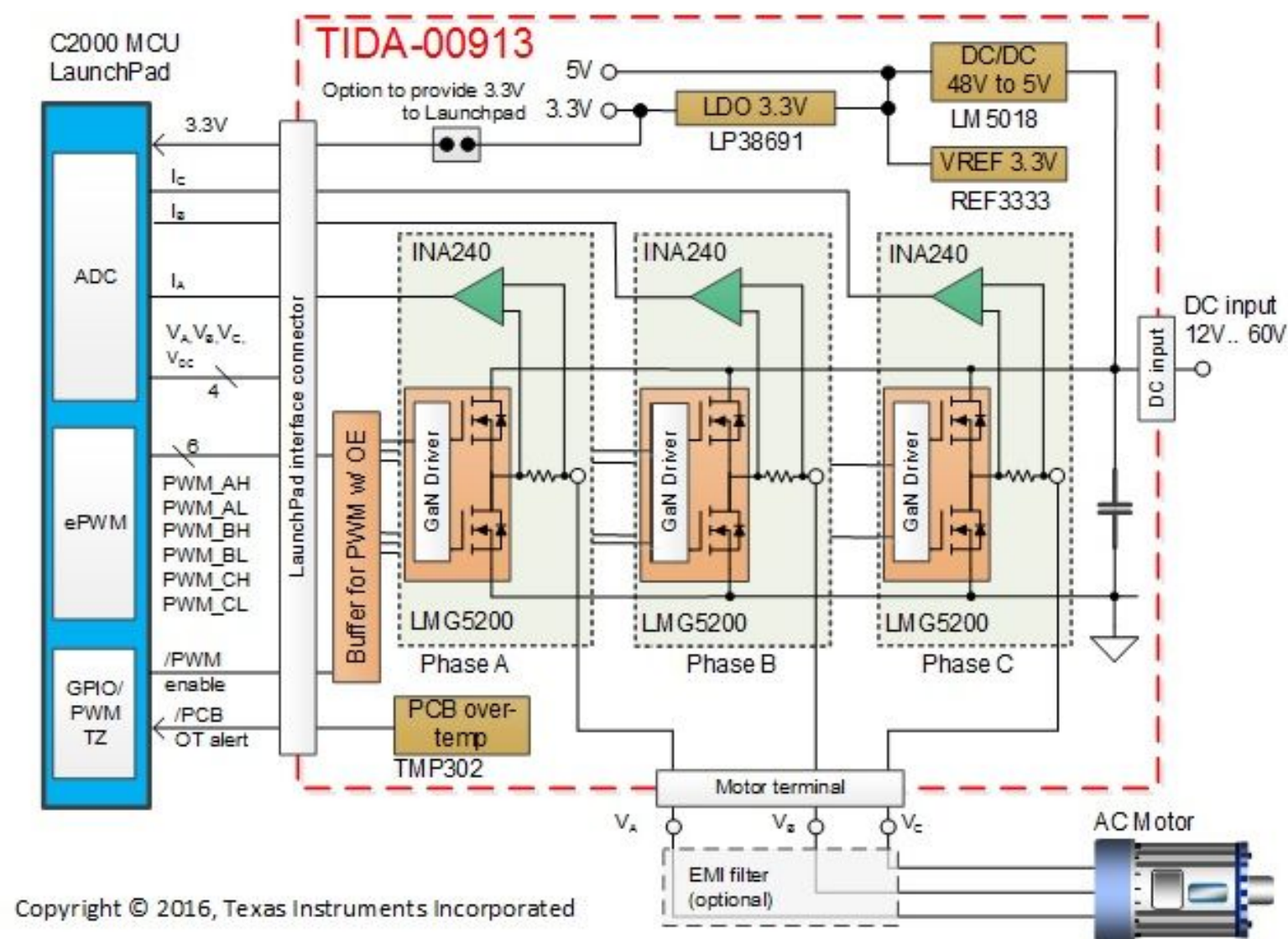


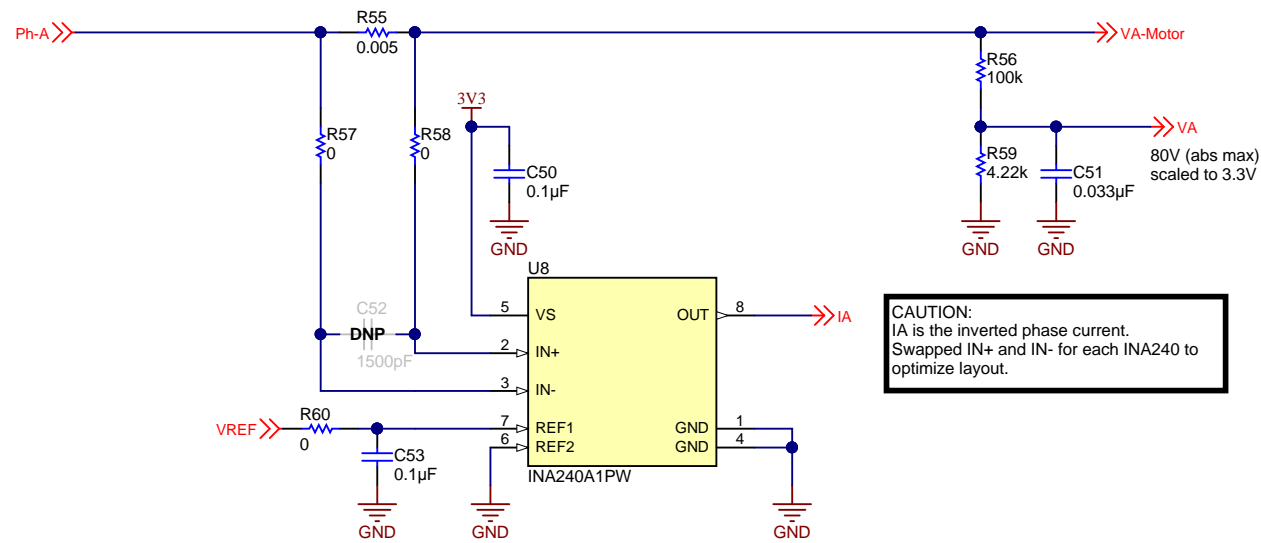
| Revision History | | | | |
|------------------|-------|---------------|-------------|-------|
| Rev | ECN # | Approved Date | Approved by | Notes |
| N/A | N/A | N/A | N/A | N/A |



