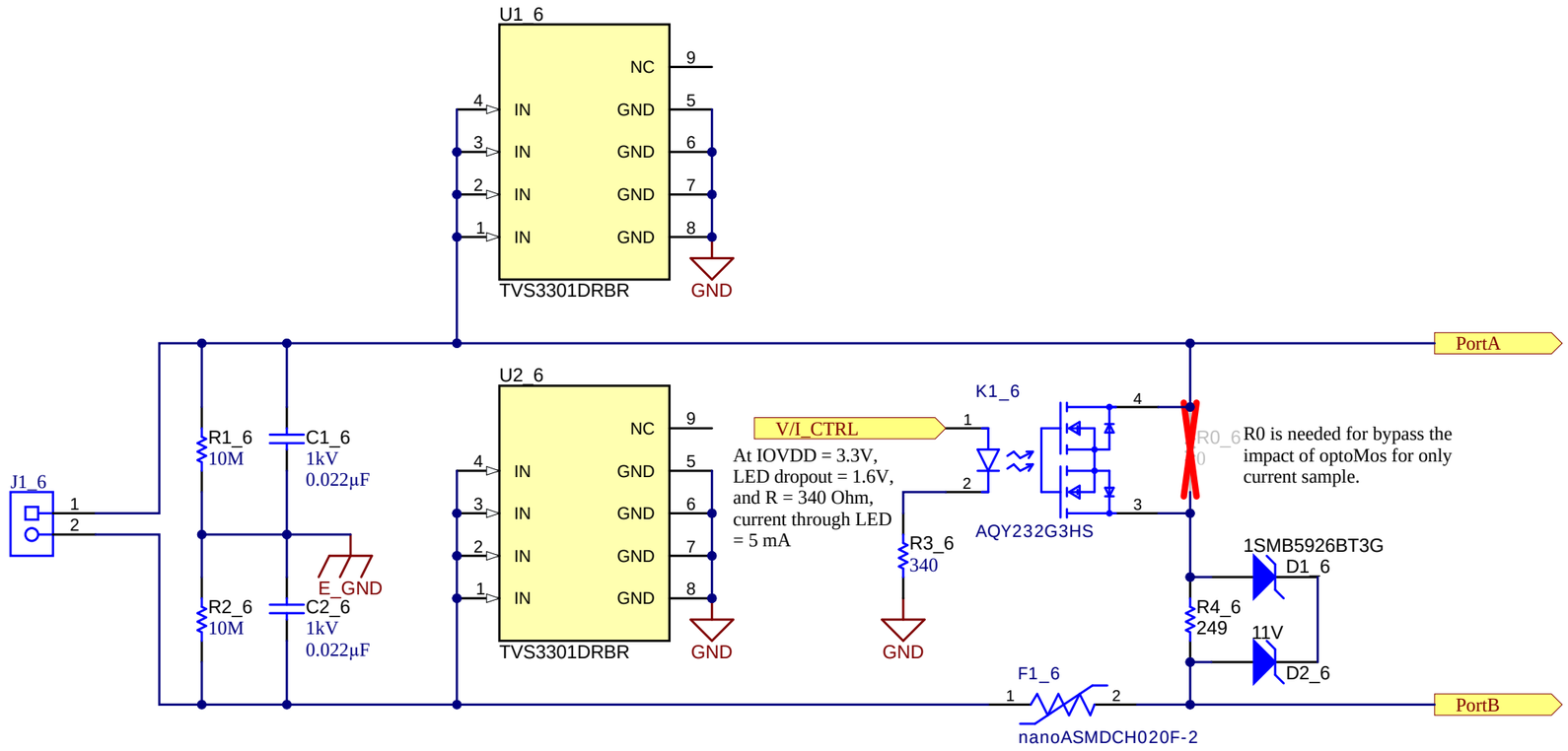

