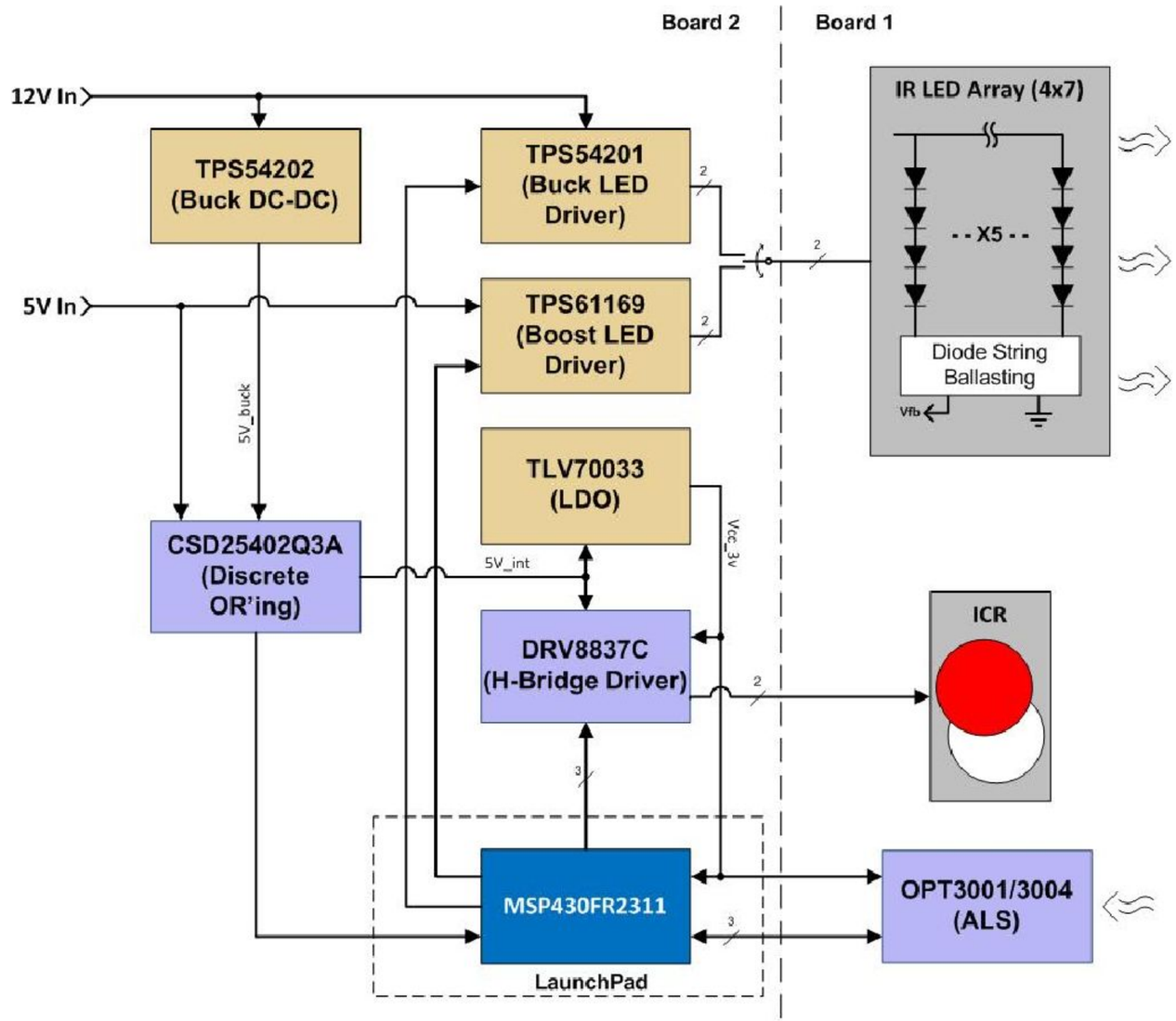
Revision History				
Rev	ECN #	Approved Date	Approved by	Notes
E1	N/A	12/20/17	David Stout	Initial Release



Orderable: Default Build	Designed for: Public Release	Mod. Date: 12/22/2017
TID #: TIDA-01586 Board 2	Project Title: IR LED Illumination and ICR Control	
Number: TIDA-01586 Rev: E1	Sheet Title: Cover Sheet	
SVN Rev: Version control disabled	Assembly Variant: 001	Sheet: 1 of 4
Drawn By: David Stout	File: TIDA-01586_Board2_CoverSheet.SchDoc	Size: B
Engineer: David Stout	Contact: http://www.ti.com/support	

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NOTE: Apply Either 12V or 5V, NOT Both!!

