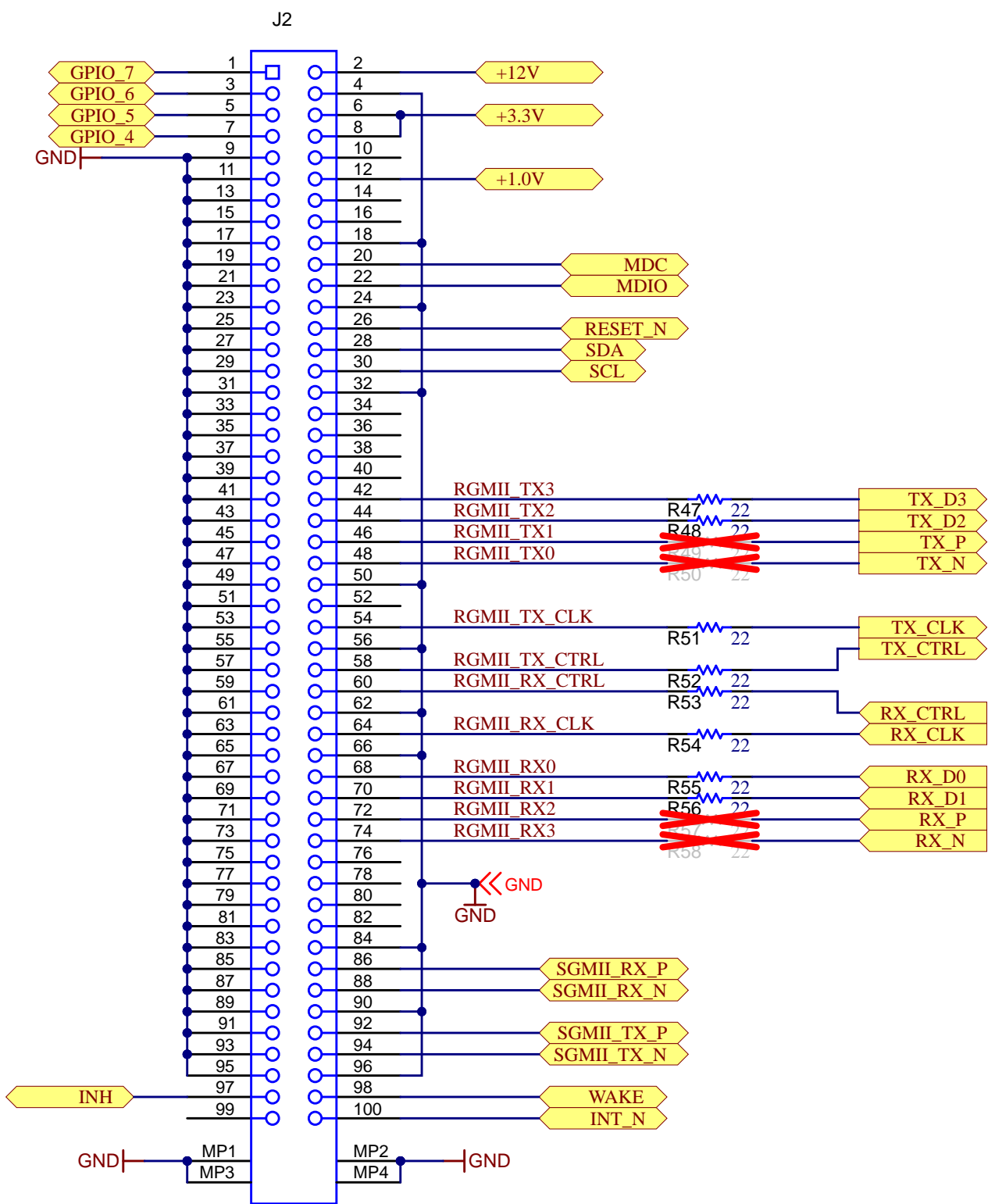
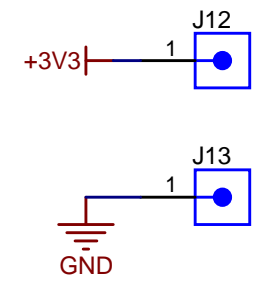
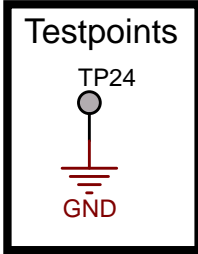


Texas Instruments and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. Texas Instruments and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will operate in an implementation. Texas Instruments and/or its licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application.

Orderable:	Designed for: Closed Release	Mod. Date: 2/8/2024
TID #: TIDA-020060	Project Title: Automotive_Ethernet_PoDL_PSE	
Number: TIDA-020060	Rev: E2	Sheet Title:
Drawn By:	Assembly Variant: STD	Sheet: 1 of 19
Engineer: Fabian Barth	File: Main.SchDoc	Size: A4
	Contact: http://www.ti.com/support	





△ To switch to SGMII:
place: R39, R40, R45, R46
remove: R49, R50, R58, R57

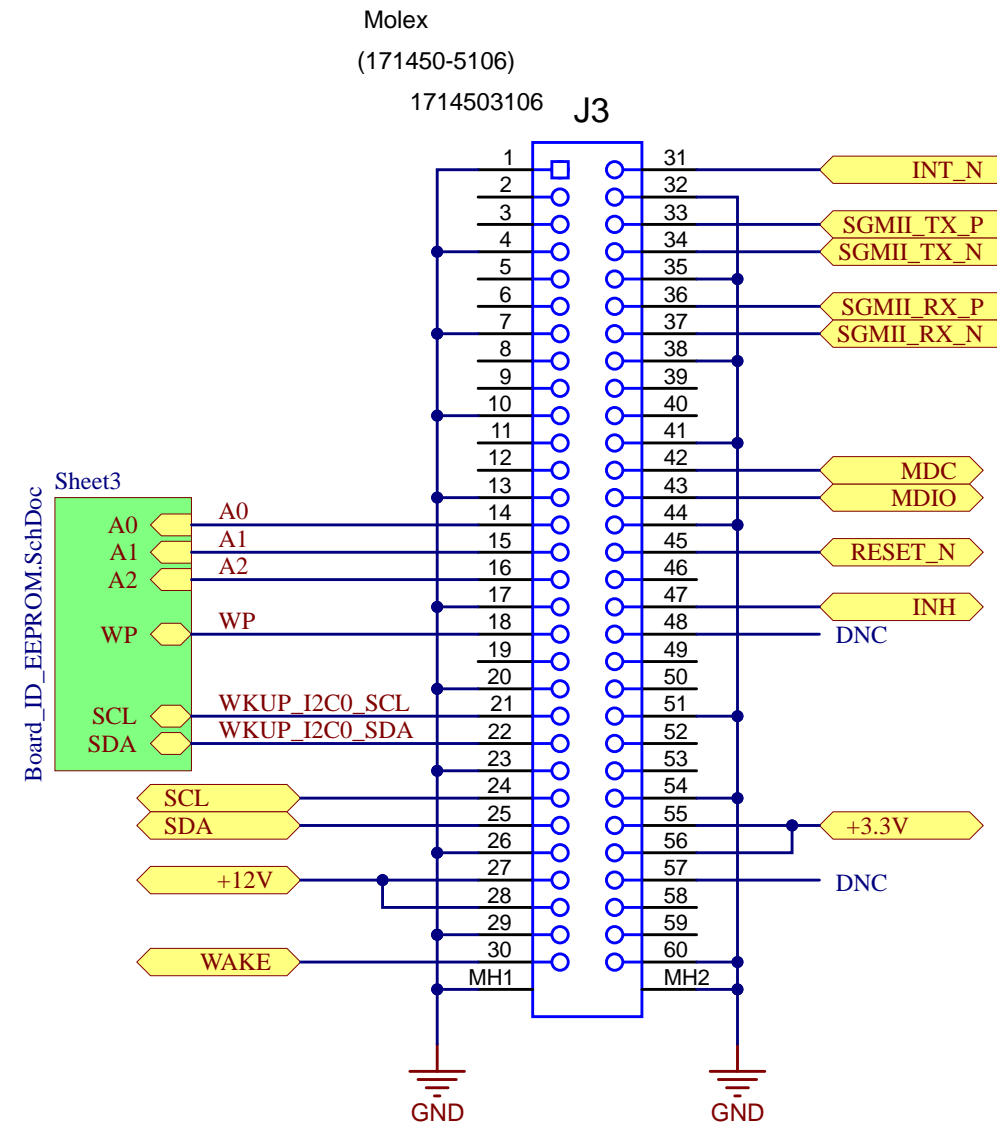
△ To switch to RGMII:
place: R49, R50, R58, R57
remove: R39, R40, R45, R46

ERF8-050-01-L-D-EM2-TR

Texas Instruments and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. Texas Instruments and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will operate in an implementation. Texas Instruments and/or its licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application.

Orderable:	Designed for: Closed Release	Mod. Date: 2/8/2024
TID #: TIDA-020060	Project Title: Automotive_Ethernet_PoDL_PSE	
Number: TIDA-020060	Rev: E2	Sheet Title:
SVN Rev: Unknown revision	Assembly Variant: STD	Sheet: 2 of 19
Drawn By:	File: 100Pin.SchDoc	Size: A4
Engineer: Fabian Barth	Contact: http://www.ti.com/support	

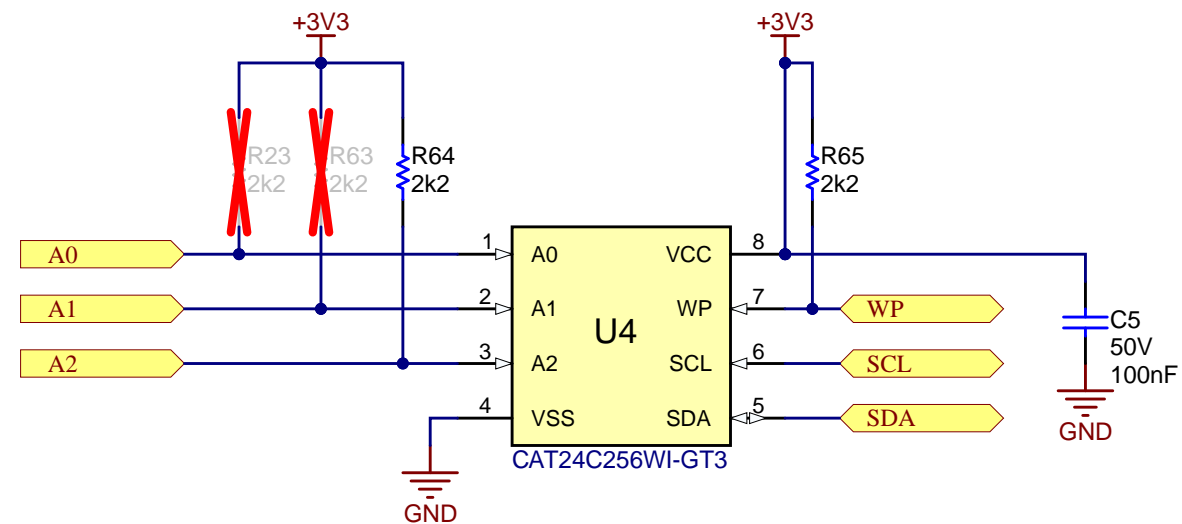




Texas Instruments and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. Texas Instruments and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will operate in an implementation. Texas Instruments and/or its licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application.

