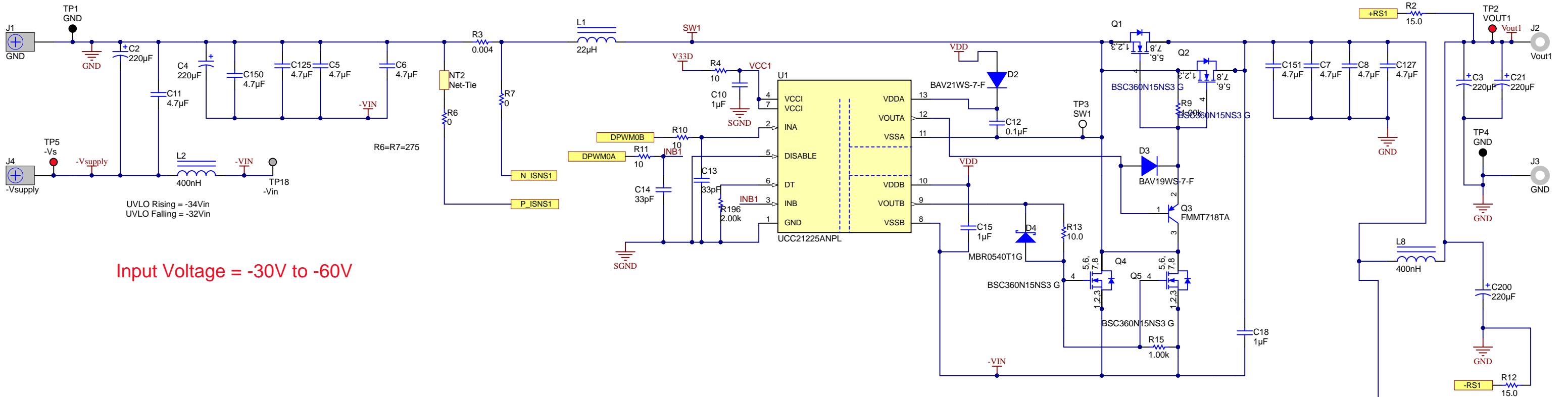
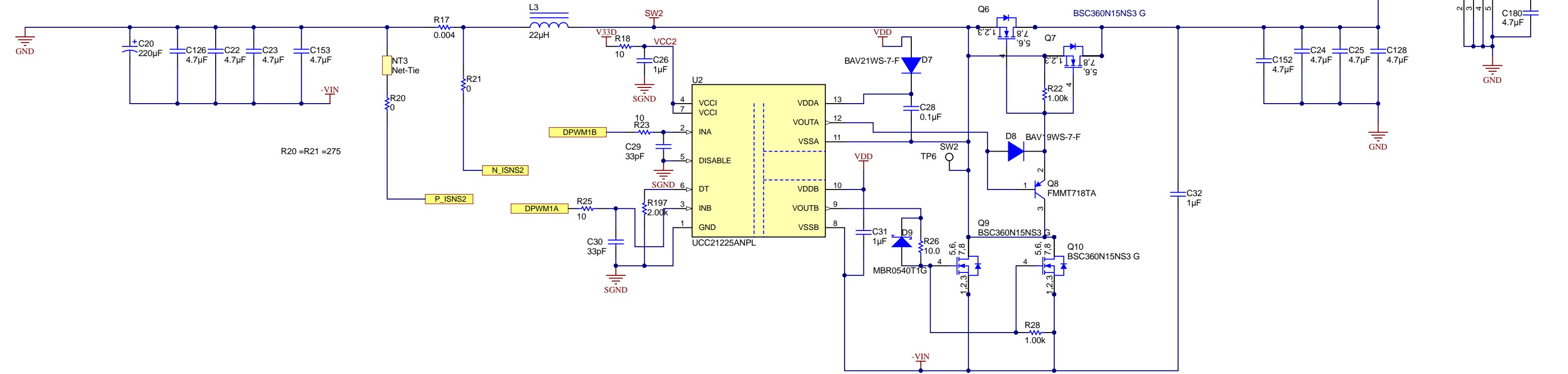