12V to 5V Conversion

12V +/-10%

5V +/-10%

TP1 VIN_12V

J3 TSW-102-07-G-S

Q1 SI2343CDS-T1-GE3

J4 ED555/2DS

C4 100uF 25V

C3 1uF 25V 0805

R5 2.87k 1%

D1 LS L29K-G1J2-1-Z Red

TP4

TP6

C6 10uF 25V 0603

C7 0.1uF 50V

R4 154k 1%

R6 19.6k 1%

TP3

U1 TPS54202DDCR

VIN BOOT SW EN FB GND

vin_12v5v

C1 0.1uF

R1 0

L1 22uH

sw_12v5v

fb_12v5v

R2 100k 1%

R3 0

C2 100pF

R7 13.3k 1%

C5 47uF 10V 1206

TP2

TP5

GND

D2 LB Q39G-L2N2-35-1 Blue

C9 100uF 10V

C8 1uF 25V 0805

R10 590 1%

5V OR'ing

VIN_12V R8 47k R9 47k VIN_5V

Q2 CSD25402Q3A

Q3 CSD25402Q3A

R12 0 R13 0 R11 0

5v_buck

J5 ED555/2DS

Q4 SI2343CDS-T1-GE3

vin_5vor

J6 TSW-102-07-G-S

VCC_3V

TP8 VIN_5V

R14 10.0k

R15 0

TP7

DRV_5V

N12V_PRES

5V to 3.3V Regulation

TP9

U2 TLV70033DCKR

IN OUT EN NC GND

ldo_3v

R16 0

VCC_3V

TP10

J7 TSW-102-07-G-S

VIN_12V

Q5 CSD17585F5T

R17 0

R18 47k

C11 1uF

C10 1uF

R19 487 1%

TP11

D3 LP L296-J2L2-25 Green

GND

Orderable: Default Build	Designed for: Public Release	Mod. Date: 2/1/2018
TID #: TIDA-01586 Board 2	Project Title: IR LED Illumination and ICR Control	
Number: TIDA-01586 Rev: E1	Sheet Title: Power Supply Section	
SVN Rev: Version control disabled	Assembly Variant: 001	Sheet: 2 of 4
Drawn By: David Stout	File: TIDA-01586_Board2_Power.SchDoc	Size: B
Engineer: David Stout	Contact: http://www.ti.com/support	

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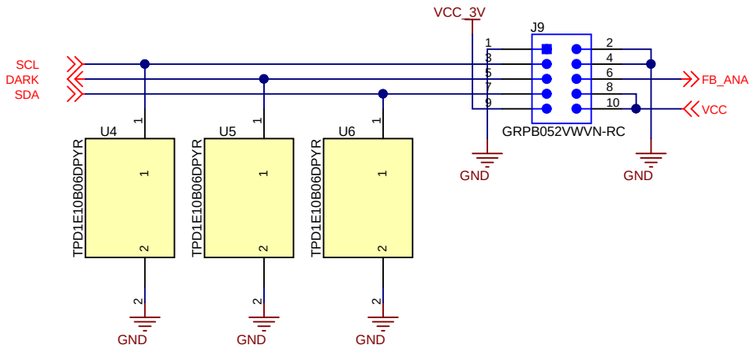
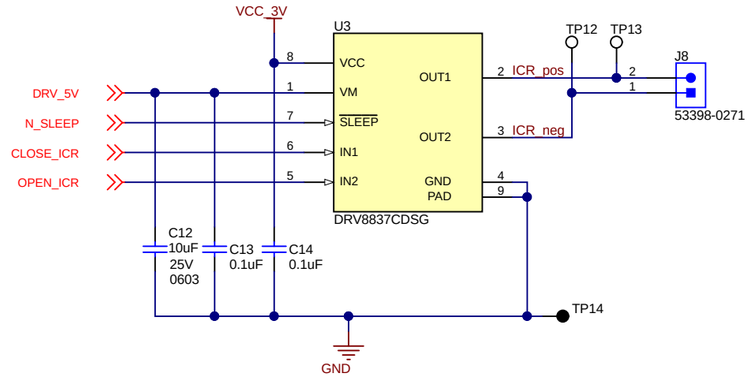
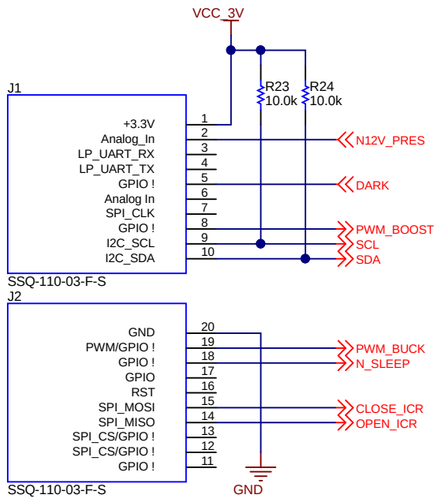
Board-to-Board Interface