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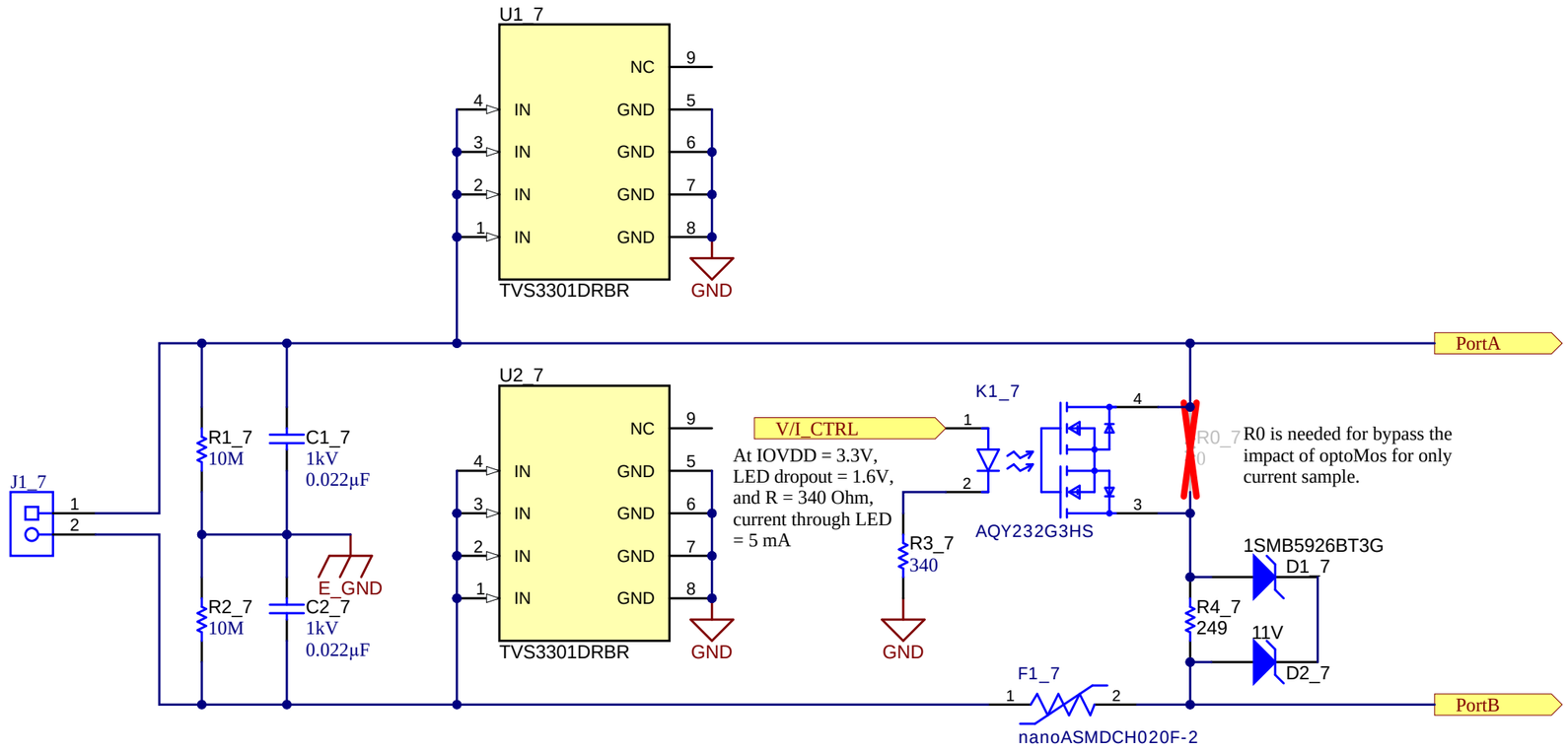

