

Filename: PWR027A_bom.xls

Date: 07/12/2013

TIDA_00412 PWR027A BOM

COUNT	RefDes	Value	Description	Size	Part Number	MFR
4	C1, C2, C3, C63	47uF	Capacitor, Ceramic, 16V, X5R, 20%	1210	C1210C476M4PACTU	Kemet
7	C11, C12, C14, C38, C39, C57, C68	10nF	Capacitor, Ceramic, 25V, X7R, 10%	0603	C0603C103K3RACTU	Kemet
1	C13	4.7uF	Capacitor, Ceramic, 16V, X7R, 10%	0805	C0805C475K4RACTU	Kemet
1	C15	10uF	Capacitor, Ceramic, 6.3V, X7R, 10%	0805	C0805C106K9RACTU	Kemet
3	C17, C27, C42	100pF	Capacitor, Ceramic, 16V, X7R, 10%	0603	0603YC101KAT2A	AVX
2	C18, C25	1uF	Capacitor, Ceramic, 25V, X7R, 10%	0805	C2012X7R1E105K125AB	TDK
1	C19	10nF	Capacitor, Ceramic, 100V, X7R, 10%	0805	C2012X7R2A103K085AM	TDK
2	C20, C21	100pF	Capacitor, Ceramic, 100V, NPO, 10%	1206	C1206C101K1GACTU	Kemet
10	C22, C28, C36, C43, C53, C54, C55, C56, C69, C70	0.1uF	Capacitor, Ceramic, 25V, X7R, 10%	0805	C0805C104K3RAC7210	Kemet
3	C23, C34, C64	220pF	Capacitor, Ceramic, 50V, X7R, 10%	0603	CC0603KRX7R9BB221	Kemet
0	C24	Open	Capacitor, Ceramic, 16V, X7R, 10%	0603		
1	C26	1500pF	Capacitor, Ceramic, 50V, X7R, 10%	0603	C0603C152K5RACTU	Kemet
1	C33	1uF	Capacitor, Ceramic, 16V, X7R, 10%	0603	C1608X7R1C105K080AC	TDK
1	C4	1000uF	Capacitor, Aluminum, SM, 25V,	12.5*20mm	EEUFM1E102	Panasonic
1	C62	1000uF	Capacitor, Aluminum, SM, 25V,	10.0*20mm	UHW1E102MPD	nichicon
1	C44	1.5uF	Capacitor, Polyester, 450V, ±10%	1.012 x 0.322 inch	ECQ-E2W155KH	Panasonic
1	C46	2200pF	Capacitor, Ceramic Disc, Y1, 250V, Y5U ±20%	.500 X .310 inch	CD12-E2GA222MYGS	TDK
7	C5, C7, C45, C47, C48, C49, C52	1nF	Capacitor, Ceramic, 50V, X7R, 10%	0603	C0603C102K5RACTU	Kemet
2	C50, C61	4700pF	Capacitor, Ceramic, 500V, X7R, 10%	1210	12107C472KAT2A	AVX
1	C51	2200pF	Capacitor, Ceramic, 50V, X7R, 10%	0603	CGA3E2X7R1H222K080AD	TDK
0	C59, C60	Open	Capacitor,	1210		
2	C6, C16	4700pF	Capacitor, Ceramic, 50V, X7R, 10%	1206	C1206C472K5RACTU	Kemet
1	C65	0.1uF	Capacitor, Ceramic, 50V, X7R, 10%	1206	C1206C104K5RACTU	Kemet
1	C66	47uF	Capacitor, Alum Electrolytic, 450V, ±20%	10x20 mm	LGU2W470MELY	NichiCon
1	C67	330pF	Capacitor, Ceramic, 50V, X7R, 10%	0603	C0603C331K5RACTU	Kemet
2	C8, C71	100pF	Capacitor, Ceramic, 50V, X7R, 10%	0603	C0603C101K5RACTU	Kemet
11	C9, C10, C29, C30, C31, C32, C35, C37, C40, C41, C58	0.1uF	Capacitor, Ceramic, 25V, X7R, 10%	0603	C0603C104K3RACTU	Kemet
2	D1, D11	MMBD914	Diode, Switching, 100V, 200mA	SOT23	MMBD914	Fairchild
3	D12, D13, D14	BAT54S	Diode, Dual Schottky, 30-V, 200-mA,	SOT23	BAT54S	Vishay
1	D15	15V	Diode, Zener, 15V, 8.5mA	SOT-23	MMBZ5245BLT1G	Diodes
4	D16, D19, D21, D24	STPS130A	Diode, Power Schottky, 30V, 1A	SMA	STPS130A	ST
4	D17, D18, D22, D23	BAV70-V	Diode, Switching, Dual, 70-V, 250-mA	SOT23	BAV70-V-GS08	Zetex
2	D2, D26	LTST-C190CKT	Diode, LED, Red, 2.1-V, 20-mA, 6-mcd	0603	LTST-C190CKT	Lite On

