
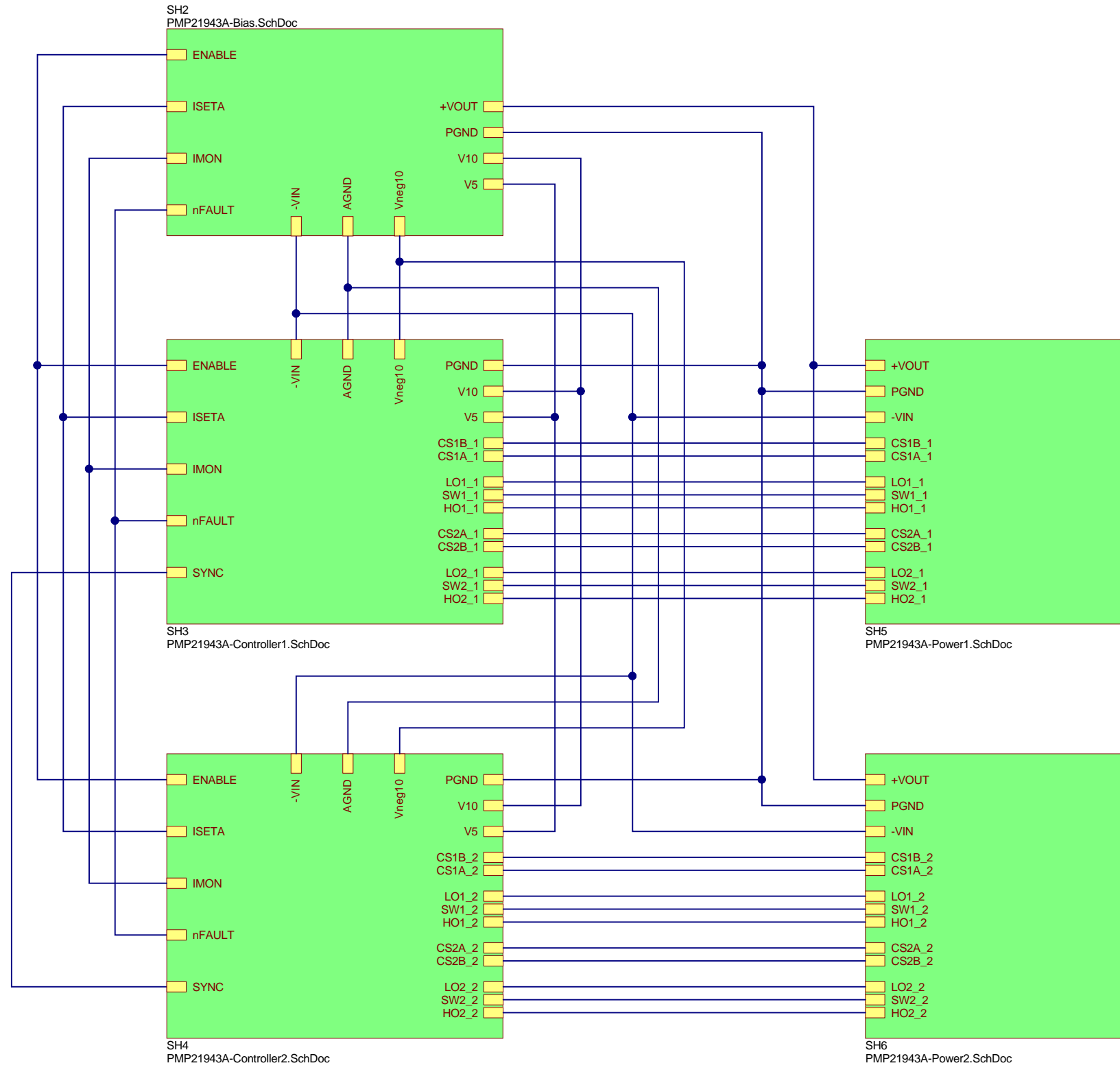



Revision History	
Revision	Notes

SH7  
PMP21943A-HW.SchDoc

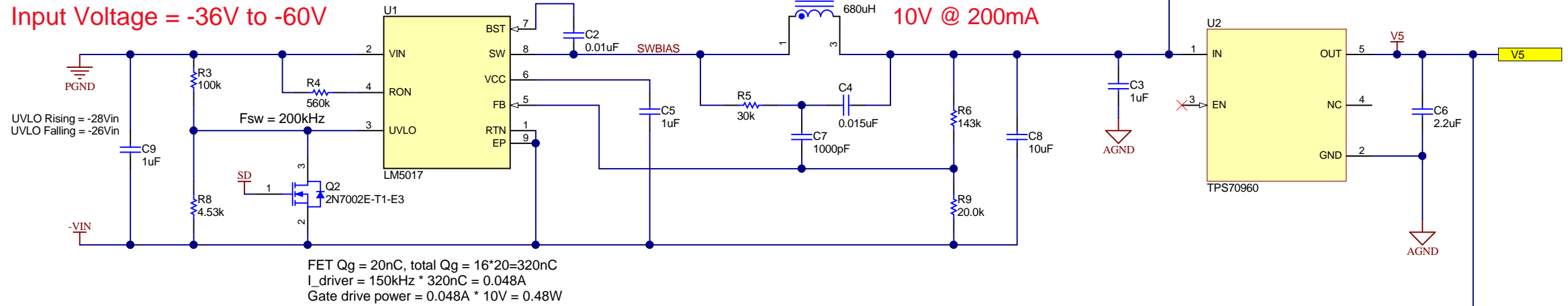
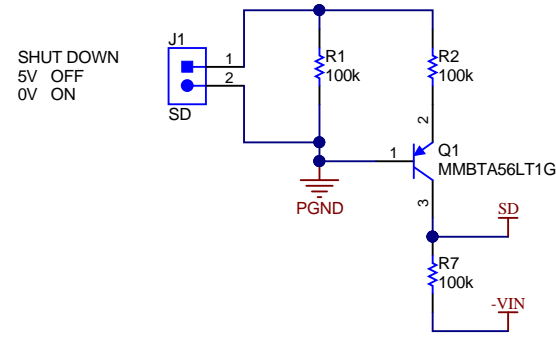