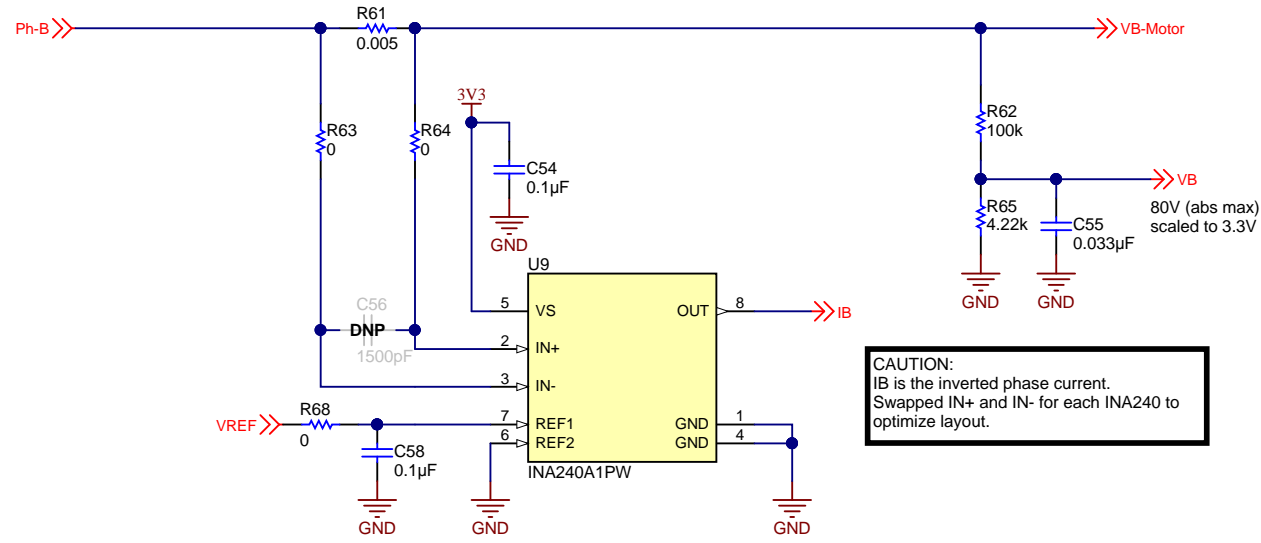
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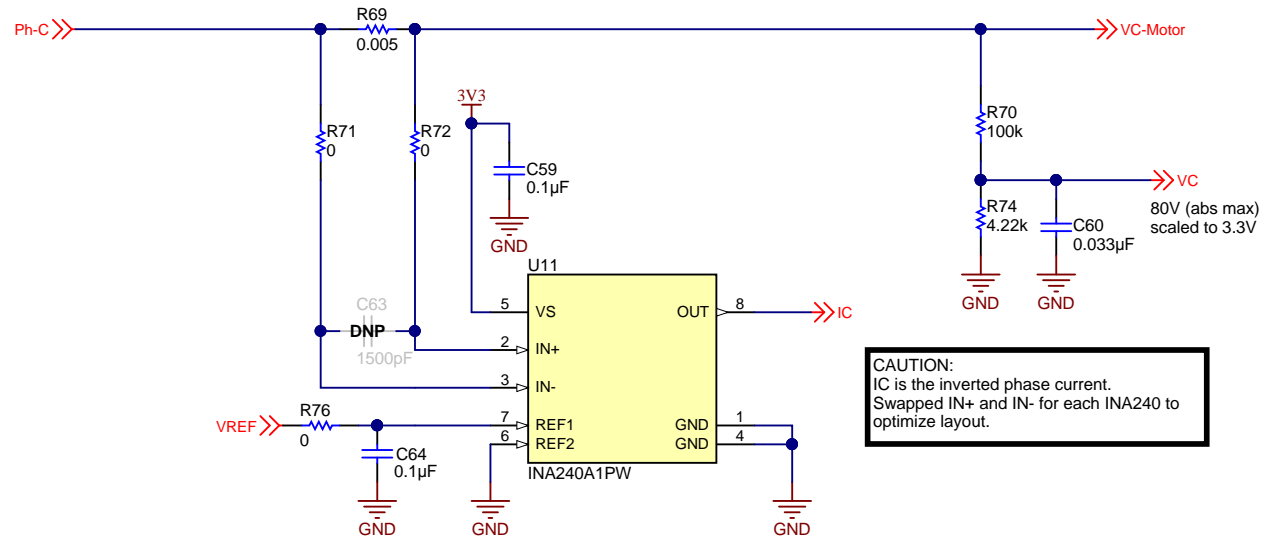
| | | | |
|-----------------------------------|--|----------------------------|---|
| Orderable: N/A | Designed for: Public Release | Mod. Date: 10/28/2016 | http://www.ti.com © Texas Instruments 2016 |
| TID #: TIDA-00913 | Project Title: TI Design | Sheet: 1 of 3 | |
| Number: TIDA-00913 | Rev: E1 | Size: B | |
| SVN Rev: Version control disabled | Assembly Variant: 001 | File: TIDA-00913_CS.SchDoc | |
| Drawn By: Engineer: Zhou/Staebler | Contact: http://www.ti.com/support | | |



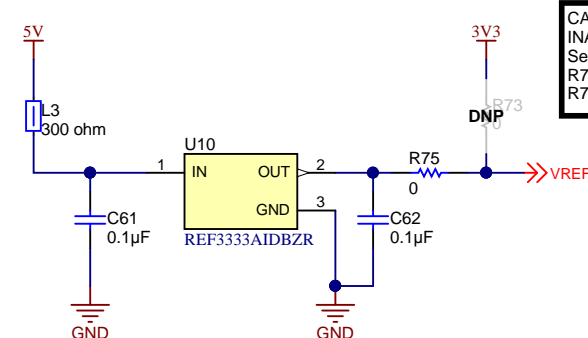
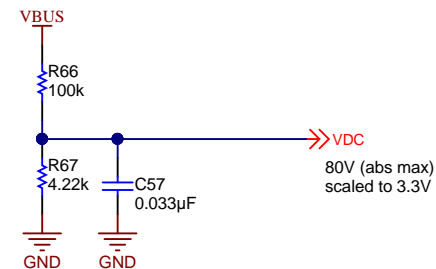
CAUTION:
IA is the inverted phase current.
Swapped IN+ and IN- for each INA240 to optimize layout.



CAUTION:
IB is the inverted phase current.
Swapped IN+ and IN- for each INA240 to optimize layout.