Orderable:	Designed for: Closed Release	Mod. Date: 2/8/2024
TID #: TIDA-020060	Project Title: Automotive_Ethernet_PoDL_PSE	
Number: TIDA-020060	Rev: E2	Sheet Title:
SVN Rev:	Assembly Variant: STD	Sheet: 3 of 19
Drawn By:	File: 60Pin.SchDoc	Size: A4
Engineer: Fabian Barth	Contact: http://www.ti.com/support	


BOARD ID EEPROM




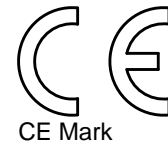
I2C device address: 0x54

Texas Instruments and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. Texas Instruments and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will operate in an implementation. Texas Instruments and/or its licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application.

Orderable:	Designed for: Closed Release	Mod. Date: 2/8/2024
TID #: TIDA-020060	Project Title: Automotive_Ethernet_PoDL_PSE	
Number: TIDA-020060	Rev: E2	Sheet Title:
SVN Rev:	Assembly Variant: STD	Sheet: 4 of 19
Drawn By:	File: Board_ID_EEPROM.SchDoc	Size: A4
Engineer: Fabian Barth	Contact: http://www.ti.com/support	

H1

 NY PMS 440 0025 PH

H2

 NY PMS 440 0025 PH




PCB
 LOGO
 Texas Instruments

PCB
 LOGO
 FCC disclaimer

PCB
 LOGO
 WEEE logo

LBL4
PCB Label
 THT-14-423-10
 Size: 0.65" x 0.20 "

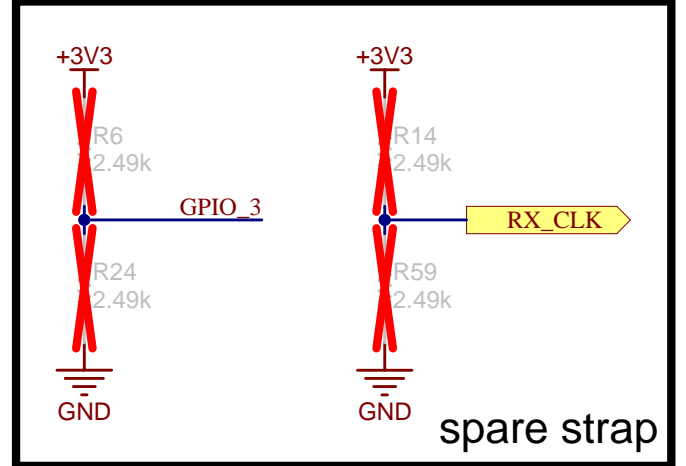
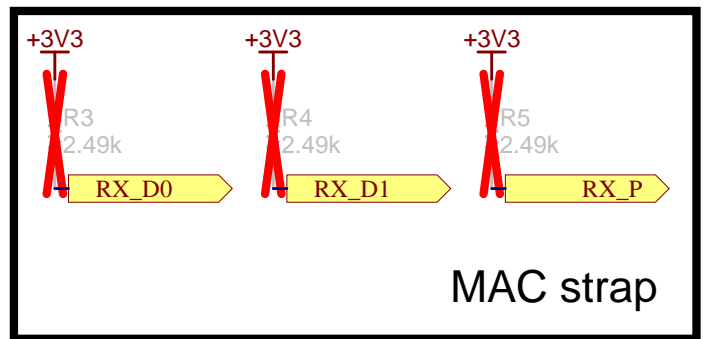
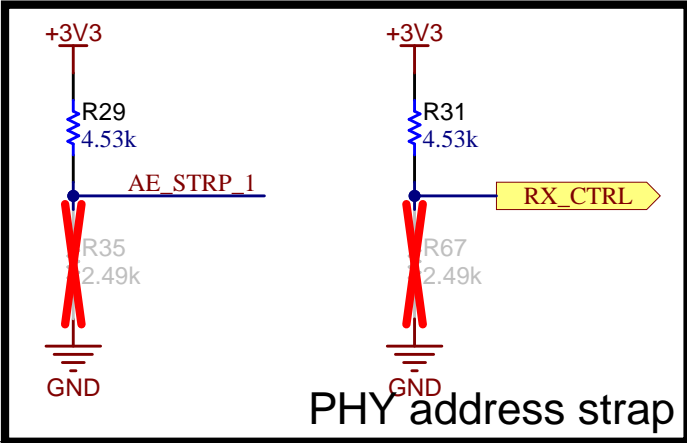
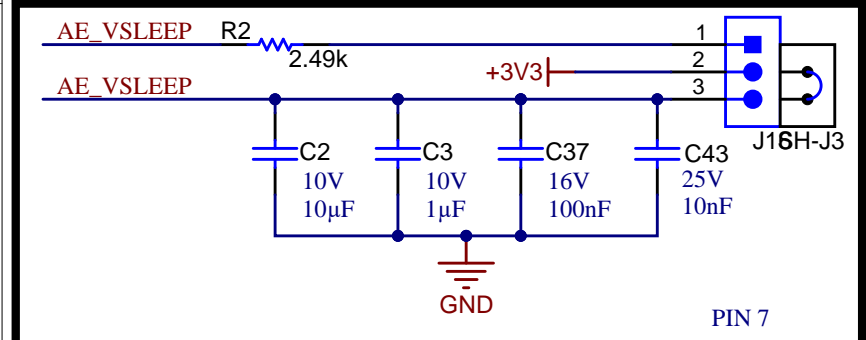
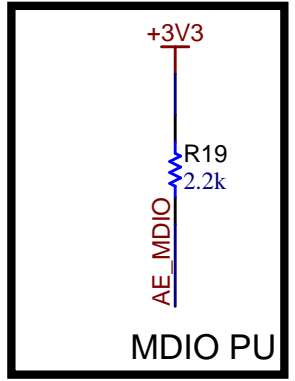
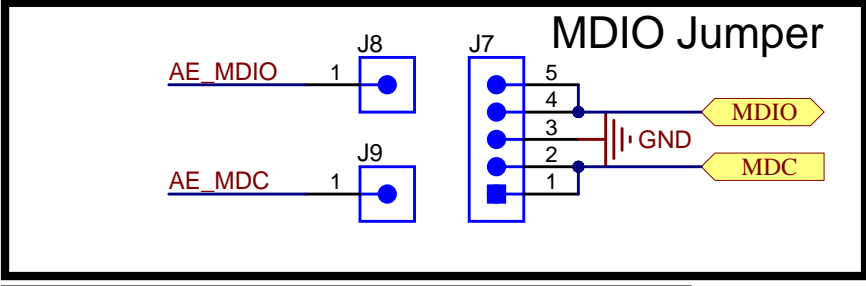
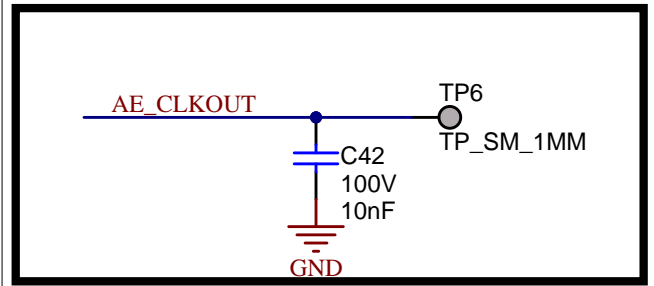
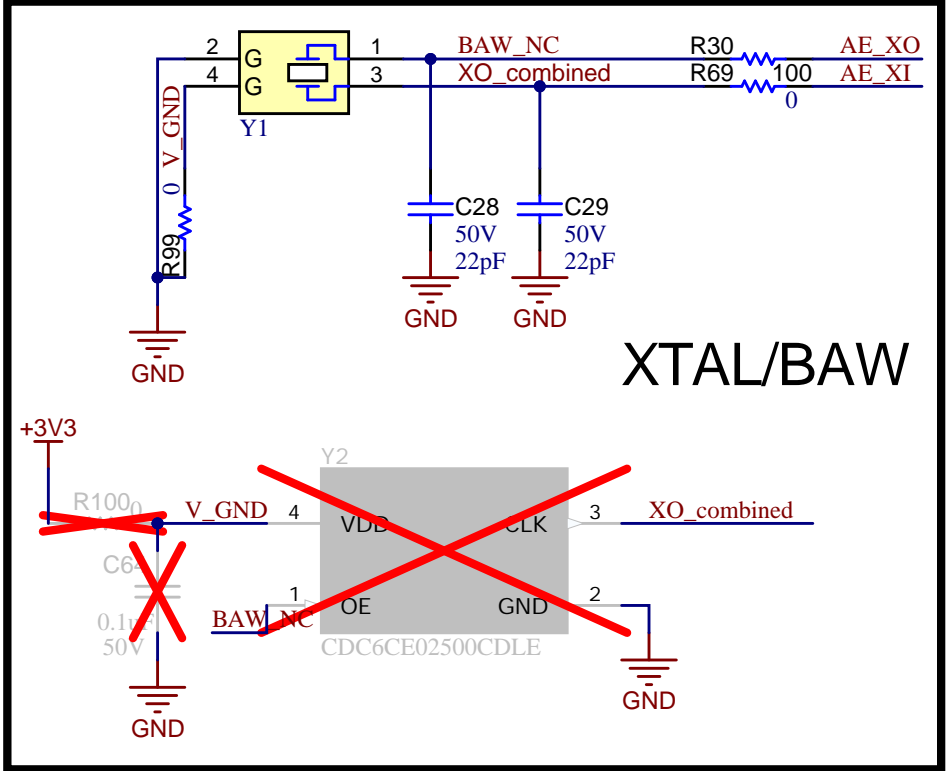
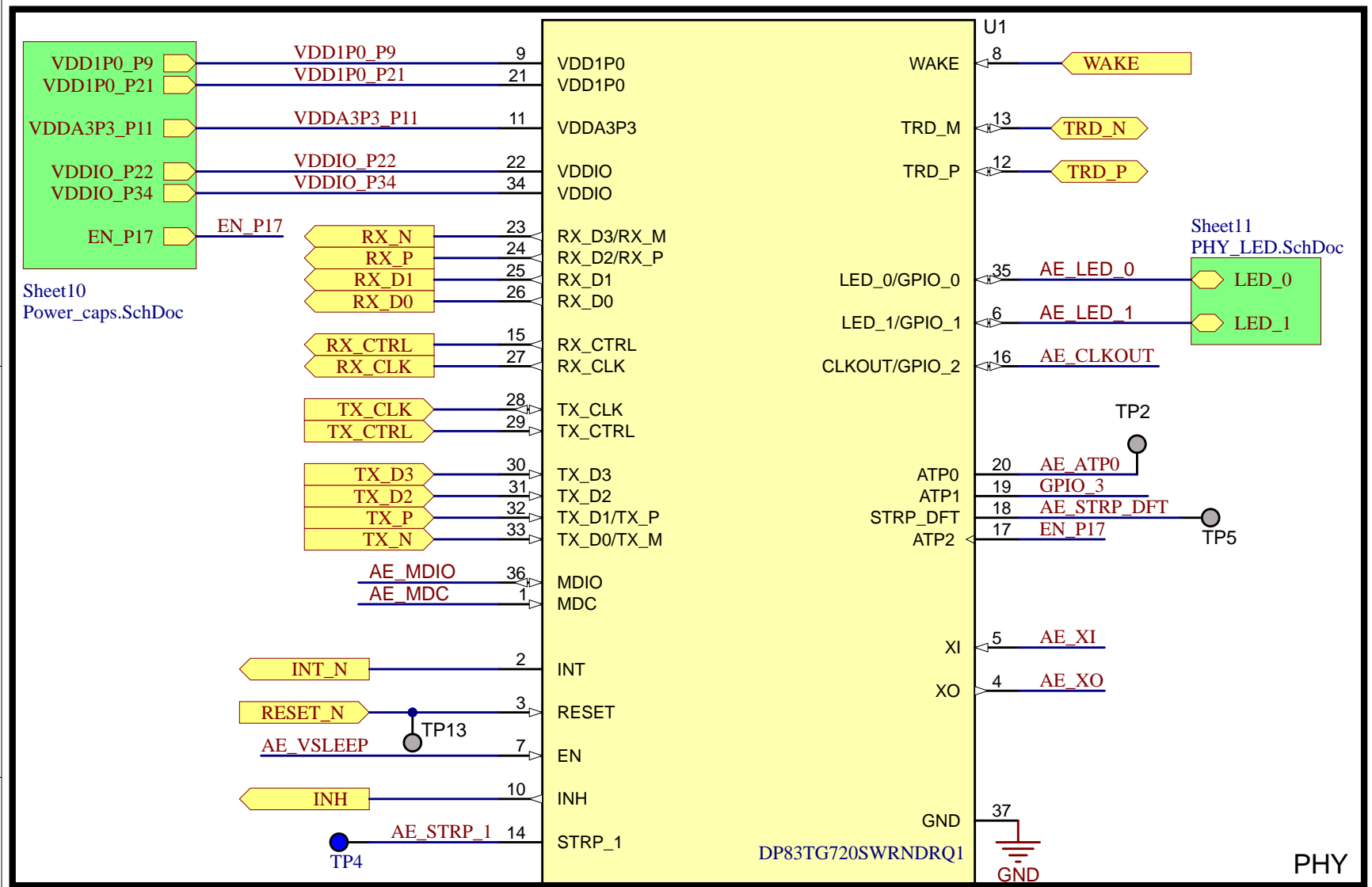
H13

