Engineering Bill of Materials

Project Name:	**UCD3138FBLLC-TIDA-00381**
Project File:	**PWR559E2.PrjPcb**
Base ID:	**<Parameter PRJ_BasePN not found>**
PCB CopperRev:	**<Parameter PCB_CopperRev not found>**
PCB SilkRev:	**<Parameter PCB_SilkRev not found>**
Assembly Variant:	**001**
Schematic Rev:	**E2**
Build Quantity:	**1**
Generated:	**2014/3/19 16:54:42**

Date opened: 2/13/2015
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Item	Designator	Description	Value	Manufacturer	PartNumber	Quantity	Footprint
1	!PCB	Printed Circuit Board		Any	PWR559	1	
2	C1, C2, C4, C5, C6, C8, C11, C12, C21, C22, C23, C24, C25, C26, C29, C35, C45, C47, C53	CAP, CERM, 0.1uF, 16V, +/-10%, X7R, 0603	0.1uF	Kemet	C0603C104K4RACTU	19	0603
3	C27, C32, C72, C73	RES, 0 ohm, 1%, 0.1W, 0603	0 ohm (replace with a resistor)	Vishay-Dale	CRCW06030000Z0EA	4	0603
4	C3, C44, C46	CAP, CERM, 2.2uF, 16V, +/-10%, X5R, 0603	2.2uF	MuRata	GRM188R61C225KE15D	3	0603
5	C7, C75	CAP, CERM, 1uF, 16V, +/-10%, X7R, 0603	1uF	TDK	C1608X7R1C105K	2	0603
6	C9, C10, C14, C18, C19, C51, C52	CAP, CERM, 0.01uF, 16V, +/-10%, X7R, 0603	0.01uF	MuRata	GRM188R71C103KA01D	7	0603
7	C13, C15	CAP, CERM, 220pF, 50V, +/-10%, X7R, 0603	220pF	Kemet	C0603C221K5RACTU	2	0603
8	C16, C17, C20, C48	CAP, CERM, 2200pF, 50V, +/-10%, X7R, 0603	2200pF	Kemet	C0603C222K5RAC	4	0603
9	C28, C67, C69	CAP, CERM, 100pF, 50V, +/-5%, C0G/NP0, 0603	100pF	MuRata	GRM1885C1H101JA01D	3	0603
10	C30	CAP, AL, 47uF, 450V, +/-20%, TH	47uF	Nichicon	LGU2W470MELY	1	PPRD1000W150D2000H2500
11	C31	CAP, Film, 1.5uF, 450V, +/-10%, TH	1.5uF	Panasonic	ECQ-E2W155KH	1	ECQE_2570x820x1720
12	C33, C65, C66, C68, C70, C71	CAP, CERM, 1uF, 16V, +/-10%, X5R, 0805	1uF	AVX	0805YD105KAT2A	6	0805_HV
13	C34	CAP, CERM, 100pF, 100V, +/-5%, C0G/NP0, 0805	100pF	AVX	08051A101JAT2A	1	0805_HV
14	C36, C37, C38, C40, C41, C42	CAP, Film, 0.015uF, 630V, +/-5%, TH	0.015uF	Panasonic	ECWF6153JL	6	ECWF_1250X590X1020
15	C39	CAP, Film, 2200pF, 3000V, +/-20%, TH	2200pF	EPCOS Inc	B81123C1222M	1	B81123_1800x700x1250
16	C43, C49, C50	CAP, CERM, 100pF, 25V, +/-10%, X7R, 0603	100pF	AVX	06033C101KAT2A	3	0603
17	C54, C55, C56, C57, C58	CAP, AL, 470uF, 16V, +/-20%, 0.01 ohm, TH	470uF	Nichicon	RNU1C471MDN1PH	5	CAP_ALUM-10MM
18	C59, C60, C61, C62, C63	CAP, CERM, 47uF, 16V, +/-20%, X5R, 1210	47uF	MuRata	GRM32ER61C476ME15L	5	1210
19	C64	CAP, CERM, 4.7uF, 50V, +/-10%, X7R, 1210	4.7uF	MuRata	GRM32ER71H475KA88L	1	1210
20	C74	CAP, CERM, 0.1uF, 16V, +/-5%, X7R, 0603	0.1uF	AVX	0603YC104JAT2A	1	0603
21	D1, D3, D5	LED, Green, SMD	Green	Lite-On	LTST-C190GKT	3	LED_LTST-C190
22	D2	Diode, Schottky, 30V, 0.2A, SOT-23	30V	Diodes Inc.	BAT54S-7-F	1	SOT-23