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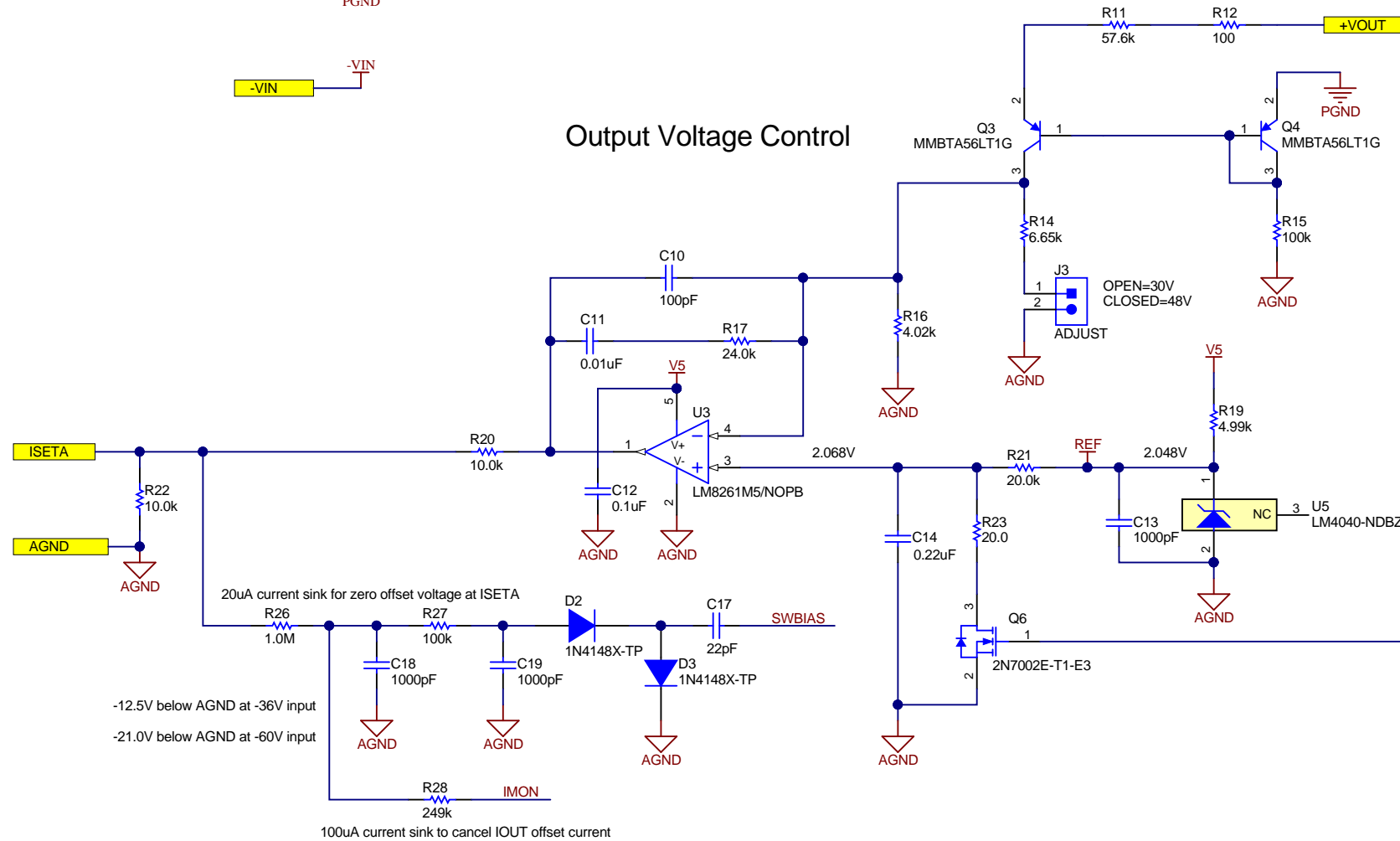
Orderable: N/A	Designed for: Public Release	Mod. Date: 8/16/2019	 <a href="http://www.ti.com">http://www.ti.com</a> © Texas Instruments 2019
TID #: PMP21943	Project Title: LM5170 Negative-to-Positive Buck-Boost	Sheet: 1 of 7	
Number: PMP21943	Rev: A	Size: B	
SVN Rev: Not in version control	Assembly Variant: 1200W		
Drawn By:	File: PMP21943A-Cover.SchDoc		
Engineer: R. Sheehan	Contact: <a href="http://www.ti.com/support">http://www.ti.com/support</a>		