CAUTION:
IC is the inverted phase current.
Swapped IN+ and IN- for each INA240 to optimize layout.



CAUTION:
INA240 REF2 input selection:
Select ONE option:
R75 = VREF (default)
R73 = 3.3V (DNP)

Inputs:

| | | |
|-----------|----|---------|
| Current | 10 | Amps |
| Thickness | 2 | oz/ft^2 |

Optional Inputs:

| | | |
|---------------------|----|-------|
| Temperature Rise | 10 | Deg C |
| Ambient Temperature | 85 | Deg C |
| Trace Length | 1 | inch |

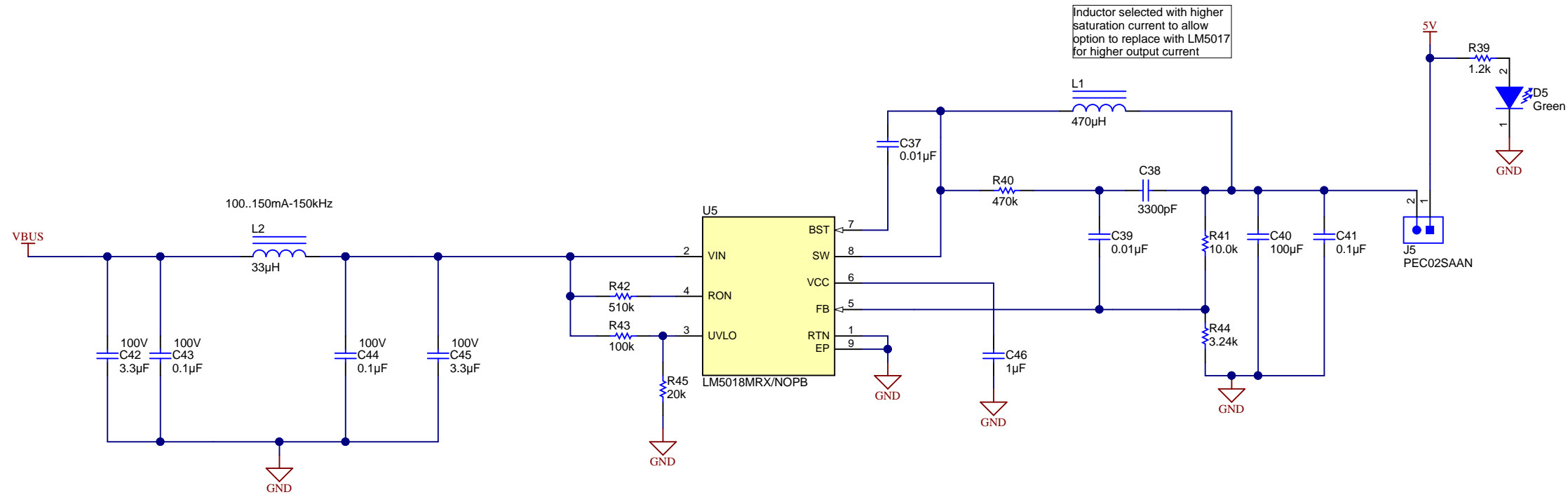
Results for Internal Layers:

| | | |
|----------------------|----------|-------|
| Required Trace Width | 368 | mil |
| Resistance | 0.000839 | Ohms |
| Voltage Drop | 0.00839 | Volts |
| Power Loss | 0.0839 | Watts |

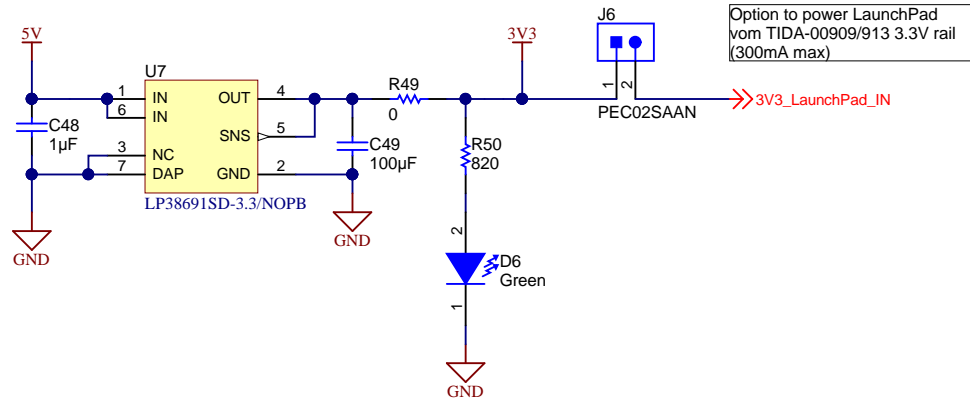
Results for External Layers in Air:

| | | |
|----------------------|---------|-------|
| Required Trace Width | 142 | mil |
| Resistance | 0.00218 | Ohms |
| Voltage Drop | 0.0218 | Volts |
| Power Loss | 0.218 | Watts |