2	D3, D4	LTST-C190GKT	Diode, LED, Green, 2.1-V, 20-mA, 6-mcd	0603	LTST-C190GKT	Lite On
2	D5, D6	MBR51100	Diode, Schottky, 100-V, 1-A	SMB	MBR51100T3G	On Semi
1	D7	SMCJ43A	TVS 1500W 43V UNIDIRECTIONAL	SMC	SMCJ43A	Diodes
4	D8, D20, D25, D27	MMSZ5222BT3G/2.5V	Diode, Zener, 2.5V, 20mA	SOD123	MMSZ5222BT1G	On Semi
2	D9, D10	STTH5R06B	Diode, Ultra-Fast High-Power Rectifier, 600V, 5A	DKPAK	STTH5R06B-TR	ST
4	HS1, HS2, HS3, HS4	531002B02500G	Heatsink, TO-220, Vertical-mount with Solderable pins	0.5 x 1.38 inch	531002B02500G	Aavid
4	J1, J3, J4, J11	ED120/2DS	Terminal Block, 2-pin, 15-A, 5.1mm	0.40 x 0.35 inch	ED120/2DS	OST
1	J10	923345-04-C	Jumper, 0.400 inch length, PVC Insulation, AWG 22,	0.035 inch Dia.	923345-04-C	3M
2	J2, J5	PEC03SAAN	Header, Male 3-pin, 100mil spacing,	0.100 inch x 3	PEC03SAAN	Sullins
1	J6	182-009-212-171	Connector, 9-pin D, Right Angle, Female	1.213 x 0.510	182-009-213R171	Norcomp
1	J7	PEC03DAAN	Header, Male 2x3-pin, 100mil spacing	0.20 inch x 0.30	PEC03DAAN	Sullins
1	J8	131-4244-00	Adaptor, 3.5-mm probe clip (or 131-5031-00)	0.200 inch	131-4244-00	Tektronix
1	J9	8021	Jumper, 1.200 inch length, Solid Tinned Copper, AWG 22, Noninsulated	AWG 22	8021	Belden
1	L1	2.2uH	Inductor, 1.83milliohm, 100A	1.100 x 1.100 inch	SER2814H-222KL	Coilcraft
1	L2	22uH	Inductor, Horz. Mount, 0.017 Ohms, 4.3A	0.863 x 0.453 inch	PCH-45X-223LT	Coilcraft
2	P1, P2	87758-4016	Header, 40 pin, 2 mm Pitch	4.00 x 40.00 mm	87758-4016	Molex
1	P3	PEC08DAAN	Header, Male 2x8 pin, 100mil spacing	0.100 inch X2X8	PEC08DAAN	Sullins
0	Q1, Q2, Q4, Q8	Open	MOSFET, Nch,25V, 220-mA, 5 ohms	SOT23	FDV301N	Fairchild
3	Q3, Q5, Q9	MMBT3904LT1G	Trans, NPN, 40V, 200mA, 225mW	SOT23	MMBT3904LT1G	On Semi
2	Q6, Q10	SI7866ADP	MOSFET, NCh, 20V, 40A, 3 milliohm	PWRPAK S0-8	SI7866ADP-T1-E3	Vishay-Siliconix
1	Q7	MMMDT3946	Transistor, Dual NPN, 60V, 200mA, 200mW	SC-70[SOT-363]	MMMDT3946-7-F	Diodes
2	QB1, QB2	STP12NM50	MOSFET, N-ch, 550-V, 12-A, 0.35-ohms	TO-220V	STP12NM50	STM
4	QSYN1, QSYN2, QSYN3, QSYN4	CSD18532KCS	NexFET, N-ch, 60V, 100A, 3.3milliohm	TO-220	CSD18532KCS	TI
2	QT1, QT2	STP12NM50	MOSFET, N-ch, 550-V, 12-A, 0.35-ohms	TO-220V	STP12NM50	STM
4	R1, R3, R8, R10	5.11k	Resistor, Chip, 1/8W, 1%	0805	RC0805FR-075K11L	Yageo
1	R103	5.11k	Resistor, Chip, 1/16W, 1%	0603	3-1879337-1	TE Connectivity
2	R11, R12	51.1	Resistor, Chip,1/2W, 1%	1210	ERJ-14NF51R1U	Panasonic
2	R13, R40	10	Resistor, Chip, 1/8W, 1%	0805	RC0805FR-0710RL	Yageo
1	R14	0	Resistor, Chip, 1/8W, 1%	0805	RC0805JR-070RL	Yageo
0	R15, R16, R44, R87, R102	Open	Resistor, Chip, 1/16W, 1%	0603		
1	R17	36.5k	Resistor, Chip, 1/16W, 1%	0603	1-1879338-4	TE Connectivity
15	R18, R24, R26, R37, R39, R42, R48, R58, R61, R64, R65, R66, R88, R90, R92	10.0k	Resistor, Chip, 1/16W, 1%	0603	5-1879337-9	TE Connectivity
2	R19, R32	0	Resistor, Chip, 1/4W,	1206	RC1206JR-070RL	Yageo
4	R2, R4, R9, R35	2.43	Resistor, Chip, 1/4W, 1%	1206	RC1206FR-072R43L	Yageo
2	R20, R21	15.0k	Resistor, Chip,1/2W, 1%	1210	ERJ-14NF1502U	Panasonic
1	R22	0.5	Resistor, Chip, 1/8W, 1%	0603	CSRO603FKR500	Stackpole Electronics
1	R23	2.49k	Resistor, Chip, 1/10W, 1%	0603	RC0603FR-072K49L	Yageo
5	R25, R27, R43, R47, R70	1	Resistor, Chip, 1/8W, 1%	0805	RC0805FR-071RL	Yageo
2	R28, R71	150	Resistor, Chip, 1/4W, 1%	1206	RC1206FR-07150RL	Yageo