Vout1 = 30V to 56V



Input Voltage = -30V to -60V

UVLO Rising = -34Vin  
UVLO Falling = -32Vin

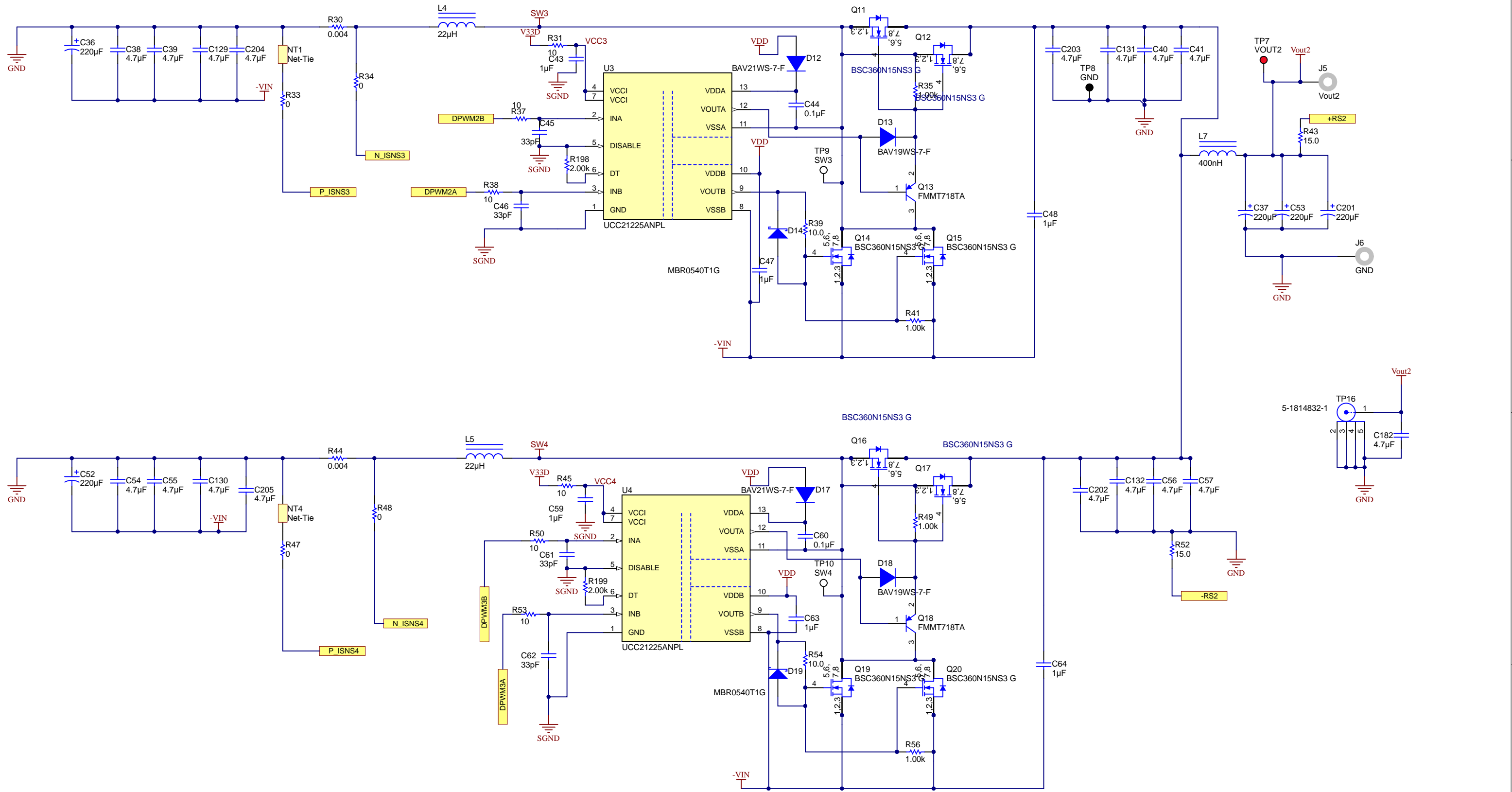


Orderable:	Designed for: Public Release	Mod. Date: 7/1/2020
TID #: PMP20587	Project Title: UCD3138 Digital Inverting Buck Boost	
Number: PMP20587	Rev: D	Sheet Title:
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 1 of 6
Drawn By:	File: PMP20587_REVD_Sheet1_SchDoc	Size: B
Engineer: Sean Xu & Xinyu Dai	Contact: <a href="http://www.ti.com/support">http://www.ti.com/support</a>	

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.