### Bias Power for Gate Drivers and LM5170 Controllers

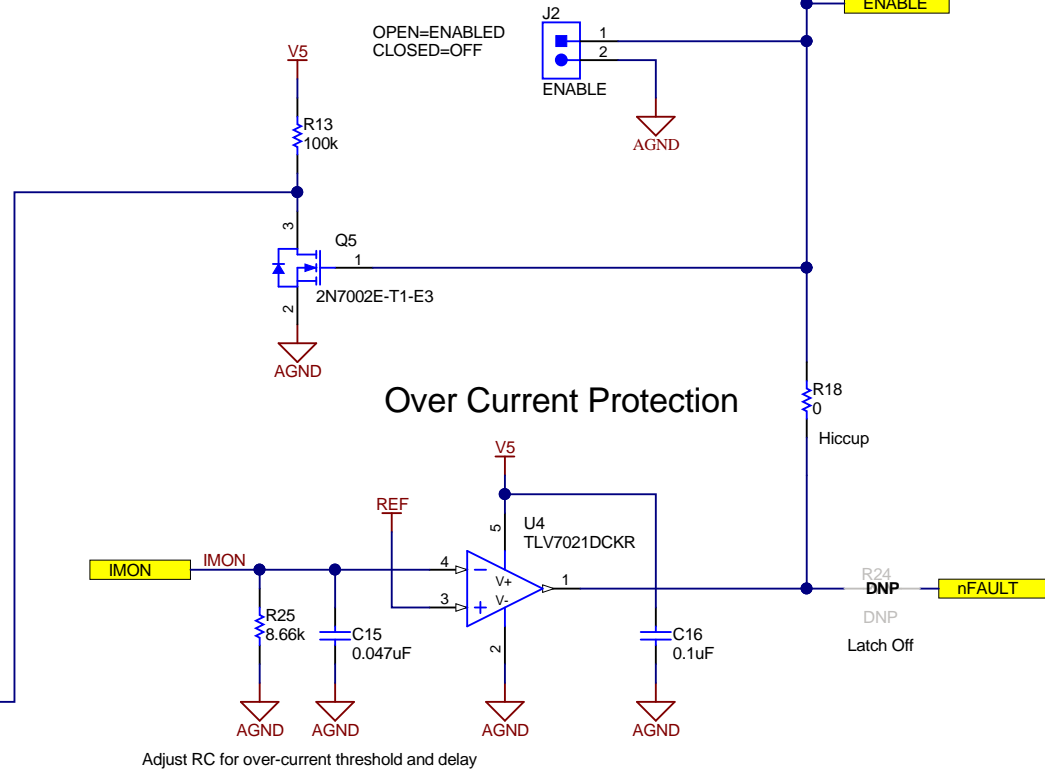
Input Voltage = -36V to -60V

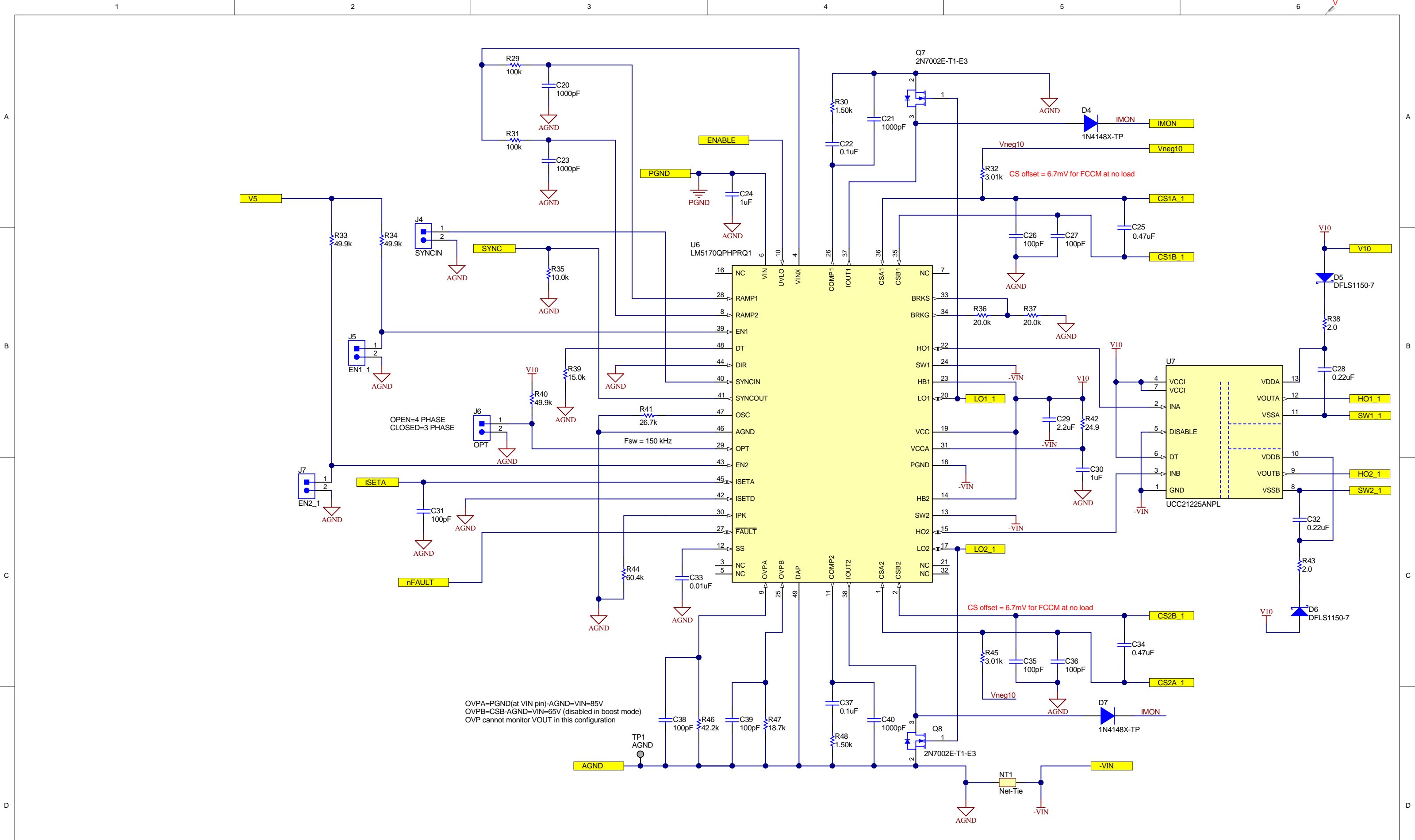


### Output Voltage Control



### Over Current Protection



