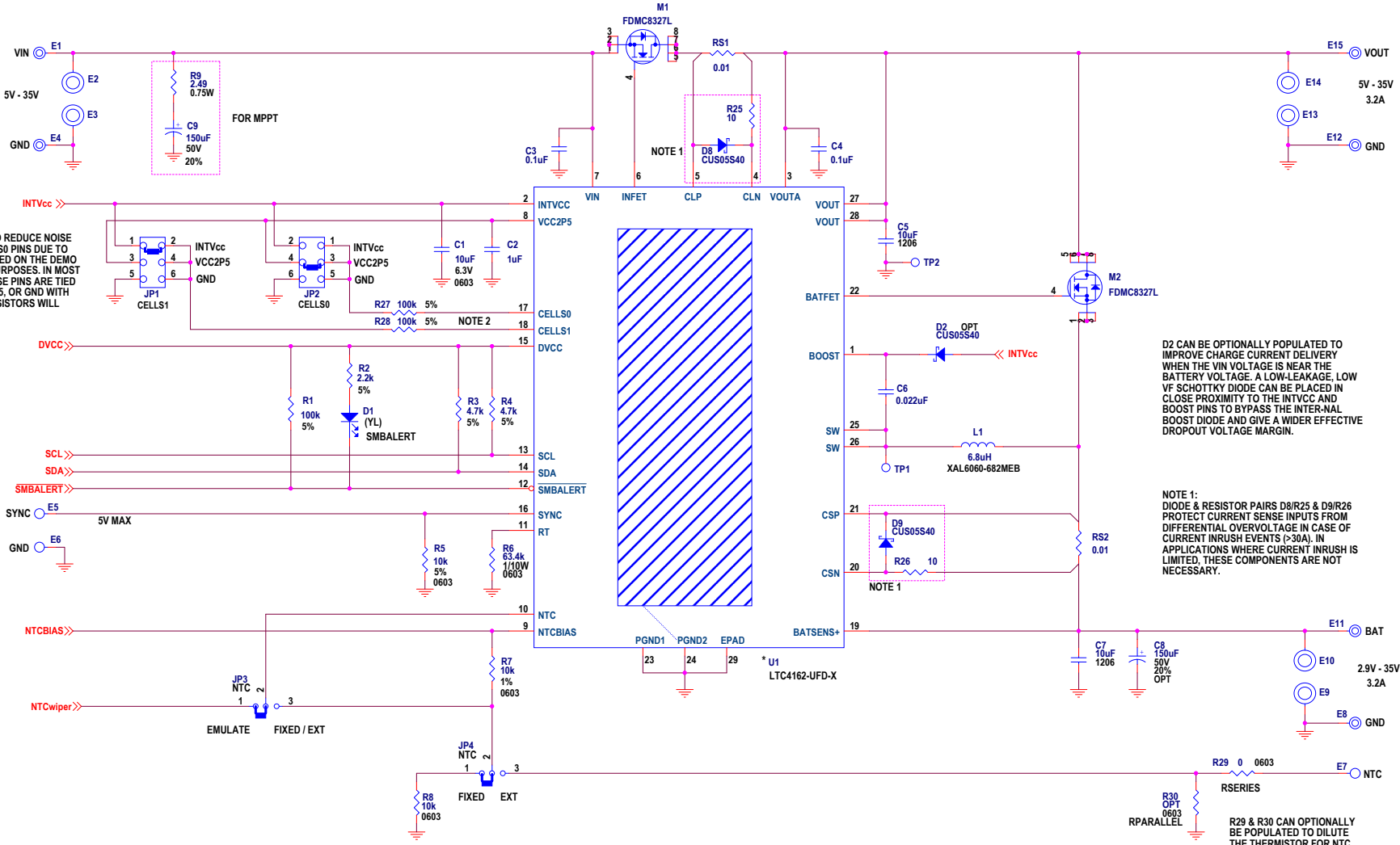


REVISION HISTORY				
ECO	REV	DESCRIPTION	APPROVED	DATE
-	11	PRODUCTION FAB	ZP	10-9-18



NOTE 2:
R27 & R28 ARE REQUIRED TO REDUCE NOISE INTO THE CELLS1 AND CELLS0 PINS DUE TO THE LONG RETURN PATH USED ON THE DEMO BOARD FOR EVALUATION PURPOSES. IN MOST APPLICATIONS, WHERE THESE PINS ARE TIED DIRECTLY TO INTVCC, VCC2P5, OR GND WITH SHORT ROUTING, THESE RESISTORS WILL NOT BE NECESSARY.

D2 CAN BE OPTIONALLY POPULATED TO IMPROVE CHARGE CURRENT DELIVERY WHEN THE VIN VOLTAGE IS NEAR THE BATTERY VOLTAGE. A LOW-LEAKAGE, LOW VF SCHOTTKY DIODE CAN BE PLACED IN CLOSE PROXIMITY TO THE INTVCC AND BOOST PINS TO BYPASS THE INTER-NAL BOOST DIODE AND GIVE A WIDER EFFECTIVE DROPOUT VOLTAGE MARGIN.

NOTE 1:
DIODE & RESISTOR PAIRS D8/R25 & D9/R26 PROTECT CURRENT SENSE INPUTS FROM DIFFERENTIAL OVERVOLTAGE IN CASE OF CURRENT INRUSH EVENTS (>30A). IN APPLICATIONS WHERE CURRENT INRUSH IS LIMITED, THESE COMPONENTS ARE NOT NECESSARY.

R29 & R30 CAN OPTIONALLY BE POPULATED TO DILUTE THE THERMISTOR FOR NTC MODELS WITH A BETA VALUE NOT EQUAL TO 3490K.

NOTES: UNLESS OTHERWISE SPECIFIED