 NY PMS 440 0025 PH

PCB Number: TIDA-020060
 PCB Rev: E2

Variant/Label Table	
Variant	Label Text
STD	

Texas Instruments and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. Texas Instruments and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will operate in an implementation. Texas Instruments and/or its licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application.

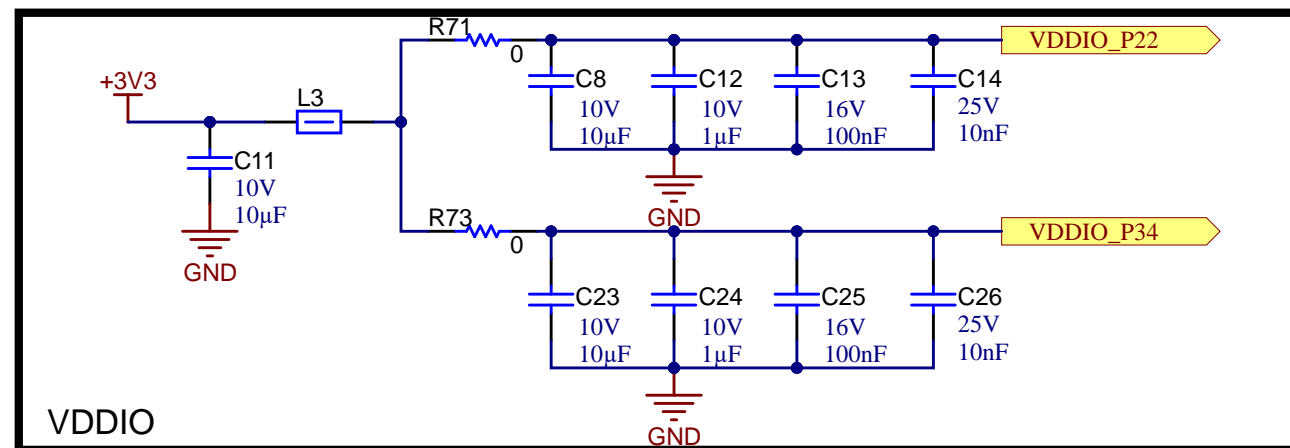
Orderable:	Designed for: Closed Release	Mod. Date: 2/8/2024
TID #: TIDA-020060	Project Title: Automotive_Ethernet_PoDL_PSE	
Number: TIDA-020060 Rev: E2	Sheet Title:	
SVN Rev:	Assembly Variant: STD	Sheet: 5 of 19
Drawn By:	File: Hardware.SchDoc	Size: A4
Engineer: Fabian Barth	Contact: http://www.ti.com/support	



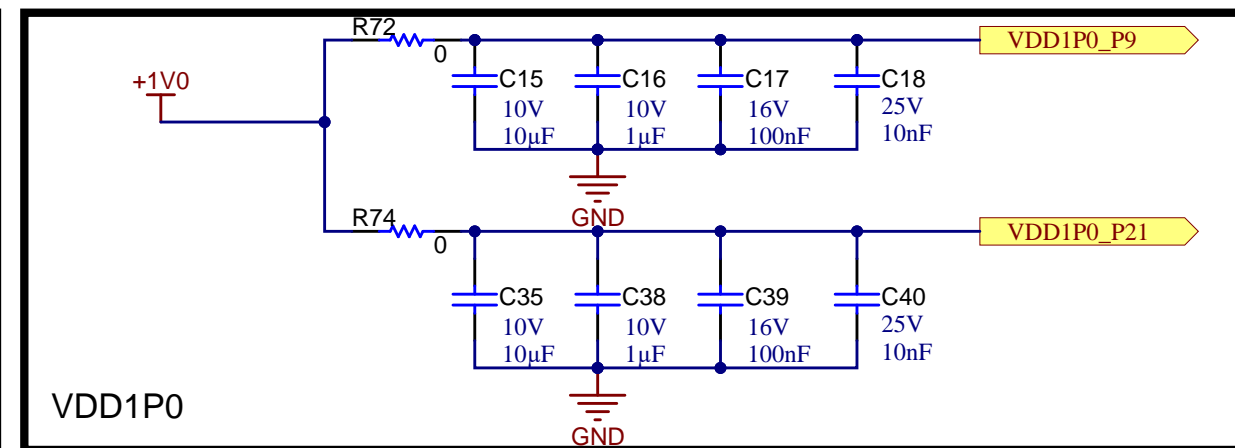
Texas Instruments and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. Texas Instruments and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will operate in an implementation. Texas Instruments and/or its licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application.

Orderable:	Designed for: Closed Release	Mod. Date: 2/8/2024
TID #: TIDA-020060	Project Title: Automotive_Ethernet_PoDL_PSE	
Number: TIDA-020060	Rev: E2	Sheet Title:
SVN Rev:	Assembly Variant: STD	Sheet: 6 of 19
Drawn By:	File: PHY.SchDoc	Size: A4
Engineer: Fabian Barth	Contact: http://www.ti.com/support	