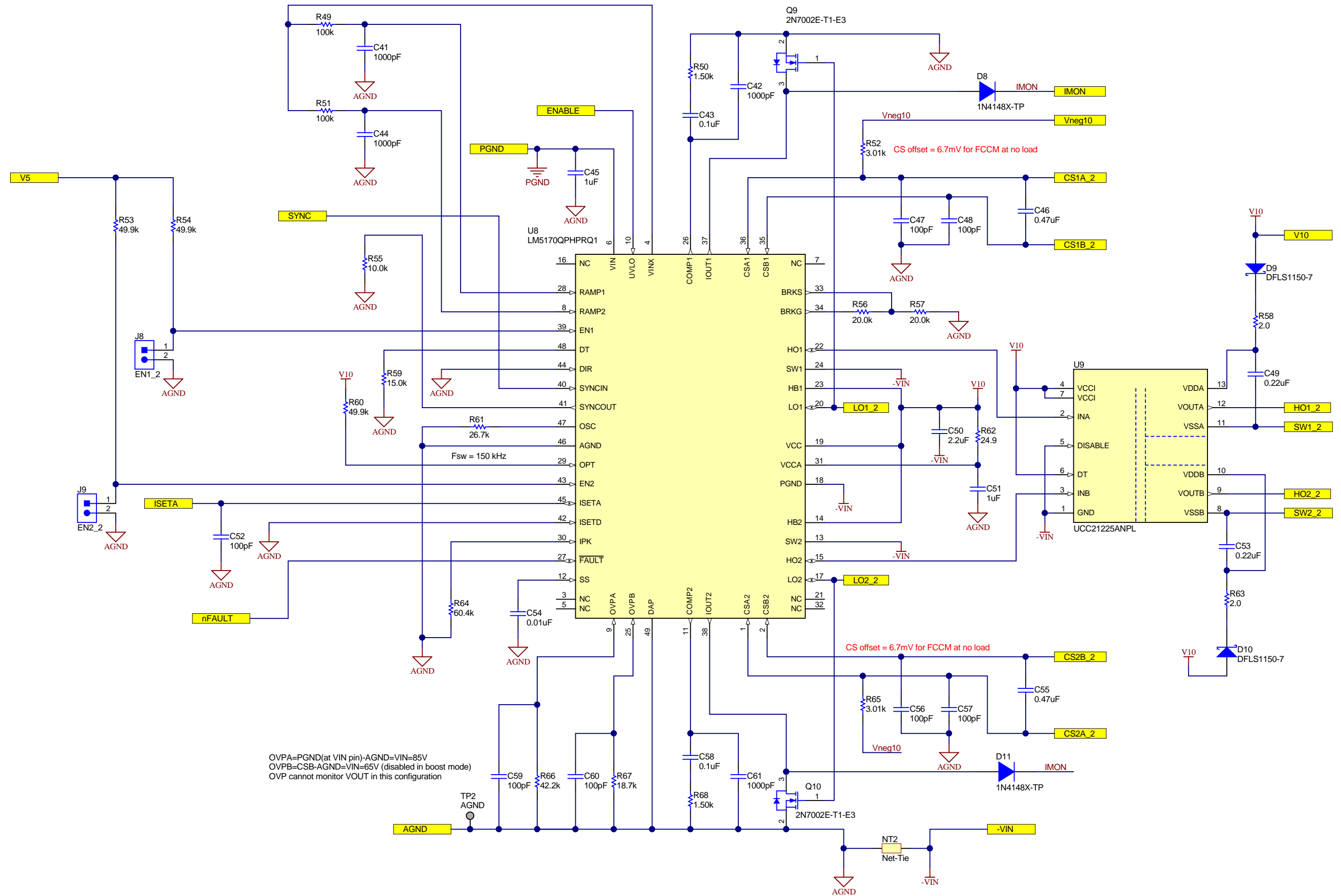


OVPA=PGND(at VIN pin)-AGND=VIN=85V  
 OVPB=CSB-AGND=VIN=65V (disabled in boost mode)  
 OVP cannot monitor VOUT in this configuration

Orderable: N/A	Designed for: Public Release	Mod. Date: 8/16/2019