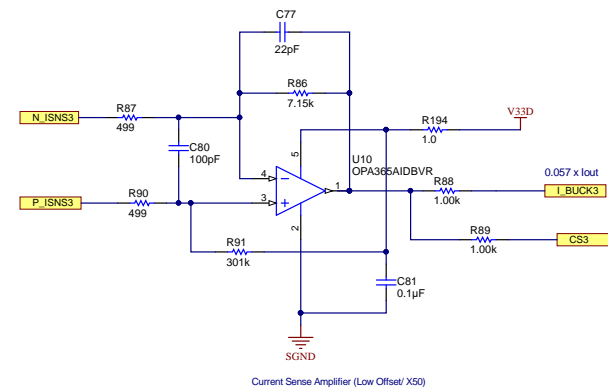
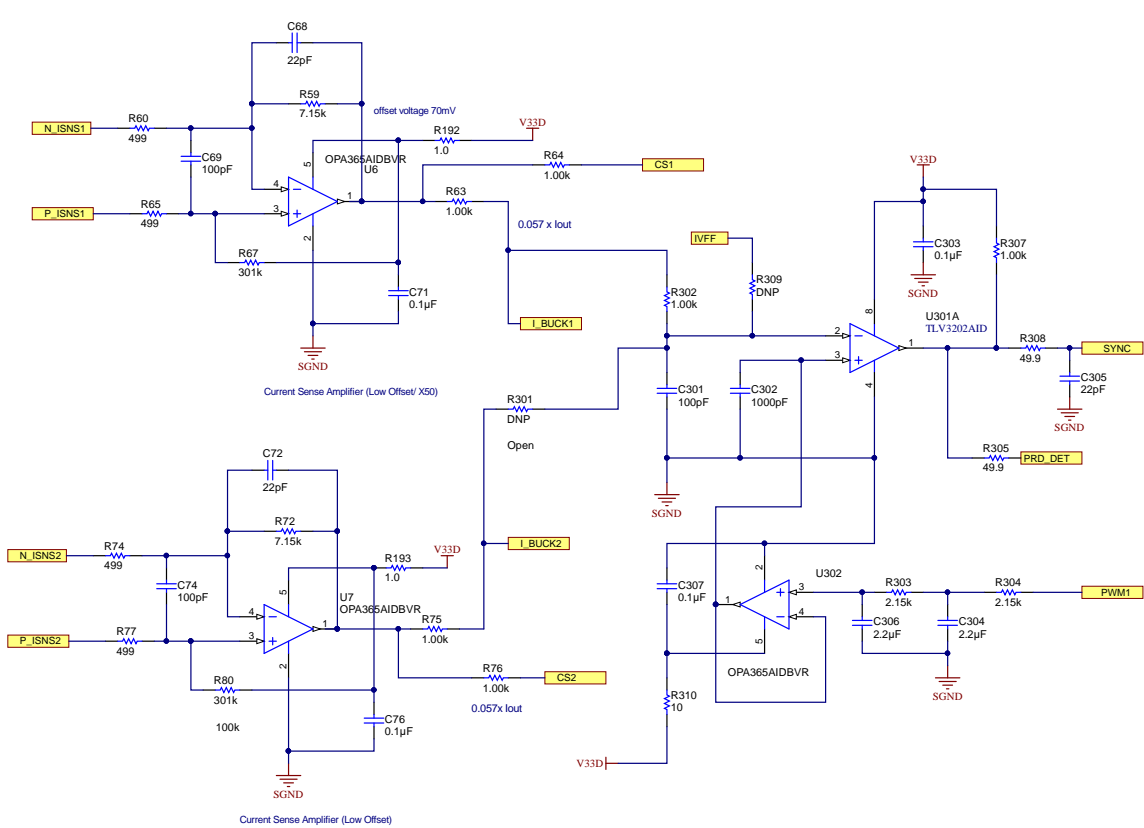
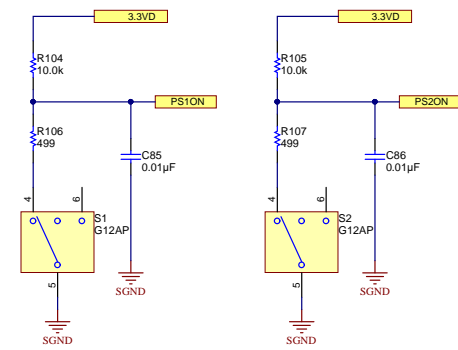
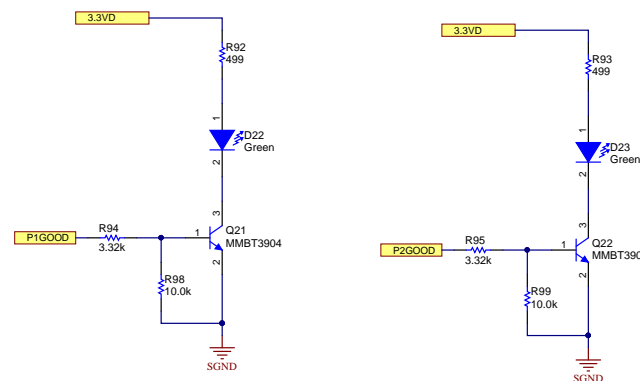