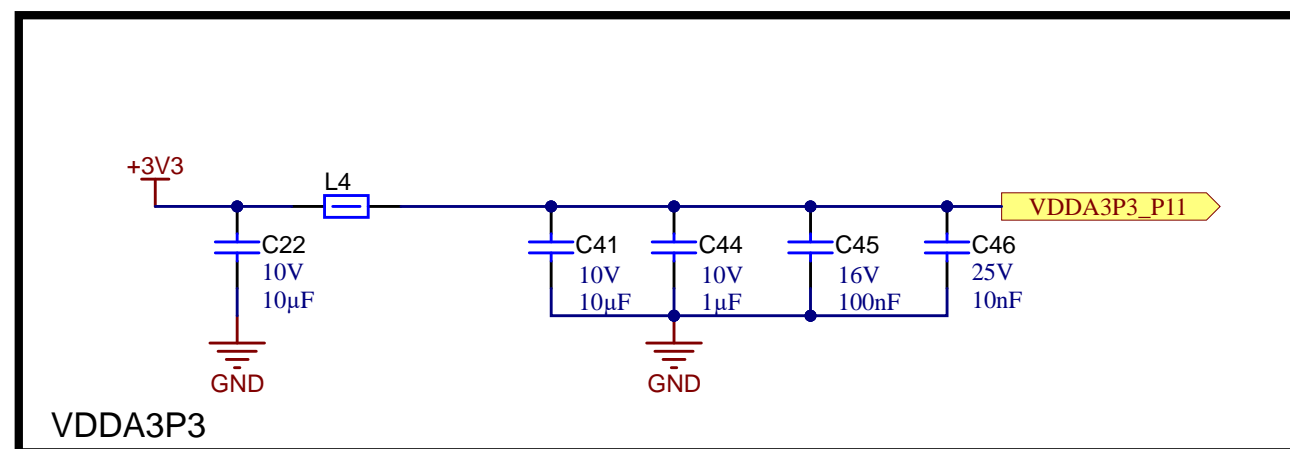




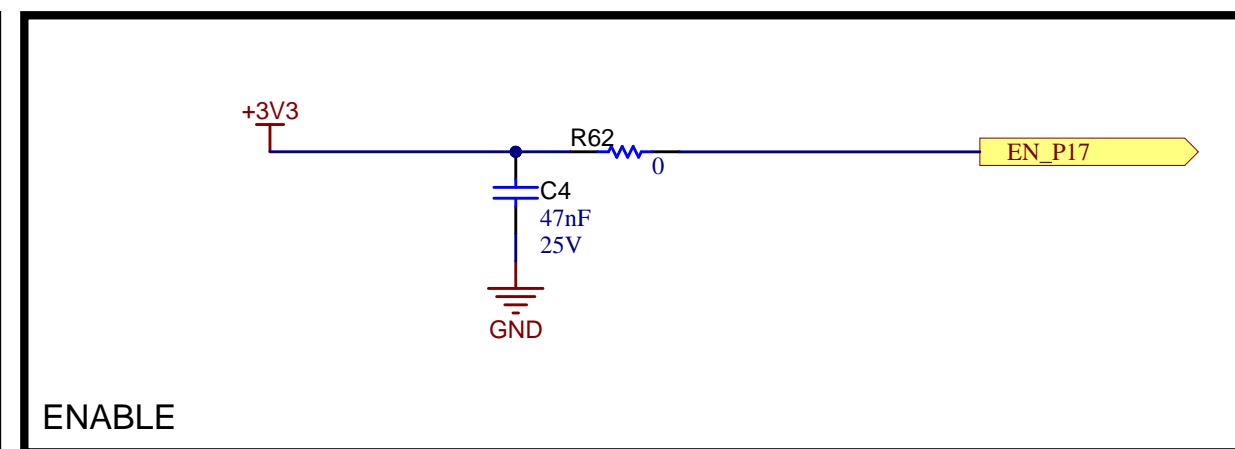
VDDIO



VDD1P0



VDDA3P3

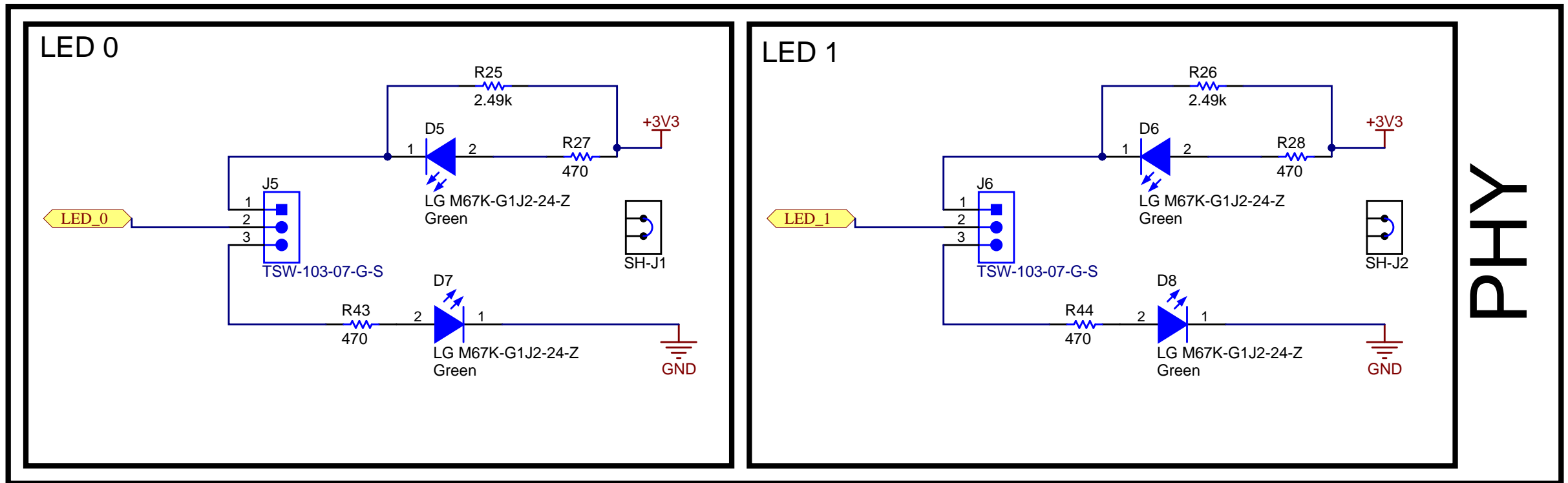


ENABLE

Texas Instruments and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. Texas Instruments and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will operate in an implementation. Texas Instruments and/or its licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application.

Orderable:	Designed for: Closed Release	Mod. Date: 2/8/2024
TID #: TIDA-020060	Project Title: Automotive_Ethernet_PoDL_PSE	
Number: TIDA-020060	Rev: E2	Sheet Title:
SVN Rev:	Assembly Variant: STD	Sheet: 7 of 19
Drawn By:	File: Power_caps.SchDoc	Size: A4
Engineer: Fabian Barth	Contact: http://www.ti.com/support	





PHY

Texas Instruments and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. Texas Instruments and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will operate in an implementation. Texas Instruments and/or its licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application.

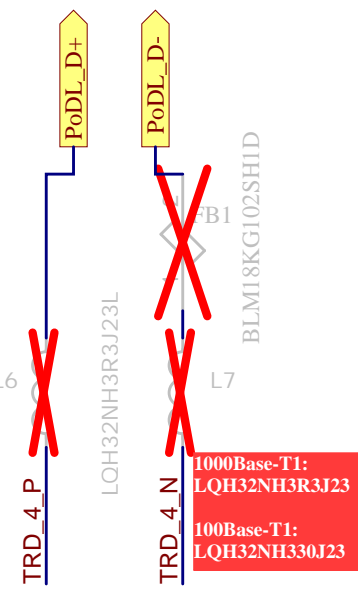
Orderable:	Designed for: Closed Release	Mod. Date: 2/8/2024
TID #: TIDA-020060	Project Title: Automotive_Ethernet_PoDL_PSE	
Number: TIDA-020060	Rev: E2	Sheet Title:
SVN Rev:	Assembly Variant: STD	Sheet: 8 of 19
Drawn By:	File: PHY_LED.SchDoc	Size: A4
Engineer: Fabian Barth	Contact: http://www.ti.com/support	

MURATA

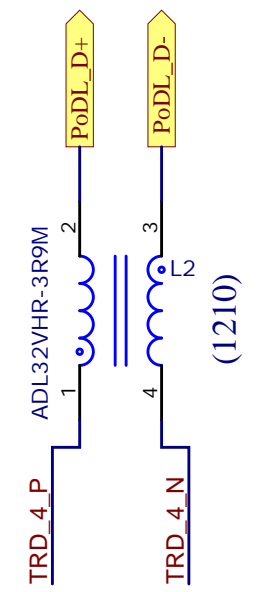
TDK

TDK

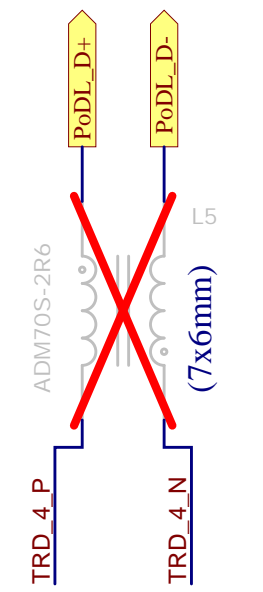
TDK



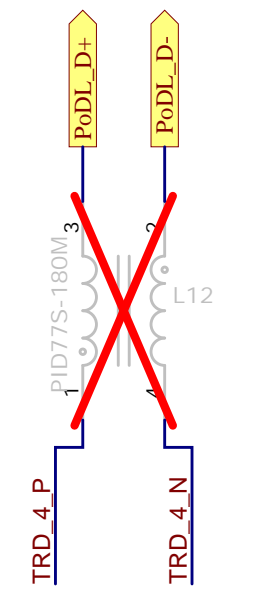
100Base



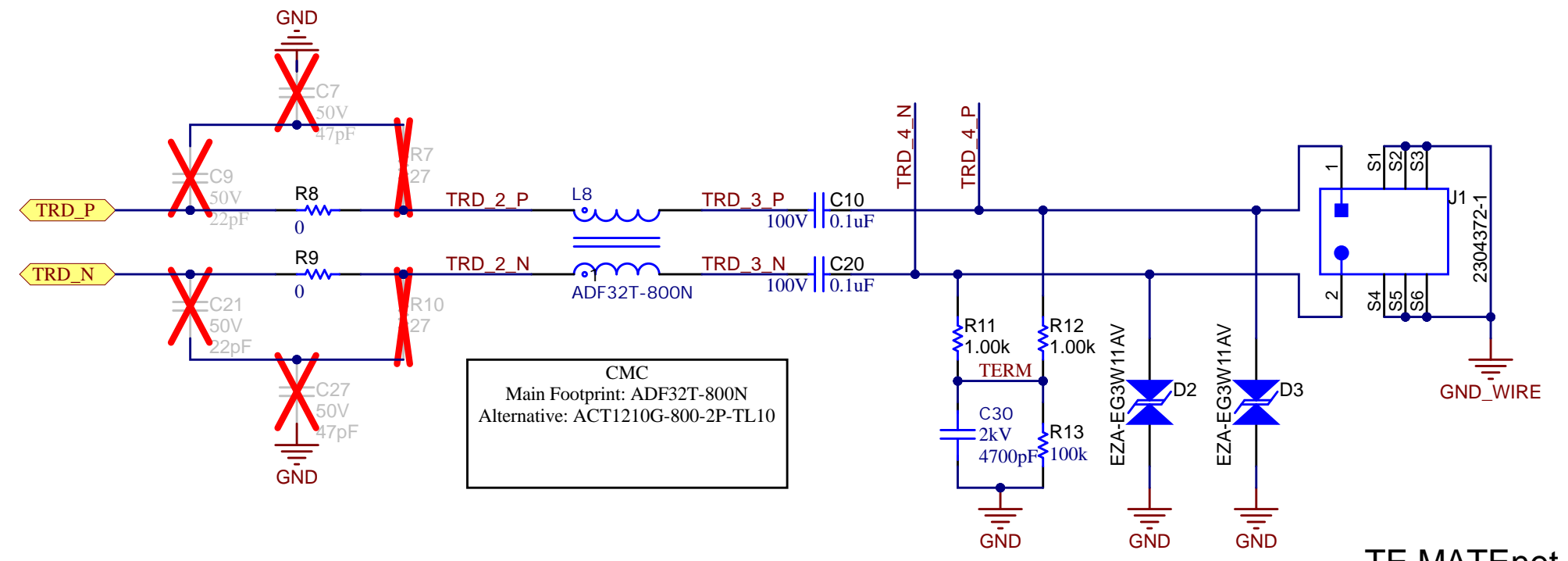
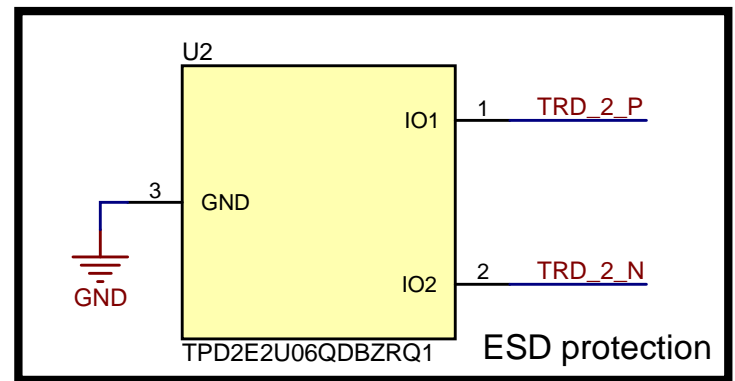
1000Base