H1
MECH
691352510002



Inductor selected with higher saturation current to allow option to replace with LM5017 for higher output current

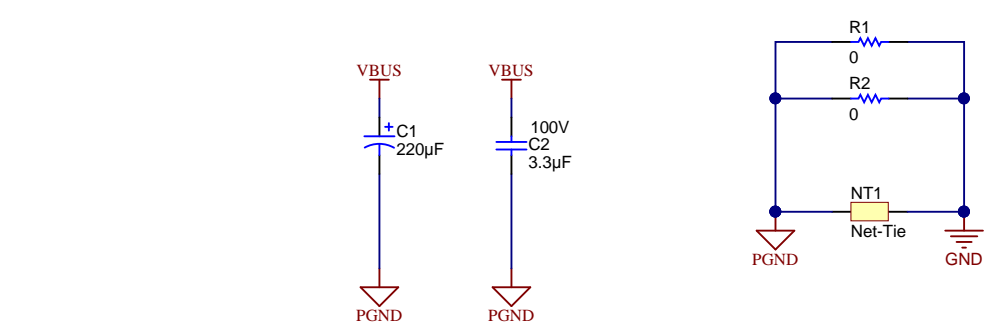


Option to power LaunchPad vom TIDA-00909/913 3.3V rail (300mA max)

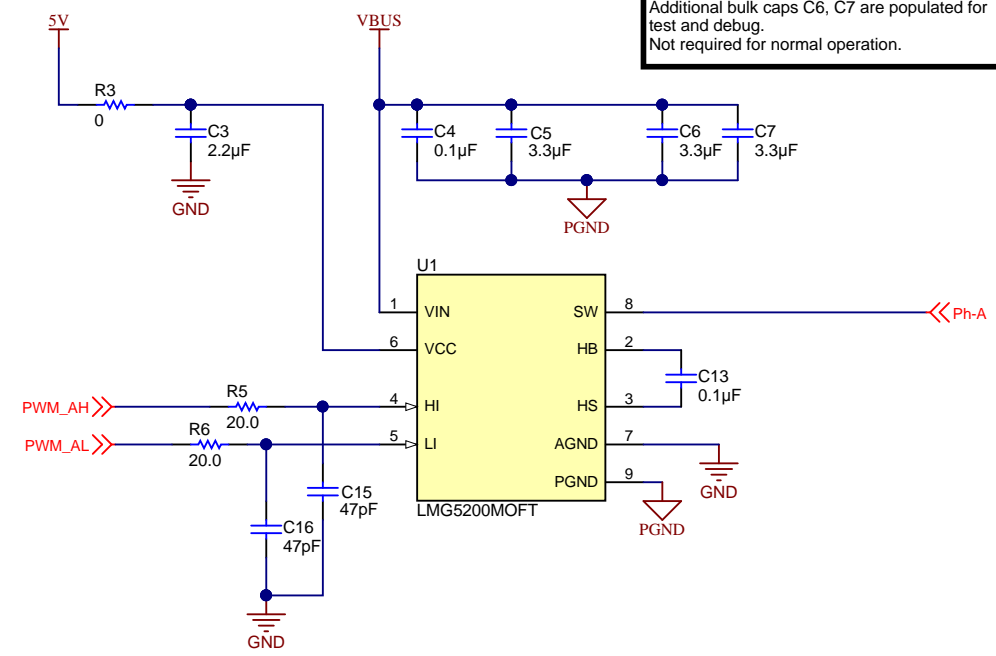
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| Number: TIDA-00913 | Rev: E1 | Sheet Title: |
| SVN Rev: Version control disabled | Assembly Variant: 001 | Sheet: 2 of 3 |
| Drawn By: | File: TIDA-00913_PS_SchDoc | Size: B |
| Engineer: Zhou/Staebler | Contact: http://www.ti.com/support | |