TID #: PMP21943	Project Title: LM5170 Negative-to-Positive Buck-Boost	
Number: PMP21943	Rev: A	Sheet Title: Controller
SVN Rev: Not in version control	Assembly Variant: 1200W	Sheet: 3 of 7
Drawn By:	File: PMP21943A-Controller1.SchDoc	Size: B
Engineer: R. Sheehan	Contact: <a href="http://www.ti.com/support">http://www.ti.com/support</a>	

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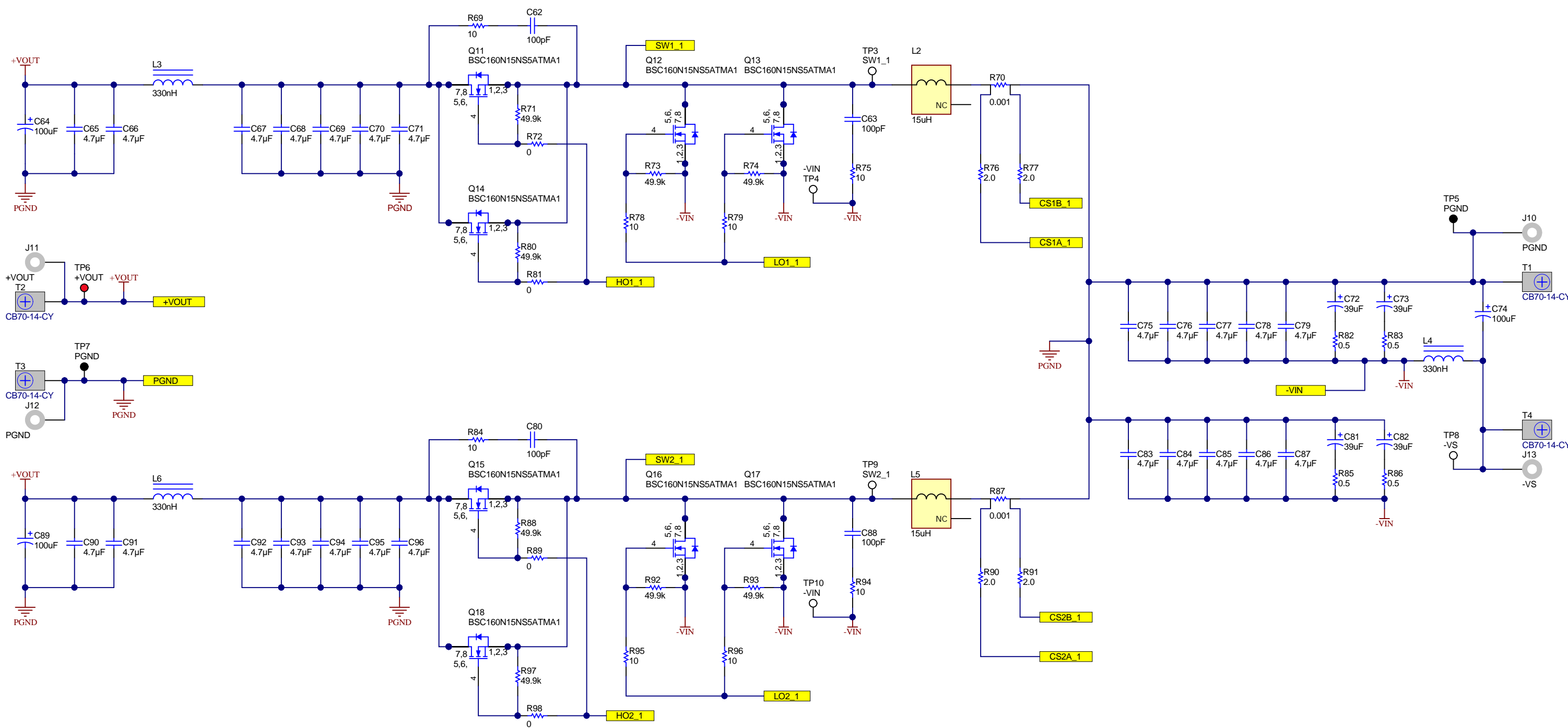