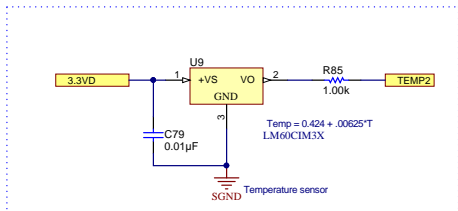
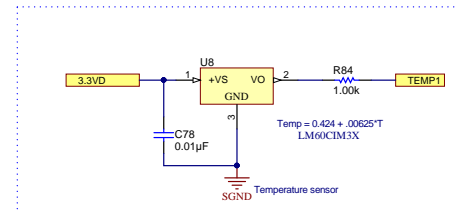
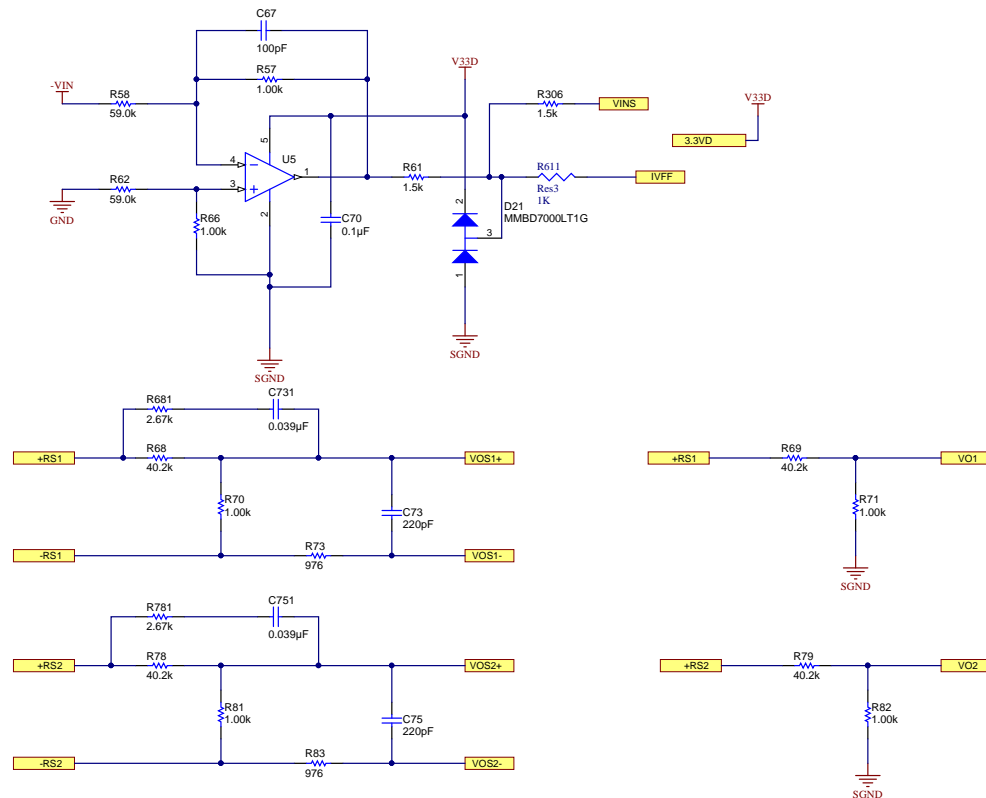
Vout2 = 30V to 56V