1. RESISTORS: OHMS, 0402, 1%, 1/16W
2. CAPACITORS: 0402, 10%, 50V

* = DEFAULT

Li-Ion	LiFePO4	LEAD-ACID	CELLS1 PIN VOLTAGE	CELLS0 PIN VOLTAGE
# OF CELLS	# OF CELLS	# OF CELLS	VOLTAGE	VOLTAGE
1	1	3	6V	INTVcc
2*	2*	6*	12V*	INTVcc*
3	3	9	18V	INTVcc
4	4	12	24V	VCC2P5
5	5	DISALLOWED	-	VCC2P5
6	6	DISALLOWED	-	VCC2P5
7	7	DISALLOWED	-	GND
8	8	DISALLOWED	-	GND
DISALLOWED	9	DISALLOWED	-	GND

* DEMO SKU# / U1 IC TABLE

		MPPT OFF BY DEFAULT		MPPT ON BY DEFAULT	
		SKU #	U1 USED	SKU #	U1 USED
LI-ION	ADJUSTABLE	DC2038A-A	LTC4162EUF-D-LAD	DC2038A-J	LTC4162EUF-D-LADM
	4.0V FIXED	DC2038A-B	LTC4162EUF-D-L40	DC2038A-K	LTC4162EUF-D-L40M
	4.1V FIXED	DC2038A-C	LTC4162EUF-D-L41	DC2038A-L	LTC4162EUF-D-L41M
	4.2V FIXED	DC2038A-D	LTC4162EUF-D-L42	DC2038A-M	LTC4162EUF-D-L42M
LIFEPO4	ADJUSTABLE	DC2038A-E	LTC4162EUF-D-FAD	DC2038A-N	LTC4162EUF-D-FADM
	3.6V FIXED	DC2038A-F	LTC4162EUF-D-FST	DC2038A-O	LTC4162EUF-D-FSTM
	3.8V FIXED	DC2038A-G	LTC4162EUF-D-FFS	DC2038A-P	LTC4162EUF-D-FFSM
LEAD ACID	ADJUSTABLE	DC2038A-H	LTC4162EUF-D-SAD	DC2038A-Q	LTC4162EUF-D-SADM
	FIXED	DC2038A-I	LTC4162EUF-D-SST	DC2038A-R	LTC4162EUF-D-SSTM