OVPA=PGND(at VIN pin)-AGND=VIN=85V  
 OVPB=CSB-AGND=VIN=65V (disabled in boost mode)  
 OVP cannot monitor VOUT in this configuration

Orderable: N/A	Designed for: Public Release	Mod. Date: 8/16/2019
TID #: PMP21943	Project Title: LM5170 Negative-to-Positive Buck-Boost	
Number: PMP21943	Rev: A	Sheet Title: Controller
SVN Rev: Not in version control	Assembly Variant: 1200W	Sheet: 4 of 7
Drawn By:	File: PMP21943A-Controller2.SchDoc	Size: B
Engineer: R. Sheehan	Contact: <a href="http://www.ti.com/support">http://www.ti.com/support</a>	

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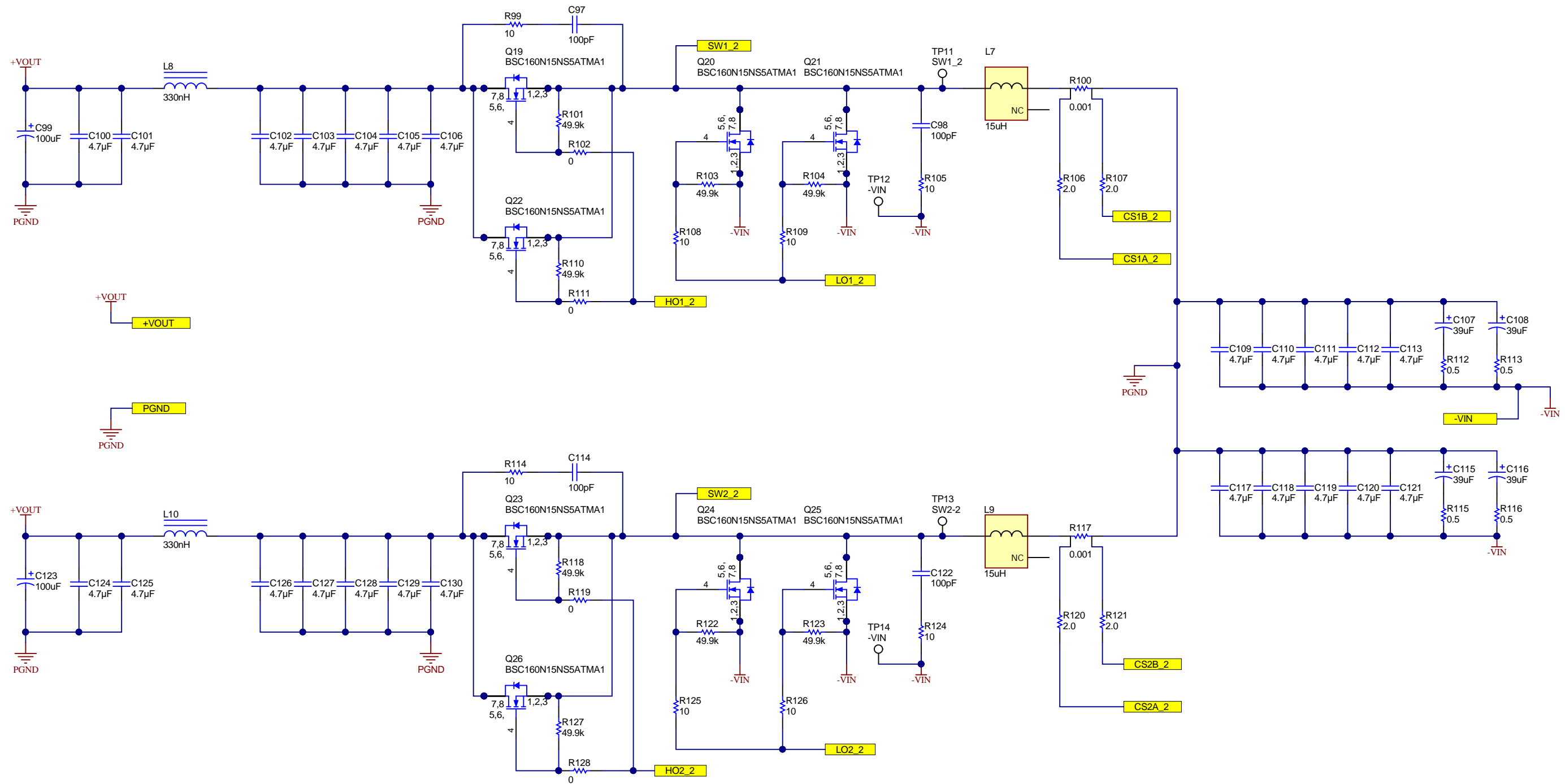




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Orderable: N/A	Designed for: Public Release	Mod. Date: 8/16/2019
TID #: PMP21943	Project Title: LM5170 Negative-to-Positive Buck-Boost	
Number: PMP21943	Rev: A	Sheet Title: Power Stage
SVN Rev: Not in version control	Assembly Variant: 1200W	Sheet: 5 of 7
Drawn By:	File: PMP21943A-Power1.SchDoc	Size: B
Engineer: R. Sheehan	Contact: <a href="http://www.ti.com/support">http://www.ti.com/support</a>	





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Orderable: N/A	Designed for: Public Release	Mod. Date: 8/16/2019