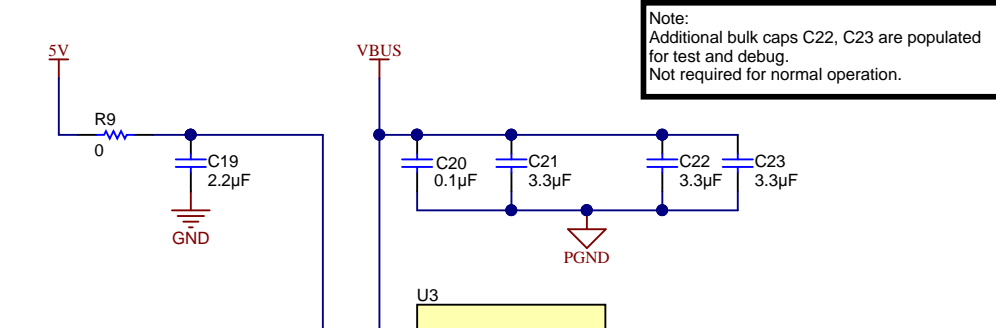
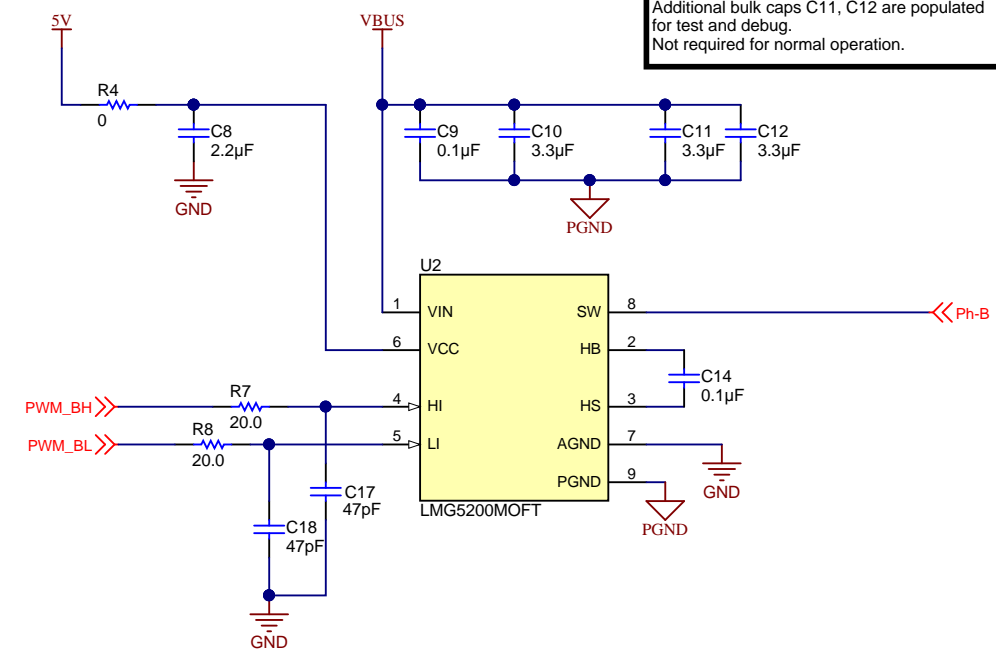