23	D4, D6	LED, Red, SMD	Red	Lite-On	LTST-C190CKT	2	LED_LTST-C190_Red
24	D7	Diode, P-N, 100V, 0.2A, SOT-23	100V	Fairchild Semiconductor	MMBD914	1	SOT-23
25	D8, D11, D18, D21	Diode, Schottky, 30V, 1A, SMA	30V	ST Microelectronics	STPS130A	4	SMA
26	D9, D12, D19, D22	NA	DNI			4	NA
27	D10, D13, D20, D23	Diode, Switching, 70V, 0.25A, SOT-23	70V	Vishay-Semiconductor	BAV70-V	4	SOT-23
28	D14	Diode, Schottky, 30V, 0.2A, SOT-23	30V	Diodes Inc.	BAT54S-7-F	1	SOT-23L
29	D15	Diode, Schottky, 30V, 0.2A, SOT-23	30V	ON Semiconductor	BAT54SLT1G	1	SOT-23L
30	D16, D17	Diode, Ultrafast, 600V, 1A, SMB	1.25V	Diodes Inc.	MURS160-13-F	2	SMB
31	FID1, FID2, FID3	Fiducial mark. There is nothing to buy or mount.		N/A	N/A	3	Fiducial10-20
32	H1, H2, H3, H4, H9, H11	Machine Screw, Round, #4-40 x 1/4, Nylon, Philips panhead		B&F Fastener Supply	NY PMS 440 0025 PH	6	NY PMS 440 0025 PH
33	H5, H6, H7, H8, H10, H12	Standoff, Hex, 0.5"L #4-40 Nylon		Keystone	1902C	6	Keystone_1902C
34	HS1, HS2	HEATSINK TO-218/TO-247 W/PINS 2"		Aavid	513201B02500G	2	HSINK_513201B02500
35	HS3, HS4, HS5, HS6	Heat Sink, TO-220		Aavid	507302B00000G	4	Aavid_507302B00000G
36	J1	CONN HEADER 3POS .100 VERT TIN		Molex	22-27-2031	1	MOLEX_22-27-2031
37	J2, J3	Header, 2mm, 20x2, Gold, TH		Molex	87758-4016	2	MOLEX_87758-4016
38	J4	Header, 100mil, 3x1, Tin plated, TH		Sullins Connector Solutions	PEC03SAAN	1	CONN_PEC03SAAN
39	J5	CONN DB9 FEMALE R/A SOLDER TH		NorComp	182-009-213R171	1	ORCOMP_182-009-213R171
40	J6	Header, 100mil, 2x1, Tin plated, TH		Sullins Connector Solutions	PEC02SAAN	1	CONN_PEC02SAAN
41	J7	Header, 100mil, 3x2, Tin, TH		Sullins Connector Solutions	PEC03DAAN	1	SULLINS_PEC03DAAN
42	J8, J9, J11, J12	TERMINAL BLOCK 5.08MM VERT 2POS		On-Shore Technology	ED120/2DS	4	CONN_ED120-2DS
43	J10 (see note 8)	Jumper, 1.200 inch length, Solid Tinned Copper, AWG 22, Noninsulated	1.2in wire cut of a roll	Belden	8021 000100	1	JMP-1200_035MIL
44	L1	Inductor		TBD	TBD	1	11698_2900x2800x3100
45	LBL1	Thermal Transfer Printable Labels, 0.650" W x 0.200" H - 10,000 per roll		Brady	THT-14-423-10	1	Label_650x200
46	Q1, Q3, Q5	MOSFET, N-CH, 60V, 0.17A, SOT-23	60V	Diodes Inc.	2N7002-7-F	3	SOT-23
47	Q2	MOSFET, N-CH, 60V, 0.17A, SOT-23	60V	Diodes Inc.	2N7002-7-F	1	SOT-23L
48	Q4	Transistor, NPN/PNP Pair, 40V, 0.6A, SOT-363	0.75V	Diodes Inc.	MMDT4413-7-F	1	SOT-363
49	Q6, Q7, Q12, Q13	MOSFET, N-CH, 650V, 20.7A, TO-247		Infineon Technologies	SPW20N60CFD	4	TO-247
50	Q8, Q9, Q10, Q11	MOSFET, N-CH, 60V, 100A, TO-220AB	60V	Texas Instruments	CSD18532KCS	4	TO-220AB
51	Q14, Q15	MOSFET, N-CH, 25V, 100A, SON 5x6mm	DNI, SHORT the 2 PADS on PCB as shown in picture	Texas Instruments	CSD16325Q5	2	TRANS_NexFET_Q5
52	R1	RES, 1.74k ohm, 1%, 0.125W, 0805	1.74k	Vishay-Dale	CRCW08051K74FKEA	1	0805
53	R2, R3, R44, R45, R47, R48	RES, 1.00 ohm, 1%, 0.1W, 0603	1.00	Vishay-Dale	CRCW06031R00FKEA	6	0603
54	R4, R6, R7, R8	RES, 301 ohm, 1%, 0.1W, 0603	301	Vishay-Dale	CRCW0603301RFKEA	4	0603
55	R5, R67	RES, 10.0 ohm, 1%, 0.1W, 0603	10.0	Vishay-Dale	CRCW060310R0FKEA	2	0603
56	R9, R10, R11, R37, R42, R55, R57, R68	RES, 5.11k ohm, 1%, 0.1W, 0603	5.11k	Vishay-Dale	CRCW06035K11FKEA	8	0603
57	R12, R17, R18, R21, R22, R25, R28, R33, R46, R49	RES, 1.00k ohm, 1%, 0.1W, 0603	1.00k	Vishay-Dale	CRCW06031K00FKEA	10	0603