TID #: PMP21943	Project Title: LM5170 Negative-to-Positive Buck-Boost	
Number: PMP21943	Rev: A	Sheet Title: Power Stage
SVN Rev: Not in version control	Assembly Variant: 1200W	Sheet: 6 of 7
Drawn By:	File: PMP21943A-Power2.SchDoc	Size: B
Engineer: R. Sheehan	Contact: <a href="http://www.ti.com/support">http://www.ti.com/support</a>	

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 Nut  
 H6 Nut  
 H7 Nut  
 H8 Nut

FID1  
 FID2  
 FID3

PCB Number: PMP21943  
 PCB Rev: A

PCB  
 LOGO  
 FCC disclaimer



Label Table	
Variant	Label Text
1200W	LM5170 Buck-Boost - 1200W
700W	LM5170 Buck-Boost - 700W

LBL1  
 PCB Label  
 Label

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.

Orderable: N/A	Designed for: Public Release	Mod. Date: 5/6/2019
TID #: PMP21943	Project Title: LM5170 Negative-to-Positive Buck-Boost	
Number: PMP21943	Rev: A	Sheet Title: Hardware
SVN Rev: Not in version control	Assembly Variant: 1200W	Sheet: 7 of 7
Drawn By:	File: PMP21943A-HW_SchDoc	Size: B
Engineer: R. Sheehan	Contact: <a href="http://www.ti.com/support">http://www.ti.com/support</a>	

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