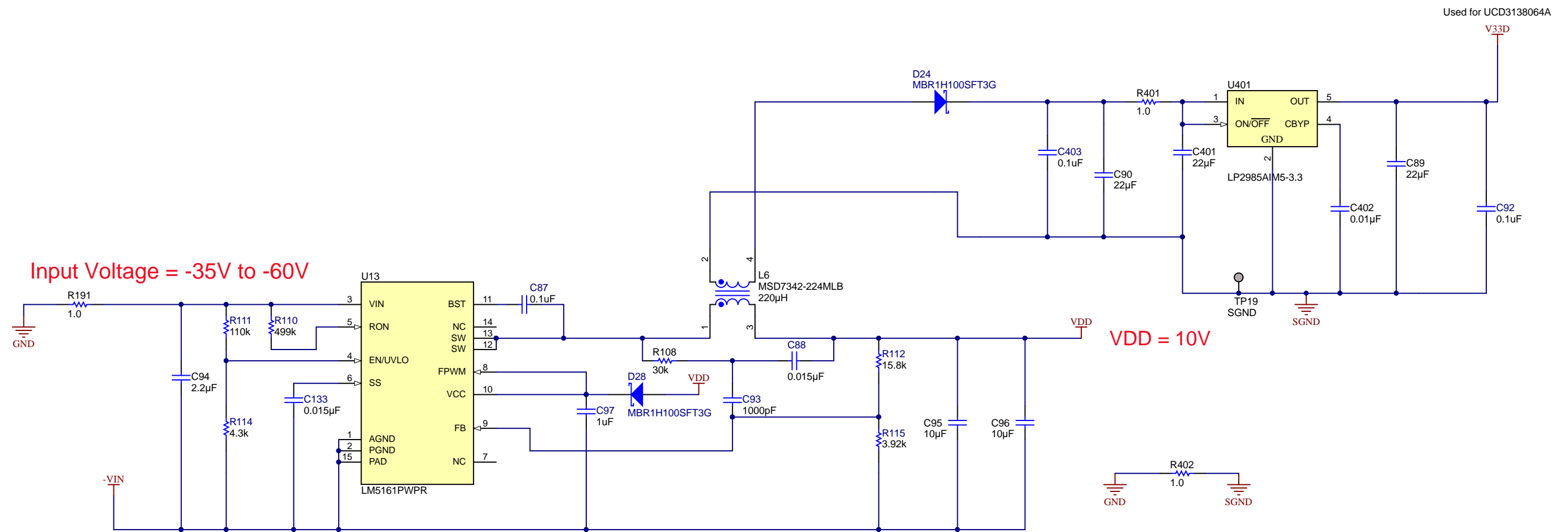


Texas Instruments and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. Texas Instruments and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular 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: Public Release	Mod. Date: 6/19/2020
TID #: PMP20587	Project Title: UCD3138 Digital Inverting Buck Boost	
Number: PMP20587	Rev: D	Sheet Title:
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 2 of 6
Drawn By:	File: PMP20587_REVD_Sheet2.SchDoc	Size: B
Engineer: Sean Xu & Xinyu Dai	Contact: <a href="http://www.ti.com/support">http://www.ti.com/support</a>	