58	R13, R14, R15	RES, 549 ohm, 1%, 0.25W, 1206	549	Vishay-Dale	CRCW1206549RFKEA	3	1206
59	R16, R27, R30, R31	RES, 100 ohm, 1%, 0.1W, 0603	100	Vishay-Dale	CRCW0603100RFKEA	4	0603
60	R19, R23	RES, 35.7k ohm, 1%, 0.1W, 0603	35.7k	Vishay-Dale	CRCW060335K7FKEA	2	0603
61	R20, R24, R26, R34, R58, R64, R66, R69, R72	RES, 10.0k ohm, 1%, 0.1W, 0603	10.0k	Vishay-Dale	CRCW060310K0FKEA	9	0603
62	R29, R32	RES, 20.0k ohm, 1%, 0.1W, 0603	20.0k	Vishay-Dale	CRCW060320K0FKEA	2	0603
63	R35, R40	RES, 3.3 ohm, 5%, 0.1W, 0603	3.3	Vishay-Dale	CRCW06033R30JNEA	2	0603
64	R36, R41, R56, R59	RES, 10.0 ohm, 1%, 0.25W, 1206	10.0	Vishay-Dale	CRCW120610R0FKEA	4	1206
65	R38, R39, R43, R60	RES, 51.1 ohm, 0.5%, 0.1W, 0603	51.1	Yageo America	RT0603DRE0751R1L	4	0603
66	R50, R51	RES, 124 ohm, 1%, 0.125W, 0805	124	Vishay-Dale	CRCW0805124RFKEA	2	0805
67	R52, R53	RES, 0 ohm, 5%, 0.25W, 1206	0	Vishay-Dale	CRCW12060000Z0EA	2	1206
68	R54 (see note 9)	Jumper, 1.200 inch length, Solid Tinned Copper, AWG 18, Noninsulated	0.6in wire cut of a roll			1	
69	R61, R62, R63	RES, 0.003 ohm, 1%, 1/2W, 1210	0.003	Rohm	PMR25HZPFV3L00	3	1210M
70	R65, R73	RES, 1.00k ohm, 1%, 0.125W, 0805	1.00k	Vishay-Dale	CRCW08051K00FKEA	2	0805
71	R70	RES, 549 ohm, 1%, 0.1W, 0603	549	Vishay-Dale	CRCW0603549RFKEA	1	0603
72	R71	RES, 100k ohm, 1%, 0.1W, 0603	100k	Vishay-Dale	CRCW0603100KFKEA	1	0603
73	SW1	Switch, Toggle, SPDT 1Pos, TH		NKK Switches	G12AP	1	SW_G1xAP
74	T1	PQ35/35 Transformer, TH		TBD	TBD	1	TBD
75	T2	Transformer , Current sense, 80 mH, TH	80 mH	Coilcraft	CS4200V-01L	1	XFMR_CS4200V-01L
76	TP1, TP2, TP3, TP4, TP5, TP6, TP7, TP8, TP9, TP10, TP11, TP12, TP13, TP14, TP15, TP17, TP18, TP19, TP20	Test Point, Miniature, White, TH	White	Keystone	5002	19	Keystone5002
77	TP16	Compact Probe Tip Circuit Board Test Points, TH, 25 per		Tektronix	131-5031-00	1	Tek_131-5031-00
78	U1	PCBA, UCC28600EVM-400V-12V	Please add insulation tape over exposed pads under PWR050 in main board	Texas Instruments	PWR050	1	PWR050
79	U2, U8	HIGH INPUT VOLTAGE, MICROPOWER SON PACKAGED, 80mA, LDO LINEAR REGULATORS, DRB0008A		Texas Instruments	TPS715A33DRB	2	DRB0008A
80	U3	Low-Noise, Low Quiescent Current, Precision Operational Amplifier e-trim Series, DBV0005A		Texas Instruments	OPA376AIDBV	1	DBV0005A_N
81	U4	2.4V, 10uA Temperature Sensor, 5-pin SC-70 Micro SMD, Pb-Free		Texas Instruments	LM20BIM7	1	MAA05A_N
82	U5	3-V to 5.5-V Single-Channel RS-232 Compatible Line Driver / Receiver, -40 to 85 degC, 16-Pin TSSOP (PW), Green (RoHS & no Sb/Br)		Texas Instruments	SN65C3221PW	1	PW0016A_N
83	U6, U12	600V-4A IC DRIVER HIGH/LOW SIDE, 14SOIC		Texas Instruments	UCC27714D	2	SOIC127P600X175-14_N
84	U7	LOW-POWER QUAD-CHANNEL DIGITAL ISOLATOR, SOIC-16		Silicon Laboratories	SI8640BD-B-IS	1	SOIC127P1030X265-16_L
85	U9	Dual 5-A High-Speed Low-Side Gate Driver, DGN0008D		Texas Instruments	UCC27524DGN	1	DGN0008D_L
86	U10	Dual 5-A High-Speed Low-Side Gate Driver, DGN0008D		Texas Instruments	UCC27524DGN	1	DGN0008D_N

