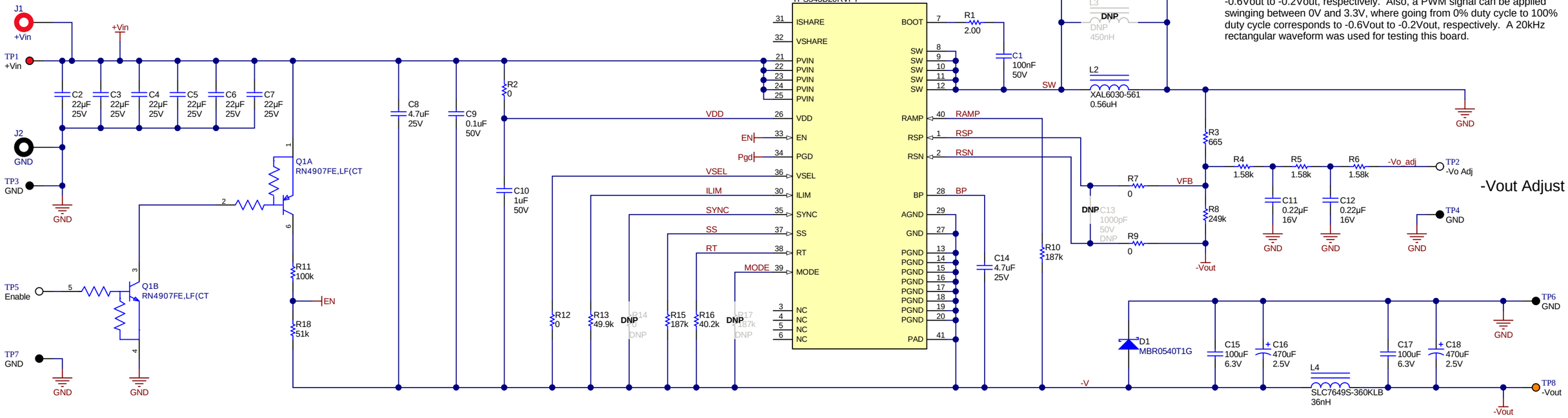
Input Voltage = 12Vin +/- 10%



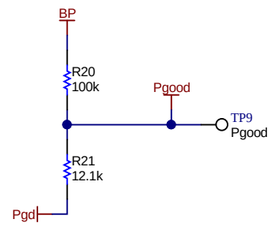
0V to 3.3V applied to the "-Vo Adj" pin, relative to GND, corresponds to -0.6Vout to -0.2Vout, respectively. Also, a PWM signal can be applied swinging between 0V and 3.3V, where going from 0% duty cycle to 100% duty cycle corresponds to -0.6Vout to -0.2Vout, respectively. A 20kHz rectangular waveform was used for testing this board.

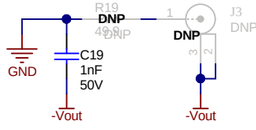
-Vout Adjust

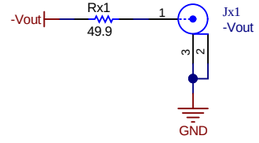
-0.2Vout to -0.6Vout @ 15A

Pgood Pullup Voltage

(Can be different than BP; Cannot be higher than 5.5V, relative to IC GND, meaning -Vout!)







*NOTES:

1. Q1 can be replaced with discrete resistors and BJTs.

2. If the Pgood function is not needed, omit R20 and R21 from the design and leave the "PGOOD" pin (Pin 3), disconnected. The values of R20 and R21 may need to be adjusted depending on the desired Pgood output voltage swing.

3. Converter is enabled by providing a signal between 1.8V and 5V to the "Enable" connector, relative to GND.

4. The polarity of connector J3 was changed, as depicted by Jx1, in order to have all signals be referenced to the 0V GND.

5. All components with an "x" suffix in their designator signify components whose connections have been modified from their original connections when the PCB was originally fabricated.

Orderable: N/A		Designed for:	Mod. Date: 2/6/2020
TID #: PMP22194		Project Title: TPS543B20 Inverting Buck-Boost Converter	
Number: PMP22194	Rev: 1B	Sheet Title:	
SVN Rev: Not in version control		Assembly Variant: 001	Sheet: 1 of 2
Drawn By:		File: PMP22194 RevB_BlankSheet.SchDoc	Size: B
Engineer: Hrag Kasparian		Contact: http://www.ti.com/support	

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H1 1
NY PMS 440 0025 PH

H2 1
NY PMS 440 0025 PH

H3 1
NY PMS 440 0025 PH

H4 1
NY PMS 440 0025 PH

H5
1902C

H6
1902C

H7
1902C

H8
1902C

PCB Number: PMP22194
PCB Rev: B

PCB
LOGO
FCC disclaimer

PCB
LOGO
WEEE logo

Variant/Label Table	
Variant	Label Text
001	

LBL1
PCB Label
THT-14-423-10
Size: 0.65" x 0.20 "

Orderable: N/A		Designed for:	Mod. Date: 12/6/2019
TID #: PMP22194		Project Title: TPS543B20 Inverting Buck-Boost Converter	
Number: PMP22194	Rev: 1B	Sheet Title:	
SVN Rev: Not in version control		Assembly Variant: 001	Sheet: 2 of 2
Drawn By:		File: PMP22194 RevB_Hardware.SchDoc	Size: B
Engineer: Hrag Kasparian		Contact: http://www.ti.com/support	

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