PCA ADDITIONAL PARTS

MH1	STANDOFF,NYLON,SNAP-ON,0.50"
MH2	STANDOFF,NYLON,SNAP-ON,0.50"
MH3	STANDOFF,NYLON,SNAP-ON,0.50"
MH4	STANDOFF,NYLON,SNAP-ON,0.50"
LB1	LABEL
PCB1	PCB, DC2038A REV11
STNCL1	TOOL, STENCIL, 700-DC2038A REV11

CUSTOMER NOTICE
LINEAR TECHNOLOGY HAS MADE A BEST EFFORT TO DESIGN A CIRCUIT THAT MEETS CUSTOMER-SUPPLIED SPECIFICATIONS; HOWEVER, IT REMAINS THE CUSTOMER'S RESPONSIBILITY TO VERIFY PROPER AND RELIABLE OPERATION IN THE ACTUAL APPLICATION. COMPONENT SUBSTITUTION AND PRINTED CIRCUIT BOARD LAYOUT MAY SIGNIFICANTLY AFFECT CIRCUIT PERFORMANCE OR RELIABILITY. CONTACT LINEAR TECHNOLOGY APPLICATIONS ENGINEERING FOR ASSISTANCE.

THIS CIRCUIT IS PROPRIETARY TO LINEAR TECHNOLOGY AND SUPPLIED FOR USE WITH LINEAR TECHNOLOGY PARTS.

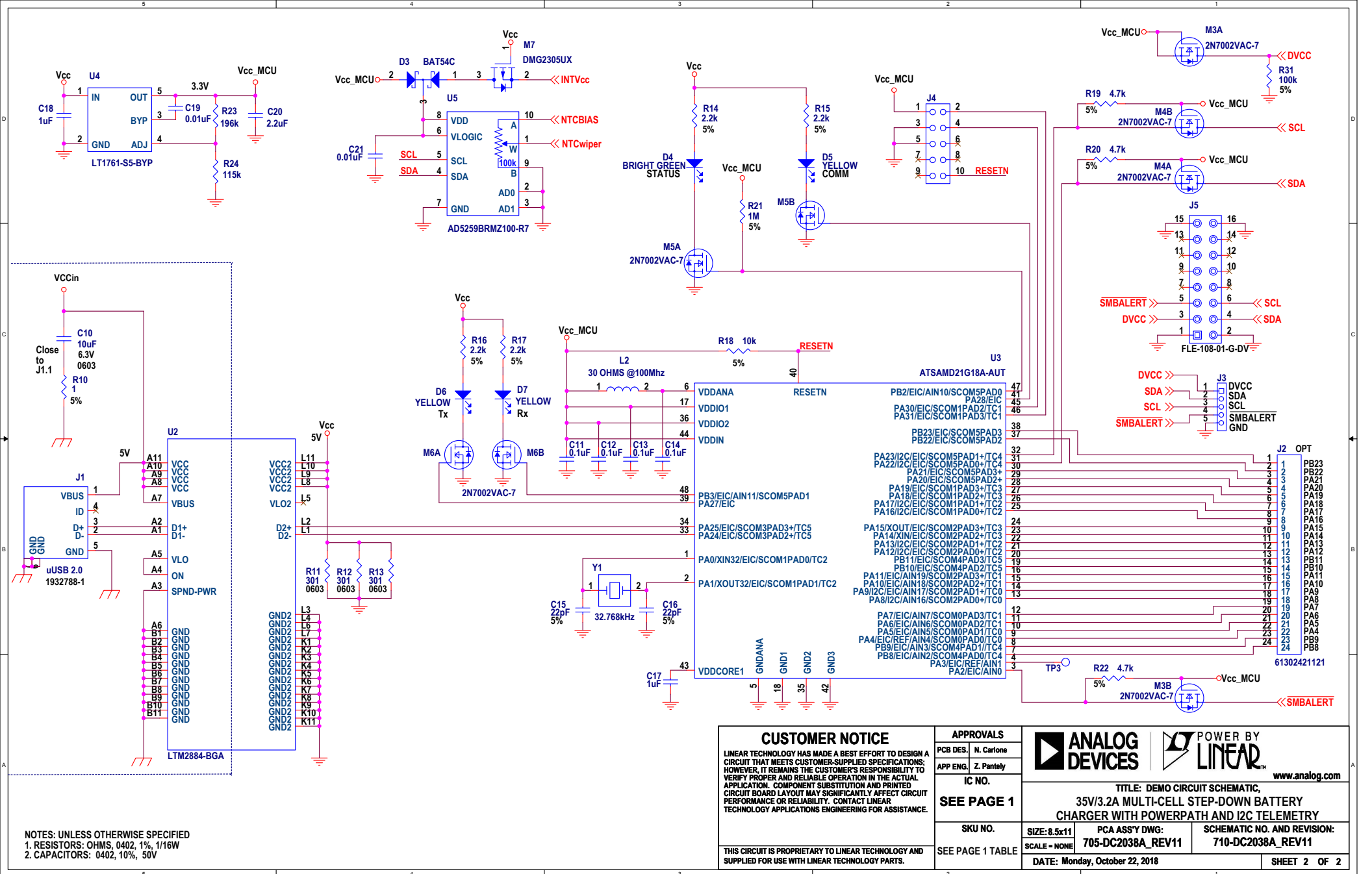
APPROVALS	
PCB DES.	N. Carlson
APP ENG.	Z. Pantley
IC NO.	
LTC4162	
SKU NO.	
* SEE TABLE	