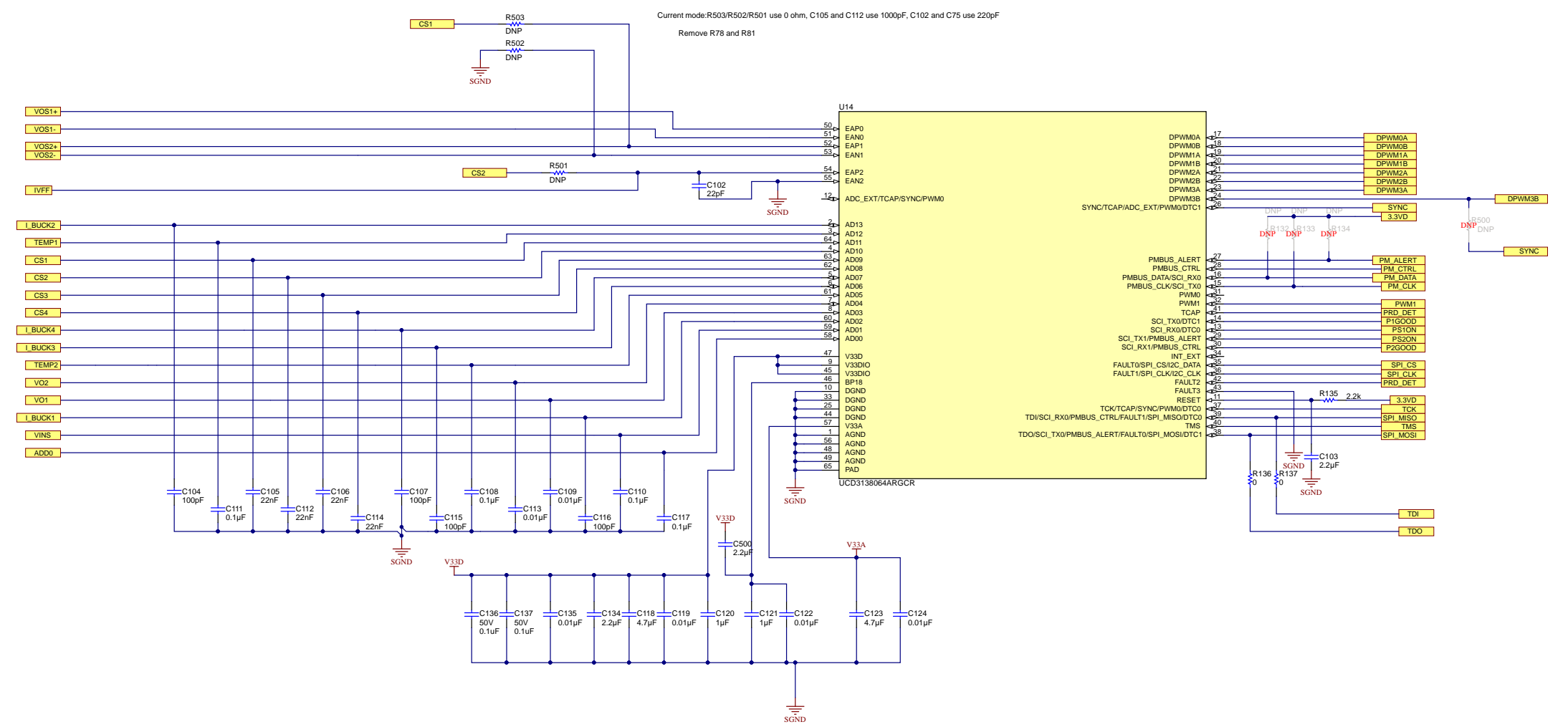
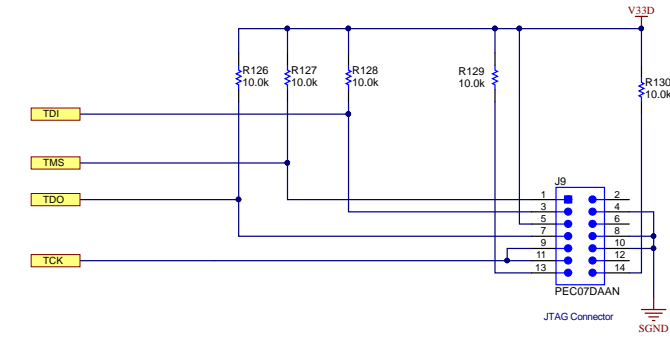
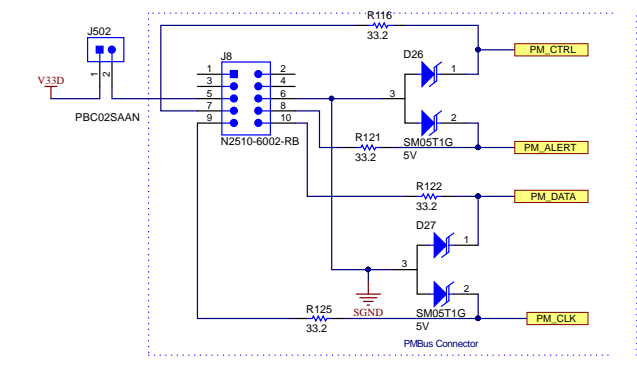
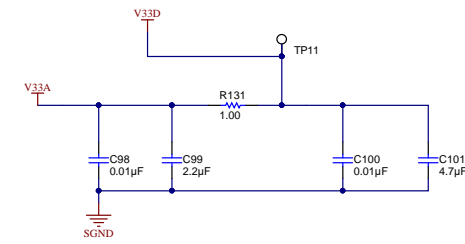
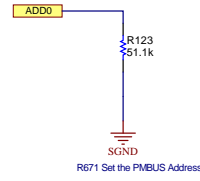