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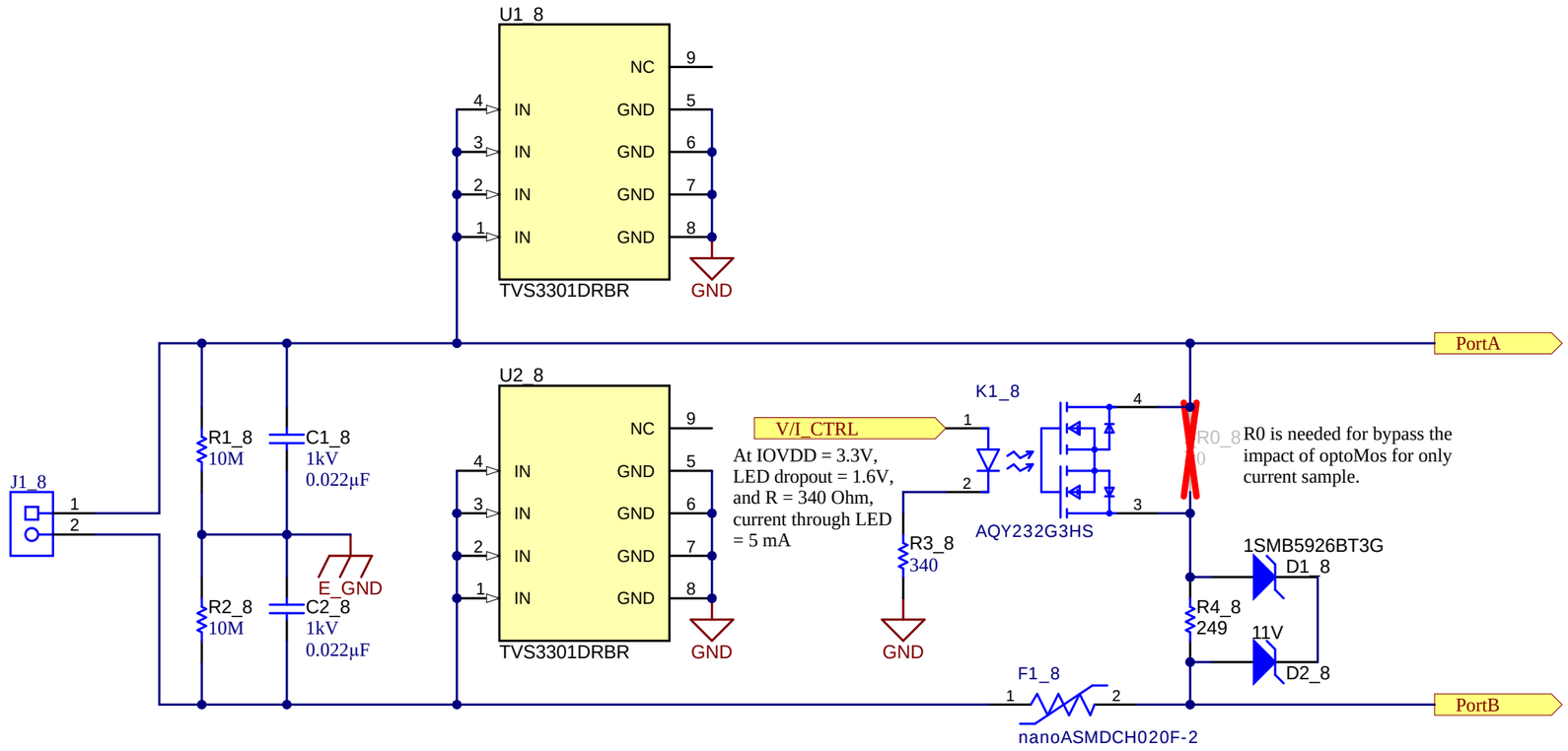

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Drawn By: Donna Xu		File: TIDA-010988_Input.SchDoc	Size: A4
Engineer: Donna Xu		Contact: http://www.ti.com/support	

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ISOLATION BARRIER

Non-Isolated Side

Isolated Side

Place capacitors near ADC supply pins

ADS125H18

p2p with MSPM0G511x (/USB)

IO Expander

External REF

SPI mode 1

SPI mode 0

Orderable: N/A	Designed for: Public Release	Mod. Date: 3/19/2026
TID #: N/A	Project Title: 8 CH V and I AIN module	
Number: TIDA-010988 Rev: E1	Sheet Title:	
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 3 of 5
Drawn By: Donna Xu	File: TIDA-010988_ADC+MCU.SchDoc	Size: B
Engineer: Donna Xu	Contact: http://www.ti.com/support	