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TITLE: DEMO CIRCUIT SCHEMATIC,
35V/3.2A MULTI-CELL STEP-DOWN BATTERY
CHARGER WITH POWERPATH AND I2C TELEMETRY

SCALE: NONE | PCA ASSY DWG: 705-DC2038A_REV11 | SCHEMATIC NO. AND REVISION: 710-DC2038A_REV11

DATE: Monday, October 22, 2018 | SHEET 1 OF 2



NOTES: UNLESS OTHERWISE SPECIFIED
 1. RESISTORS: OHMS, 0402, 1%, 1/16W
 2. CAPACITORS: 0402, 10%, 50V

CUSTOMER NOTICE
 LINEAR TECHNOLOGY HAS MADE A BEST EFFORT TO DESIGN A CIRCUIT THAT MEETS CUSTOMER-SUPPLIED SPECIFICATIONS; HOWEVER, IT REMAINS THE CUSTOMER'S RESPONSIBILITY TO VERIFY PROPER AND RELIABLE OPERATION IN THE ACTUAL APPLICATION. COMPONENT SUBSTITUTION AND PRINTED CIRCUIT BOARD LAYOUT MAY SIGNIFICANTLY AFFECT CIRCUIT PERFORMANCE OR RELIABILITY. CONTACT LINEAR TECHNOLOGY APPLICATIONS ENGINEERING FOR ASSISTANCE.

THIS CIRCUIT IS PROPRIETARY TO LINEAR TECHNOLOGY AND SUPPLIED FOR USE WITH LINEAR TECHNOLOGY PARTS.

APPROVALS
 PCB DES: N. Carone
 APP ENG: Z. Pantely

IC NO.
SEE PAGE 1

SKU NO.
 SEE PAGE 1 TABLE

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www.analog.com

**TITLE: DEMO CIRCUIT SCHEMATIC,
 35V/3.2A MULTI-CELL STEP-DOWN BATTERY
 CHARGER WITH POWERPATH AND I2C TELEMETRY**

SCALE: 8.5x11	PCA ASSY DWG: 705-DC2038A_REV11	SCHEMATIC NO. AND REVISION: 710-DC2038A_REV11
DATE: Monday, October 22, 2018	SHEET 2 OF 2	