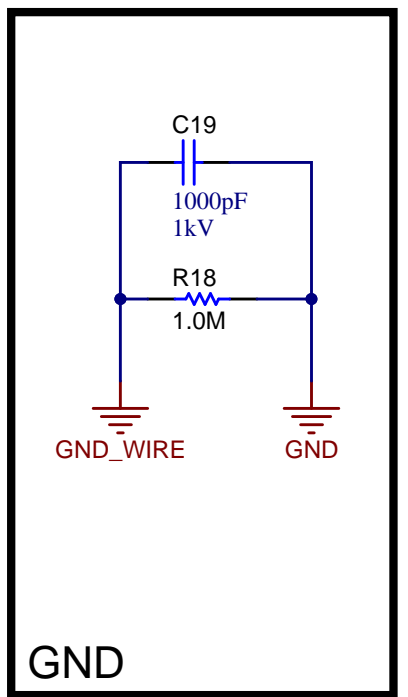
1000Base



100Base

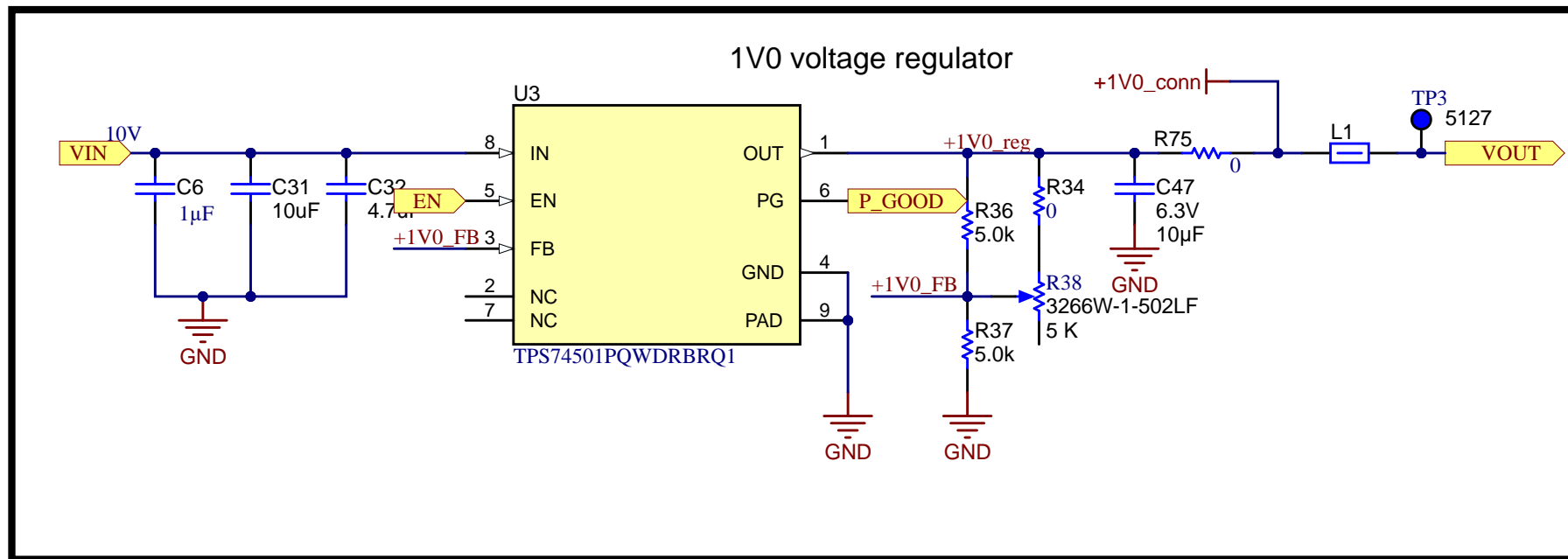


TE MATEnet



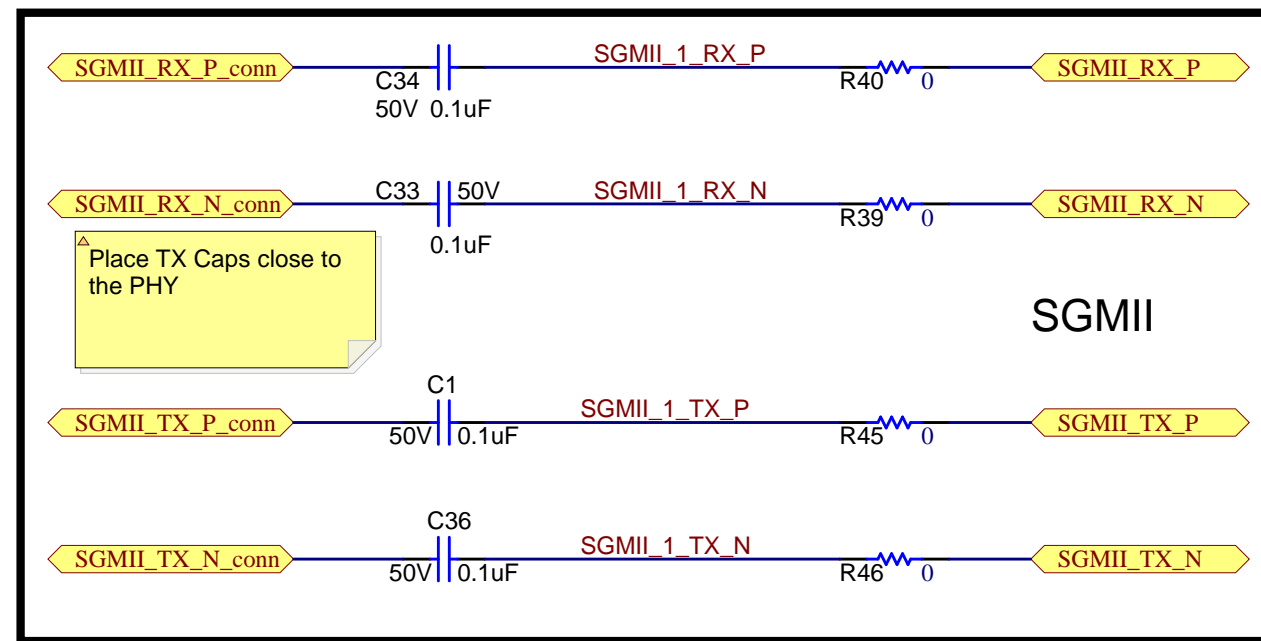
Texas Instruments and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. Texas Instruments and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will operate in an implementation. Texas Instruments and/or its licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application.

Orderable:	Designed for: Closed Release	Mod. Date: 2/8/2024
TID #: TIDA-020060	Project Title: Automotive_Ethernet_PoDL_PSE	
Number: TIDA-020060	Rev: E2	Sheet Title:
SVN Rev:	Assembly Variant: STD	Sheet: 9 of 19
Drawn By:	File: MDI.SchDoc	Size: A4
Engineer: Fabian Barth	Contact: http://www.ti.com/support	



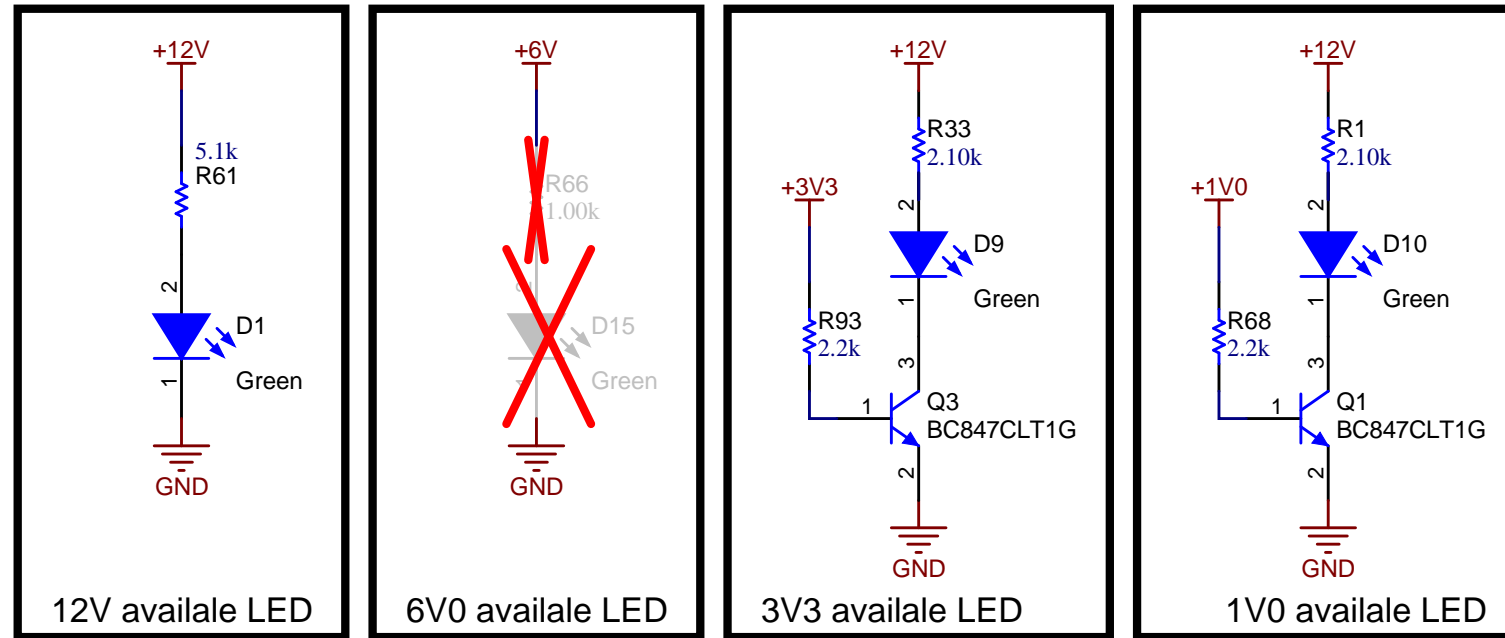
Texas Instruments and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. Texas Instruments and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will operate in an implementation. Texas Instruments and/or its licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application.

Orderable:	Designed for: Closed Release	Mod. Date: 2/8/2024
TID #: TIDA-020060	Project Title: Automotive_Ethernet_PoDL_PSE	
Number: TIDA-020060	Rev: E2	Sheet Title:
SVN Rev:	Assembly Variant: STD	Sheet: 10 of 19
Drawn By:	File: 1V0_LDO.SchDoc	Size: A4
Engineer: Fabian Barth	Contact: http://www.ti.com/support	



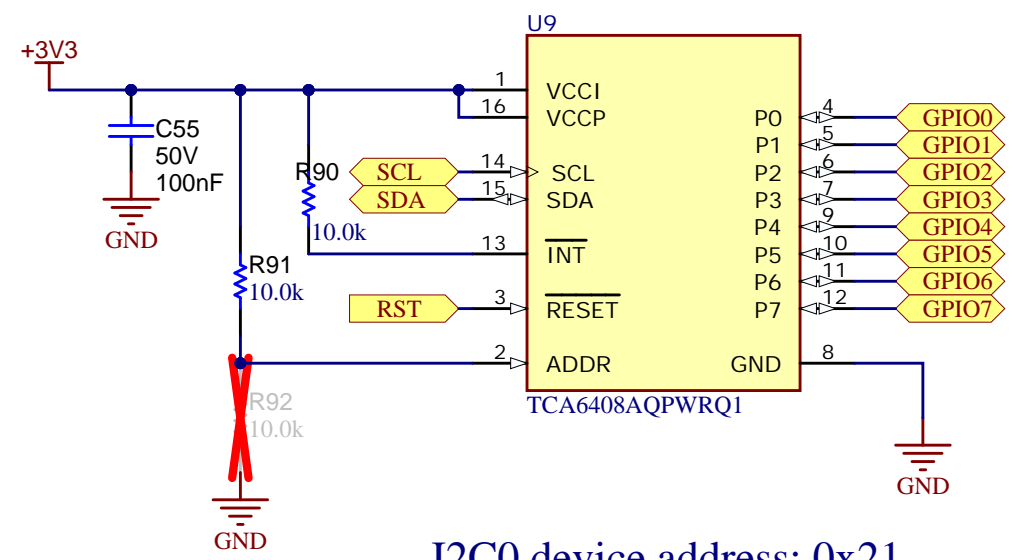
Texas Instruments and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. Texas Instruments and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will operate in an implementation. Texas Instruments and/or its licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application.