TEXAS INSTRUMENTS
http://www.ti.com

DNP = Do Not Populate

ISOLATION BARRIER

Non-Isolated Side

Isolated Side

R39 3.3M 2kV
C24 2.2nF 3000V
E_GND GND_0V

R36 3.3M 2kV
C45 2.2nF 3000V
E_GND GND_0V

R40 3.3M 2kV
C25 2.2nF 3000V
GND E_GND

R37 3.3M 2kV
C46 2.2nF 3000V
GND E_GND

INPUT = 24V

24V R46 68k D15 GND_0V

J5

D14 B340A-13-F

D16 RBS1LAM40ATR

C31 50V 4.7uF
C32 4.7uF 50V
C33 100nF 50V

R47 536k
R50 100k
R51 130k
R52 12.1k

U8 LM5180NGUR
VIN
SW
EN/UVLO
TC
FB
SS/BIAS
RSET
GND
PAD

BZX84C27VDBZRQ1
D10 NC
R43 100
D12 CMDD4448
TP5
22pF C27 50V
R48 174k
R85 to 86kOhm
C34 50V 47nF

GND_0V

UVLO: Turn on 9.5V. Turn off 6.5V

No diode Thermal Compensation

9 ms Soft Start

Change transformer to YA9034-ALD

T1
NC
NC
750317605

C26 22pF 50V
R42 100
D11 VS-20BQ030HM3/5BT

C28 10V 47µF
C29 10V 47µF

OUTPUT = 5.5V@300mA Isolated

5V5_ISO_OUT
D13 BZX84B8V2LT1G 8.2V
GND

5V_ISO
R41 8.2k
D17
GND

OUTPUT = 5V@300mA Isolated

U9
IN
OUT
EN
NC
GND
TPS7A2050PDBVR
LDO dropout 0.145V @300mA

C35 1µF 16V
C36 1µF 16V
GND

5V5_ISO_OUT
5V5_ISO_USB
D18 SDM40E20LC-7
Diode dropout 0.25V @10mA

U11 TLV709A33DBVR
C18 470nF 25V
C40 1µF 16V
3V3_ISO

3V3_ISO
R55 3.3k
D21
GND

VCC_3V3
R54 3.3k
D20
GND_0V

D19 SDM40E20LC-7
24V
VUSB

U10 TLV709A33DBVR
470nF C37 100V
C38 1µF 16V
VCC_3V3

Power suply could be from 24V or USB

1.5W

U12 UCC33420
VUSB
VINP
EN/FLT
GNDP
VCC
SEL
GNDS
C41 25V 15nF
C42 25V 10uF
C43 15nF 25V
C44 16V 22µF
5V5_ISO_USB

Orderable: N/A	Designed for: Public Release	Mod. Date: 3/19/2026
TID #: N/A	Project Title: 8 CH V and I AIN module	
Number: TIDA-010988 Rev: E1	Sheet Title:	
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 4 of 5
Drawn By: Donna Xu	File: TIDA-010988_Power.SchDoc	Size: B
Engineer: Donna Xu	Contact: http://www.ti.com/support	

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PCB Number: TIDA-010988
PCB Rev: E1

PCB
LOGO
Texas Instruments

PCB
LOGO
FCC disclaimer

PCB
LOGO
WEEE logo

LBL1

PCB Label

THT-14-423-10
Size: 0.65" x 0.20 "

ZZ1

Label Assembly Note

This Assembly Note is for PCB labels only

Variant/Label Table	
Variant	Label Text
001	ChangeMe!

ZZ2

Assembly Note

These assemblies are ESD sensitive, ESD precautions shall be observed.

ZZ3

Assembly Note

These assemblies must be clean and free from flux and all contaminants. Use of no clean flux is not acceptable.

ZZ4

Assembly Note

These assemblies must comply with workmanship standards IPC-A-610 Class 2, unless otherwise specified.

Orderable: N/A	Designed for: Public Release	Mod. Date: 3/19/2026
TID #: N/A	Project Title: 8 CH V and I AIN module	
Number: TIDA-010988 Rev: E1	Sheet Title: Hardware	
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 5 of 5
Drawn By:	File: TIDA-010988_Hardware.SchDoc	Size: B
Engineer: Donna Xu	Contact: http://www.ti.com/support	

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Last updated 10/2025