87	U11	Full Featured N+1 and ORing Power Rail Controller	DNI	Texas Instruments	TPS2411PWR	1	pw0014A_N_1
88	U12	Control Card, UCD3138 control card, PCB assembly		Texas Instruments	PWR030	1	3.400x1.800 inch
89		TO-220 Mounting Kit	4880SG	Aavid Thermalloy	4880SG	4	
90		TO-247 Mounting Kit	4880SG	Aavid Thermalloy	4880SG	2	

Notes:
1. These assemblies are ESD sensitive, ESD precautions shall be observed.
2. These assemblies must be clean and free from flux and all contaminants.
   Use of no clean flux is not acceptable.
3. These assemblies must comply with workmanship standards IPC-A-610 Class 2.
4. Ref designators marked with an asterisk ('**') cannot be substituted.
   All other components can be substituted with equivalent MFG's components.
5. see assembly drawing, U1, install and solder bias card PWR050, ref to U1 Bias Card Orientation sheet for Install info.
6. see assembly drawing, U12, install UCD3138 control card UCD3138CCEVM-030 (PWR030), ref to U12 Daughter Card Orientation sheet
7. see assembly drawing, HS1, 2, 3, 4, 5, and 6 install refer to the sheet of "HS1 to 6 Assembly".
8. 8021 000100 is a spool of 100 Ft. wire that need to be cut to 1.2 inch lengths.
9. Use jumper to replace R54

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