Orderable:	Designed for: Closed Release	Mod. Date: 2/8/2024
TID #: TIDA-020060	Project Title: Automotive_Ethernet_PoDL_PSE	
Number: TIDA-020060	Rev: E2	Sheet Title:
SVN Rev:	Assembly Variant: STD	Sheet: 11 of 19
Drawn By:	File: SGMII_caps.SchDoc	Size: A4
Engineer: Fabian Barth	Contact: http://www.ti.com/support	



Texas Instruments and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. Texas Instruments and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will operate in an implementation. Texas Instruments and/or its licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application.

Orderable:	Designed for: Closed Release	Mod. Date: 2/8/2024
TID #: TIDA-020060	Project Title: Automotive_Ethernet_PoDL_PSE	
Number: TIDA-020060	Rev: E2	Sheet Title:
SVN Rev:	Assembly Variant: STD	Sheet: 12 of 19
Drawn By:	File: power_indicator_LEDs.SchDoc	Size: A4
Engineer: Fabian Barth	Contact: http://www.ti.com/support	

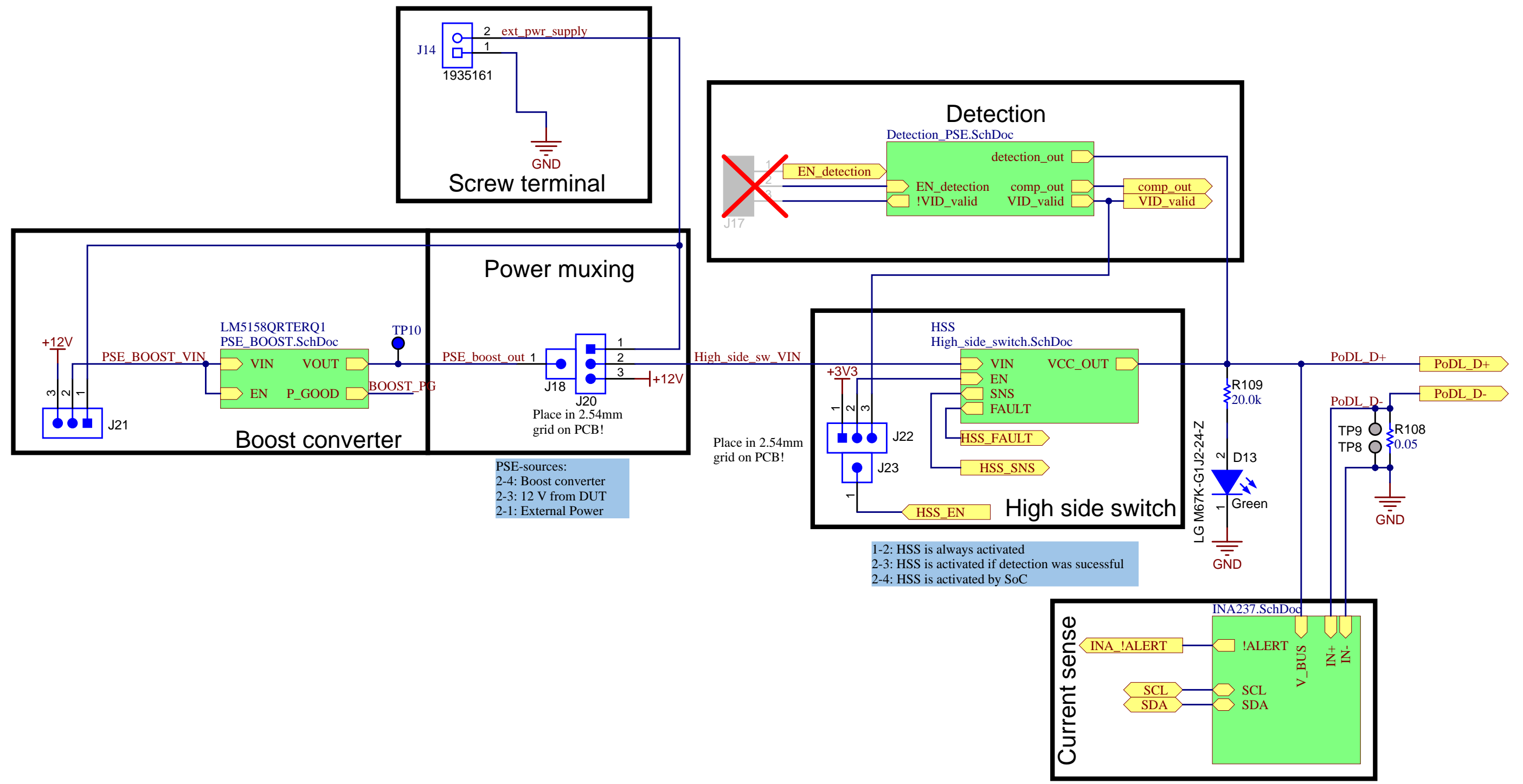


I2C0 device address: 0x21

Texas Instruments and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. Texas Instruments and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will operate in an implementation. Texas Instruments and/or its licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application.

Orderable:	Designed for: Closed Release	Mod. Date: 2/8/2024
TID #: TIDA-020060	Project Title: Automotive_Ethernet_PoDL_PSE	
Number: TIDA-020060	Rev: E2	Sheet Title:
SVN Rev:	Assembly Variant: STD	Sheet: 13 of 19
Drawn By:	File: GPIO_EXPANDER.SchDoc	Size: A4
Engineer: Fabian Barth	Contact: http://www.ti.com/support	