Texas Instruments and/or its licensors do not warrant the accuracy or completeness of this specification or any information contained therein. Texas Instruments and/or its licensors do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular 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: Public Release	Mod. Date: 6/19/2020
TID #: PMP20587	Project Title: UCD3138 Digital Inverting Buck Boost	
Number: PMP20587	Rev: D	Sheet Title:
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 4 of 6
Drawn By:	File: PMP20587_REVD_Sheet4.SchDoc	Size: B
Engineer: Sean Xu & Xinyu Dai	Contact: <a href="http://www.ti.com/support">http://www.ti.com/support</a>	

TEXAS INSTRUMENTS  
<http://www.ti.com>  
 © Texas Instruments 2016



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.

H1 NY PMS 440 0025 PH  
 H2 NY PMS 440 0025 PH  
 H3 NY PMS 440 0025 PH  
 H4 NY PMS 440 0025 PH

H5 1902C  
 H6 1902C  
 H7 1902C  
 H8 1902C

DNP FID1  
 DNP FID2  
 DNP FID3

PCB Number: PMP20587  
 PCB Rev: D

PCB  
 LOGO  
 FCC disclaimer

Variant/Label Table	
Variant	Label Text
001	

ZZ1  
 Label Assembly Note  
 This Assembly Note is for PCB labels only

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.

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: Public Release	Mod. Date: 3/22/2018
TID #: PMP20587	Project Title: UCD3138 Digital Inverting Buck Boost	
Number: PMP20587	Rev: D	Sheet Title:
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 6 of 6
Drawn By:	File: PMP20587_REVD_Hardware.SchDoc	Size: B
Engineer: Sean Xu & Xinyu Dai	Contact: <a href="http://www.ti.com/support">http://www.ti.com/support</a>	



© Texas Instruments 2016

## IMPORTANT NOTICE AND DISCLAIMER

TI PROVIDES TECHNICAL AND RELIABILITY DATA (INCLUDING DATASHEETS), 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, 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 ([www.ti.com/legal/termsofsale.html](http://www.ti.com/legal/termsofsale.html)) or other applicable terms available either on [ti.com](http://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.

Mailing Address: Texas Instruments, Post Office Box 655303, Dallas, Texas 75265  
Copyright © 2020, Texas Instruments Incorporated