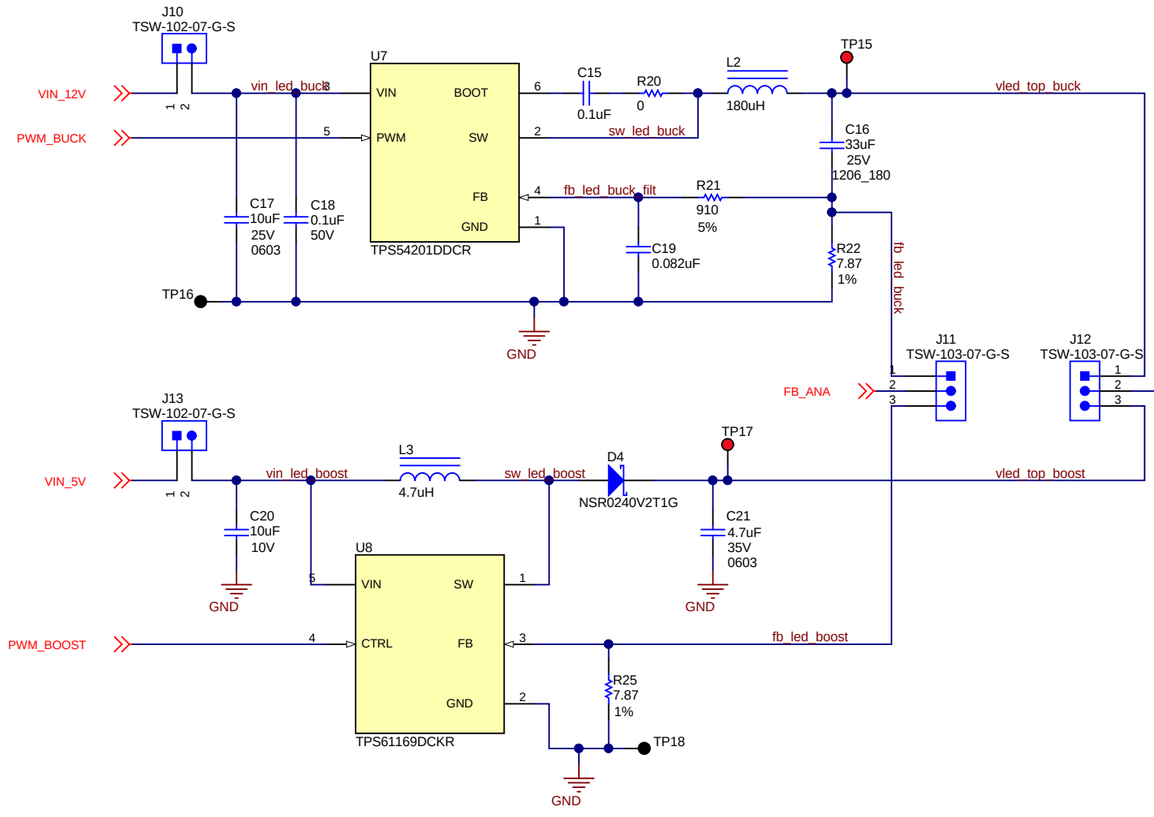
ICR Solenoid Driver



LaunchPad MCU Interface



IR LED Array Drivers



Orderable: Default Build	Designed for: Public Release	Mod. Date: 2/2/2018
TID #: TIDA-01586 Board 2	Project Title: IR LED Illumination and ICR Control	
Number: TIDA-01586 Rev: E1	Sheet Title: LED and Motor Drivers / MCU Interface	
SVN Rev: Version control disabled	Assembly Variant: 001	Sheet: 3 of 4
Drawn By: David Stout	File: TIDA-01586_Board2_MCU_Drivers.SchDoc	Size: B
Engineer: David Stout	Contact: http://www.ti.com/support	

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DNP FID1 DNP FID2 DNP FID3 DNP FID4 DNP FID5 DNP FID6

PCB Number: TIDA-01586
PCB Rev: E1

PCB LOGO
Texas Instruments

PCB LOGO
Pb-Free Symbol

PCB LOGO
FCC disclaimer

SH-J3 SH-J6 SH-J7 SH-J10 SH-J13

SH-J11

Jumper to be mounted between pins 1 and 2 on J11

SH-J12

Jumper to be mounted between pins 1 and 2 on J12

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: Default Build	Designed for: Public Release	Mod. Date: 2/1/2018
TID #: TIDA-01586 Board 2	Project Title: IR LED Illumination and ICR Control	
Number: TIDA-01586 Rev: E1	Sheet Title: Hardware	
SVN Rev: Version control disabled	Assembly Variant: 001	Sheet: 4 of 4
Drawn By: David Stout	File: TIDA-01586_Board2_Hardware.SchDoc	Size: B
Engineer: David Stout	Contact: http://www.ti.com/support	

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