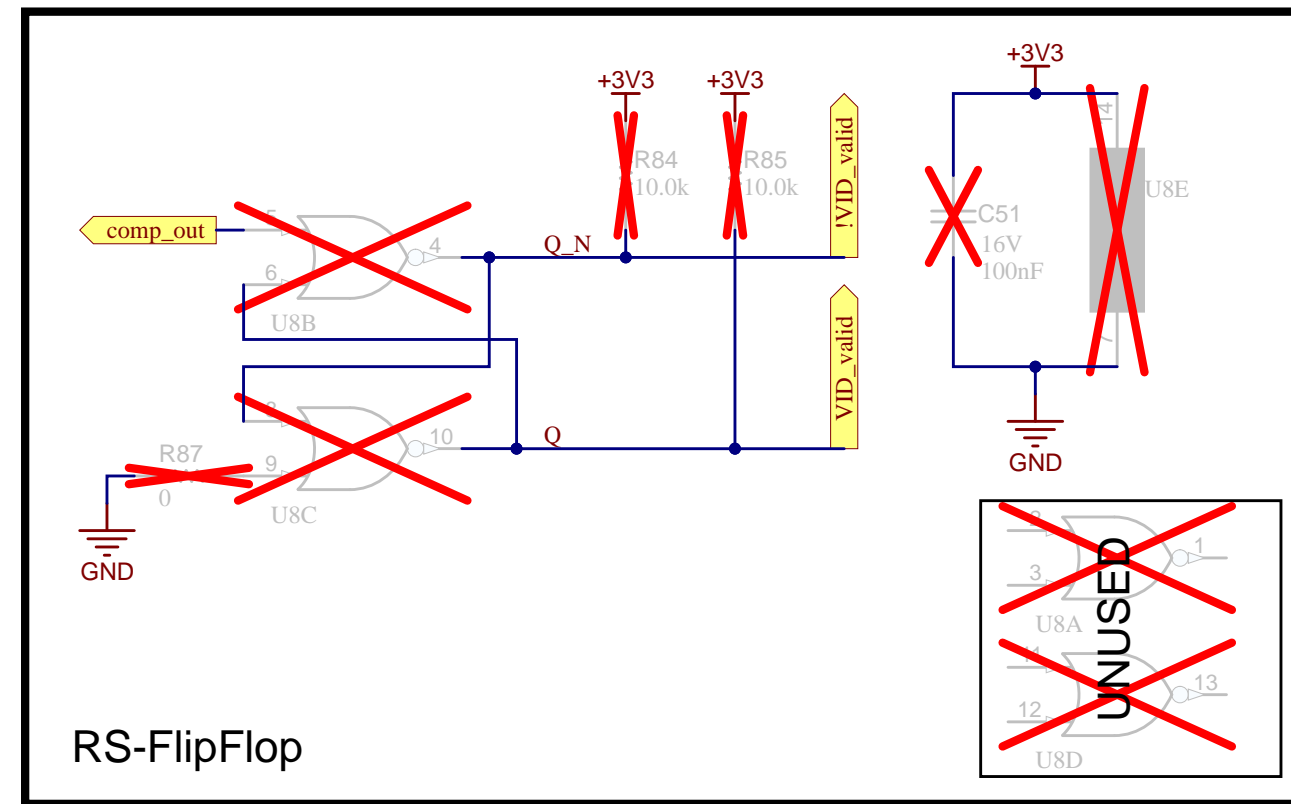
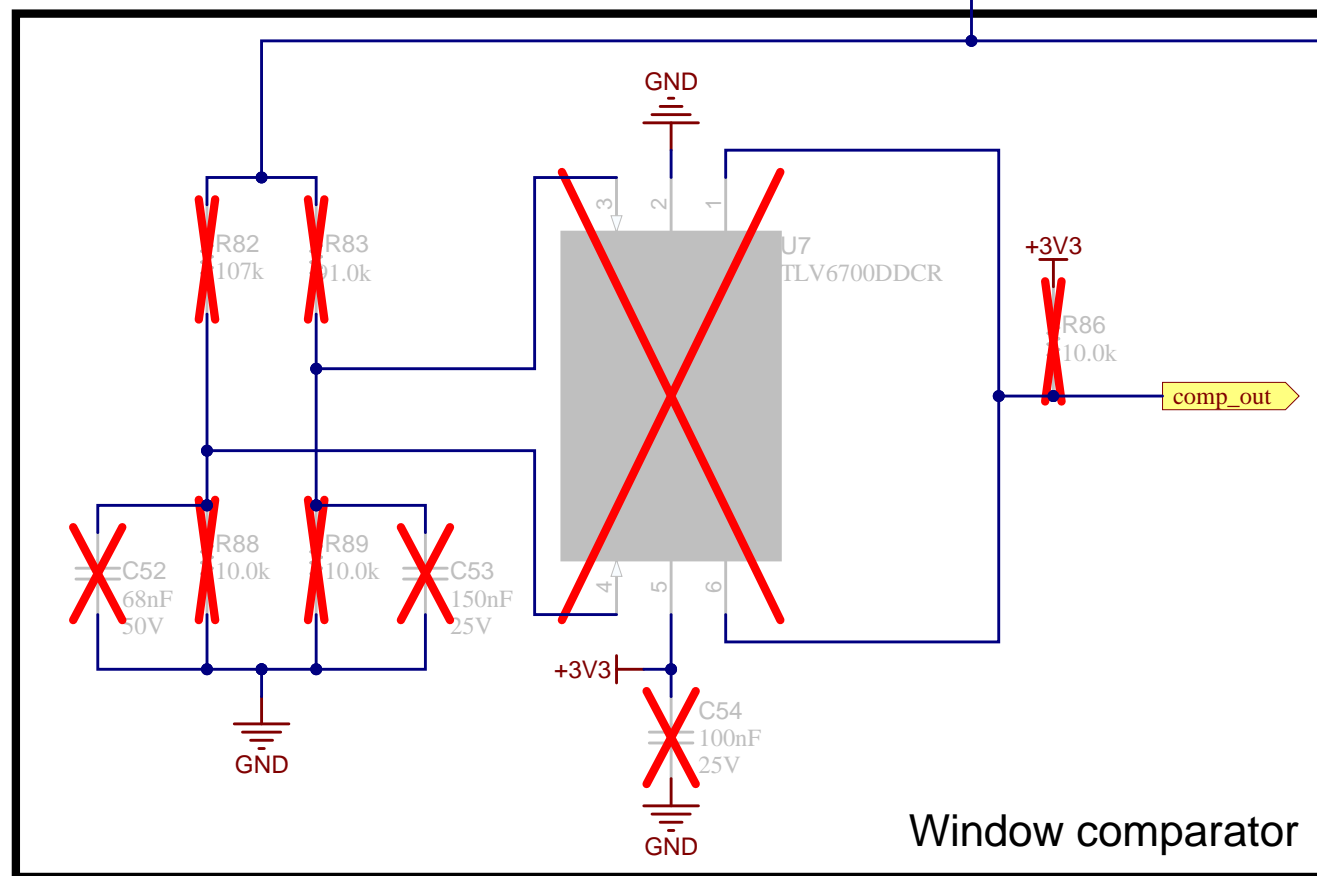
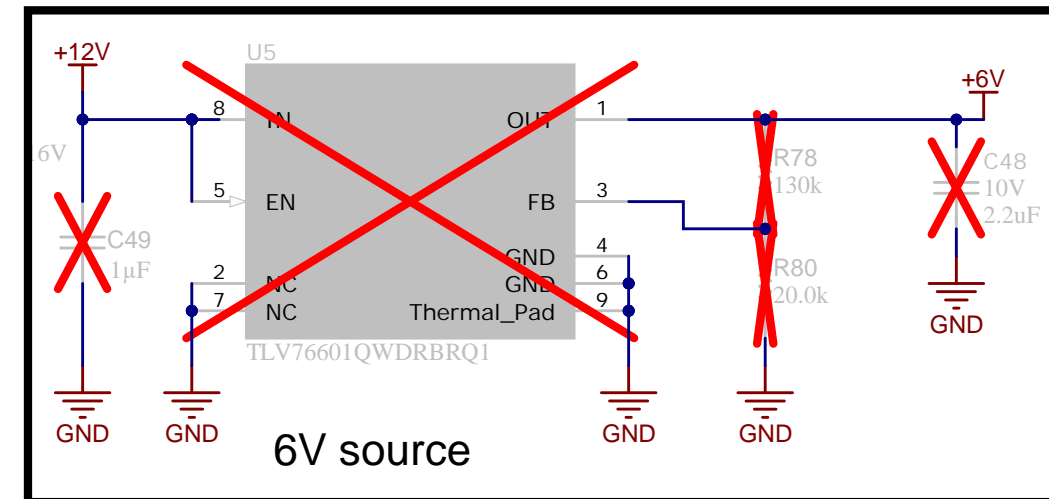
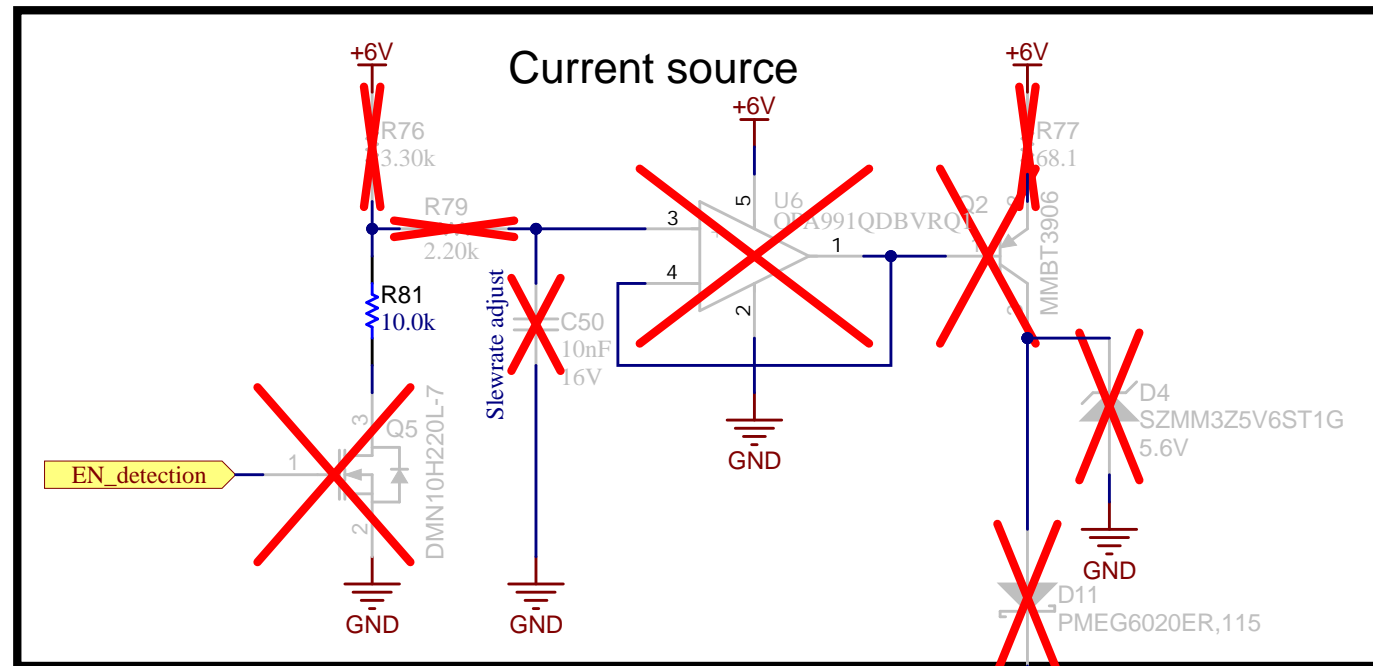


PSE-sources:
 2-4: Boost converter
 2-3: 12 V from DUT
 2-1: External Power

1-2: HSS is always activated
 2-3: HSS is activated if detection was successful
 2-4: HSS is activated by SoC

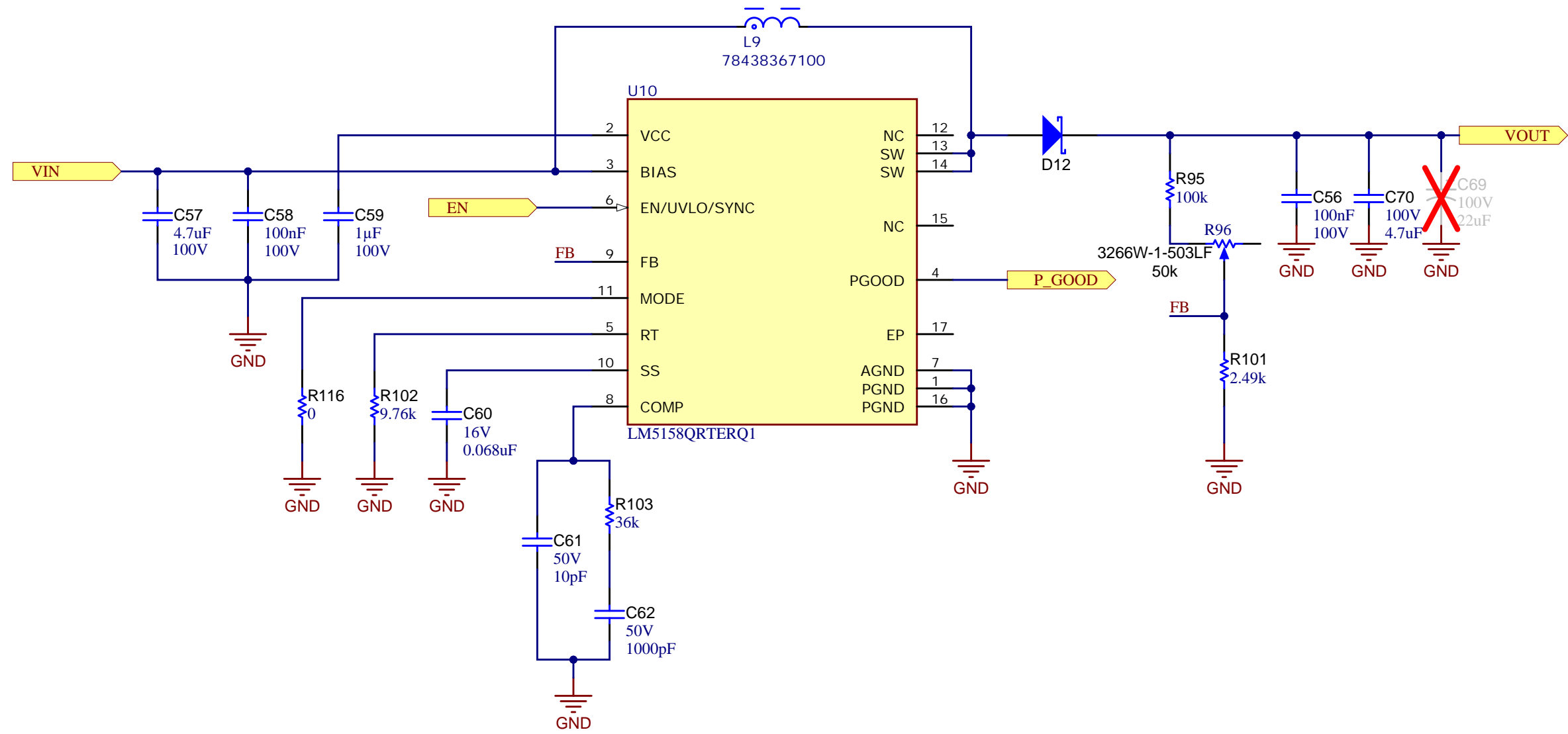
Texas Instruments and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. Texas Instruments and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will operate in an implementation. Texas Instruments and/or its licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application.