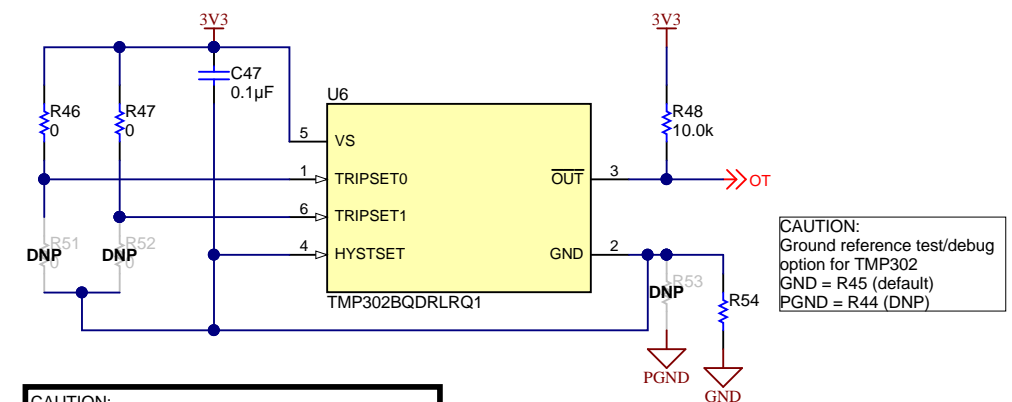
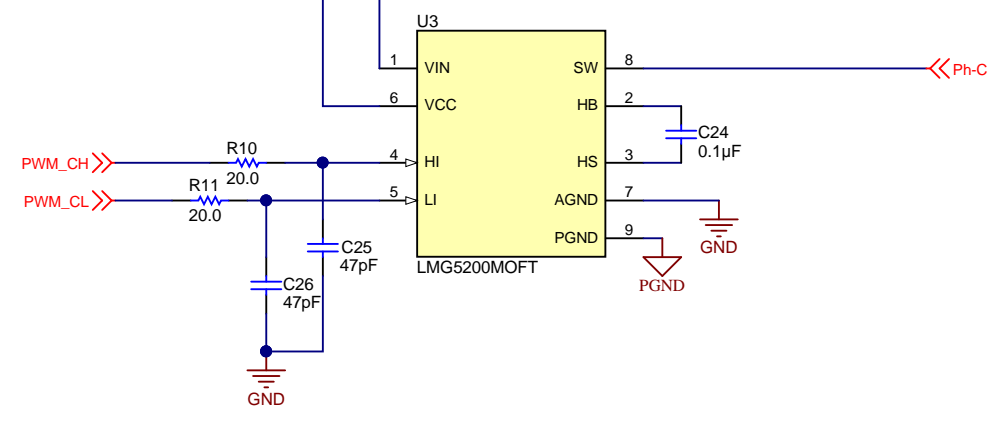
Note:
Additional bulk caps C6, C7 are populated for test and debug.
Not required for normal operation.



Note:
Additional bulk caps C11, C12 are populated for test and debug.
Not required for normal operation.



Note:
Additional bulk caps C22, C23 are populated for test and debug.
Not required for normal operation.



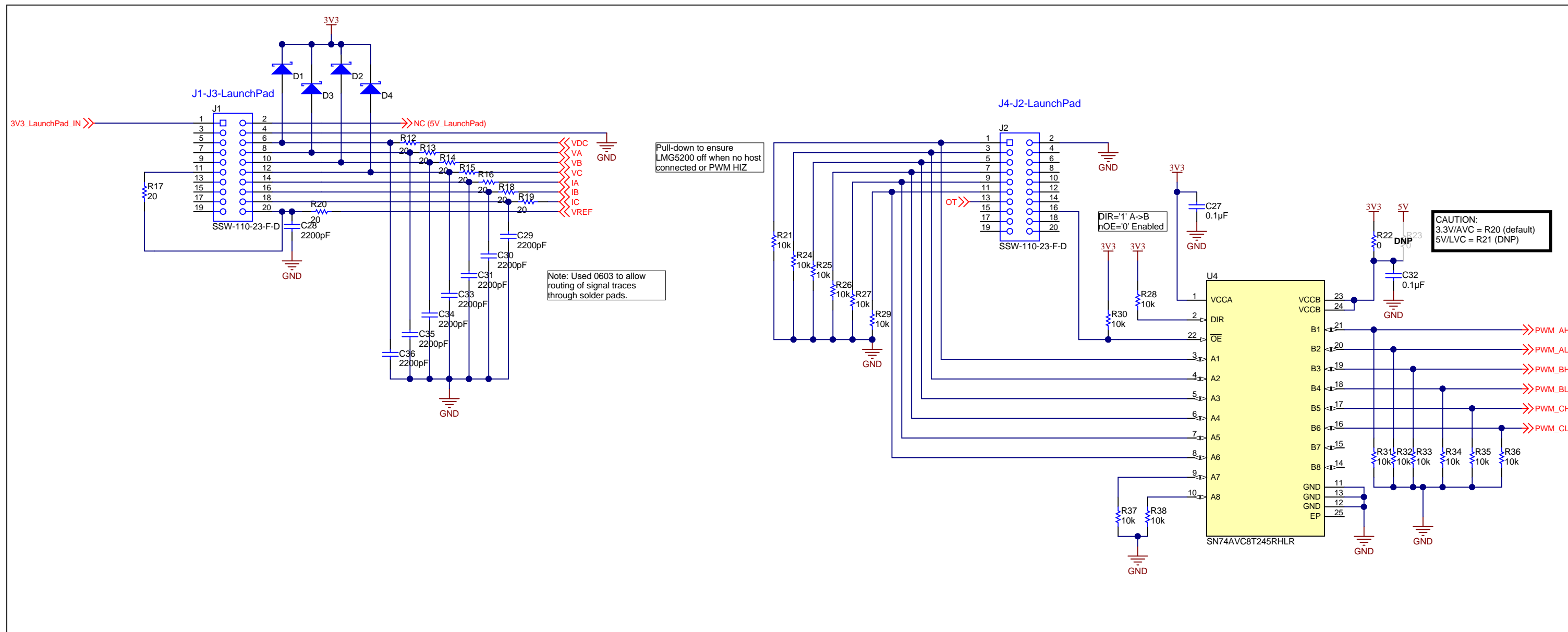
CAUTION:
OT threshold set through resistors R46 or R51, and R47 or R52 settings, see table below.
Do not connect both at the same time!
Default: Max 85C -> R51/R52 (DNP)
Hysteresis set to 5C

Table 1. Trip Point versus TRIPSET1 and TRIPSET0

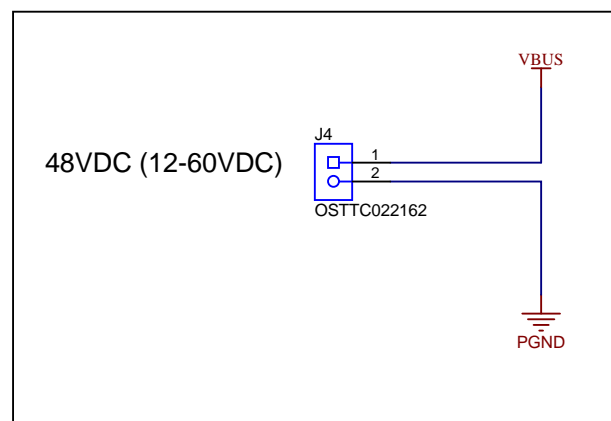
| TRIPSET1 | TRIPSET0 | TMP302A | TMP302B | TMP302C | TMP302D |
|----------------|----------------|---------|---------|---------|---------|
| GND | GND | 50°C | 70°C | 90°C | 110°C |
| GND | V _B | 55°C | 75°C | 95°C | 115°C |
| V _A | GND | 60°C | 80°C | 100°C | 120°C |
| V _A | V _B | 65°C | 85°C | 105°C | 125°C |

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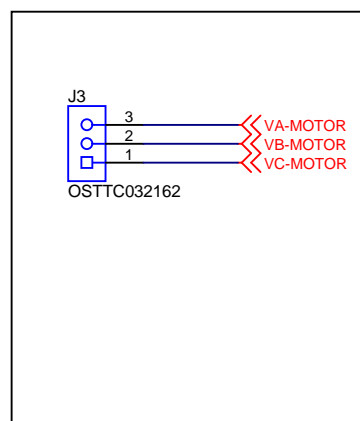
LaunchPad Interface



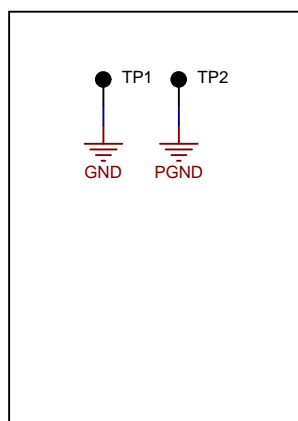
VIN Connector



Motor Connector



Test Points



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| SVN Rev: Version control disabled | Assembly Variant: 001 | Sheet: 3 of 3 |
| Drawn By: | File: TIDA-00913_Interface.SchDoc | Size: B |
| Engineer: Zhou/Staebler | Contact: http://www.ti.com/support | |



LOGO1

PCB LOGO
Pb-Free Symbol

PCB LOGO
FCC disclaimer



LOGO5

| Variant/Label Table | |
|---------------------|------------|
| Variant | Label Text |
| 001 | ChangeMe! |
| 002 | ChangeMe! |
| | |
| | |
| | |
| | |

LBL1
PCB Label
Size: 0.65" x 0.20"

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.

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