Orderable:	Designed for: Closed Release	Mod. Date: 2/8/2024
TID #: TIDA-020060	Project Title: Automotive_Ethernet_PoDL_PSE	
Number: TIDA-020060	Rev: E2	Sheet Title:
SVN Rev:	Assembly Variant: STD	Sheet: 14 of 19
Drawn By:	File: PSE.SchDoc	Size: A4
Engineer: Fabian Barth	Contact: http://www.ti.com/support	



Texas Instruments and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. Texas Instruments and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will operate in an implementation. Texas Instruments and/or its licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application.

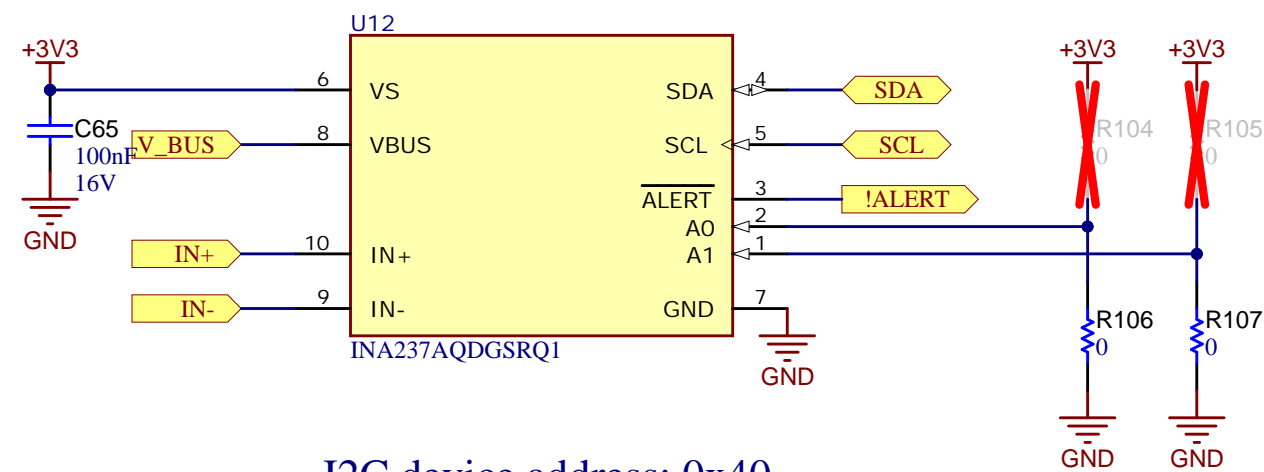
Orderable:	Designed for: Closed Release	Mod. Date: 2/8/2024
TID #: TIDA-020060	Project Title: Automotive_Ethernet_PoDL_PSE	
Number: TIDA-020060	Rev: E2	Sheet Title:
SVN Rev:	Assembly Variant: STD	Sheet: 15 of 19
Drawn By:	File: Detection_PSE.SchDoc	Size: A4
Engineer: Fabian Barth	Contact: http://www.ti.com/support	



Orderable:	Designed for: Closed Release	Mod. Date: 2/8/2024
TID #: TIDA-020060	Project Title: Automotive_Ethernet_PoDL_PSE	
Number: TIDA-020060	Rev: E2	Sheet Title:
SVN Rev:	Assembly Variant: STD	Sheet: 16 of 19
Drawn By:	File: PSE_BOOST.SchDoc	Size: A4
Engineer: Fabian Barth	Contact: http://www.ti.com/support	

Texas Instruments and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. Texas Instruments and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will operate in an implementation. Texas Instruments and/or its licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application.

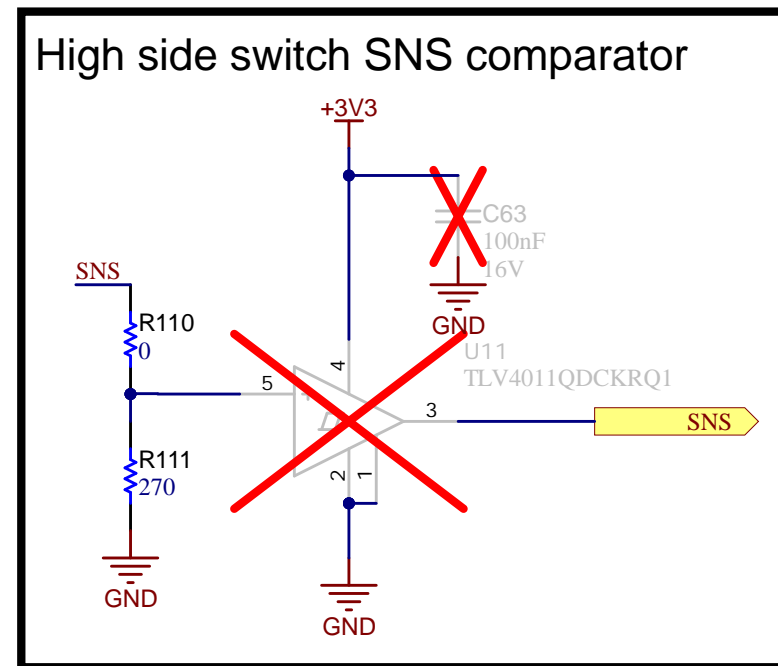
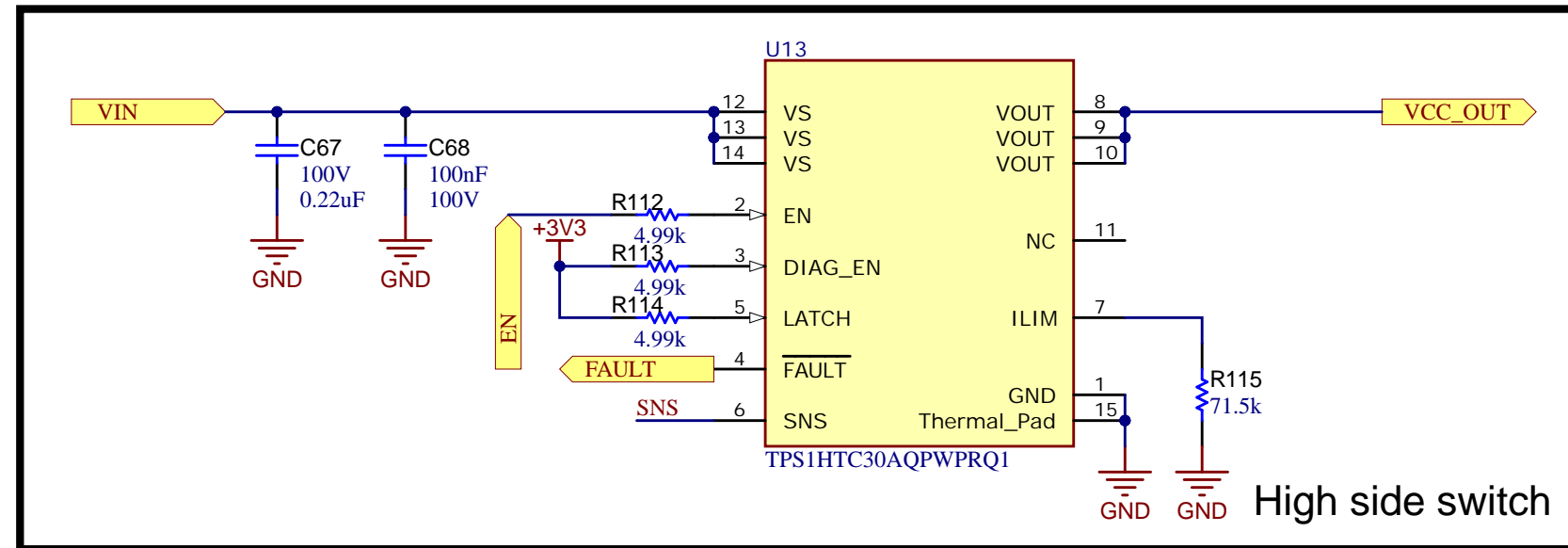




I2C device address: 0x40

Texas Instruments and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. Texas Instruments and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will operate in an implementation. Texas Instruments and/or its licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application.

Orderable:	Designed for: Closed Release	Mod. Date: 2/8/2024
TID #: TIDA-020060	Project Title: Automotive_Ethernet_PoDL_PSE	
Number: TIDA-020060	Rev: E2	Sheet Title:
SVN Rev:	Assembly Variant: STD	Sheet: 17 of 19
Drawn By:	File: INA237.SchDoc	Size: A4
Engineer: Fabian Barth	Contact: http://www.ti.com/support	



Texas Instruments and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. Texas Instruments and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will operate in an implementation. Texas Instruments and/or its licensors do not warrant that the design is production worthy. You should completely validate and test your design implementation to confirm the system functionality for your application.

Orderable:	Designed for: Closed Release	Mod. Date: 2/8/2024
TID #: TIDA-020060	Project Title: Automotive_Ethernet_PoDL_PSE	
Number: TIDA-020060	Rev: E2	Sheet Title:
SVN Rev:	Assembly Variant: STD	Sheet: 18 of 19
Drawn By:	File: High_side_switch.SchDoc	Size: A4
Engineer: Fabian Barth	Contact: http://www.ti.com/support	

IMPORTANT NOTICE AND DISCLAIMER

TI PROVIDES TECHNICAL AND RELIABILITY DATA (INCLUDING DATA SHEETS), DESIGN RESOURCES (INCLUDING REFERENCE DESIGNS), APPLICATION OR OTHER DESIGN ADVICE, WEB TOOLS, SAFETY INFORMATION, AND OTHER RESOURCES "AS IS" AND WITH ALL FAULTS, AND DISCLAIMS ALL WARRANTIES, EXPRESS AND IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT OF THIRD PARTY INTELLECTUAL PROPERTY RIGHTS.

These resources are intended for skilled developers designing with TI products. You are solely responsible for (1) selecting the appropriate TI products for your application, (2) designing, validating and testing your application, and (3) ensuring your application meets applicable standards, and any other safety, security, regulatory or other requirements.

These resources are subject to change without notice. TI grants you permission to use these resources only for development of an application that uses the TI products described in the resource. Other reproduction and display of these resources is prohibited. No license is granted to any other TI intellectual property right or to any third party intellectual property right. TI disclaims responsibility for, and you will fully indemnify TI and its representatives against, any claims, damages, costs, losses, and liabilities arising out of your use of these resources.

TI's products are provided subject to [TI's Terms of Sale](#) or other applicable terms available either on [ti.com](https://www.ti.com) or provided in conjunction with such TI products. TI's provision of these resources does not expand or otherwise alter TI's applicable warranties or warranty disclaimers for TI products.

TI objects to and rejects any additional or different terms you may have proposed.

Mailing Address: Texas Instruments, Post Office Box 655303, Dallas, Texas 75265
Copyright © 2024, Texas Instruments Incorporated