0	R29, R72, R73	Open	Resistor, Chip, 1/4W, 1%	1206		
2	R30, R76	0	Resistor, Chip, 1/10W	0603	RC0603JR-070RL	Yageo
5	R31, R56, R59, R62, R75	3.32k	Resistor, Chip, 1/16W, 1%	0603	1-1879337-3	TE Connectivity
1	R33	1.00k	Resistor, Chip, 1/4W, 1%	1206	RC1206FR-071KL	Yageo
1	R38	549	Resistor, Chip, 1/10W, 1%	0603	RC0603FR-07549RL	Yageo
3	R41, R45, R101	100k	Resistor, Chip, 1/10W, 1%	0603	RC0603FR-07100KL	Yageo
4	R49, R50, R51, R52	1.21k	Resistor, Chip, 1/4W, 1%	1206	RC1206FR-071K21L	Yageo
2	R5, R34	100	Resistor, Chip, 1/8W, 1%	0805	RC0805FR-07100RL	Yageo
3	R53, R104, R105	0.003	Resistor, 1W, 1%	1210	PMR25HZPFV3L00	Rohm Semi
2	R54, R55	15	Resistor, Chip, 1/8W, 1%	0805	RC0805FR-0715RL	Yageo
3	R57, R60, R63	301	Resistor, Chip, 1/10W, 1%	0603	RC0603FR-07301RL	Yageo
4	R6, R7, R36, R46	7.5	Resistor, Chip, 1/4W, 1%	1206	RC1206FR-077R5L	Yageo
4	R67, R68, R84, R85	1.00k	Resistor, Chip, 1/10W, 1%	0603	RC0603FR-071KL	Yageo
1	R69	49.9K	Resistor, Chip, 1/10W, 1%	0603	AC0603FR-0749K9L	Yageo
1	R74	2.00k	Resistor, Chip, 1/10W, 1%	0603	RC0603FR-072KL	Yageo
1	R77	2.05k	Resistor, Chip, 1/10W, 1%	0603	RC0603FR-072K05L	Yageo
1	R78	1.24k	Resistor, Chip, 1/10W, 1%	0603	RC0603FR-071K24L	Yageo
3	R79, R82, R97	16.2k	Resistor, Chip, 1/10W, 1%	0603	RC0603FR-0716K2L	Yageo
3	R80, R83, R98	1.82k	Resistor, Chip, 1/10W, 1%	0603	RC0603FR-071K82L	Yageo
2	R81, R86	499	Resistor, Chip, 1/8W, 1%	0805	RC0805FR-07499RL	Yageo
1	R89	4.99k	Resistor, Chip, 1/10W, 1%	0603	RC0603FR-074K99L	Yageo
1	R91	220	Resistor, Chip, 1/10W, 1%	0603	RC0603FR-07220RL	Yageo
2	R93, R100	1.0k	Resistor, Chip, 1/2W, 1%	1210	ERJ-14NF1001U	Panasonic
3	R94, R95, R96	549	Resistor, Chip, 1/4W, 1%	1206	RC1206FR-07549RL	Yageo
1	R99	1.62k	Resistor, Chip, 1/10W, 1%	0603	RC0603FR-071K62L	Yageo
1	S1	G12AP-RO	Switch, ON-NONE-ON	0.28 x 0.18 inch	G12AP-RO	NKK
1	T1	1.2mH	Transformer, Phase Shifted Full Bridge	35.5x39.1 mm	7840-08-0015	Nova Magnetics Inc
1	T2	80mH	Transformer, Current Sense, 1:200	0.570 x 0.770 inch	CS4200V-01L	Coilcraft
2	T3, T4	460uH	Transformer, Gate Drive, ±25%	0.685 x 0.950 inch	GA3550-BL	Coilcraft
0	T5	Open	Transformer, Current Sense, 80mH	0.570 x 0.770 inch	CS4200V-01L	Coilcraft
34	TP1, TP2, TP3, TP4, TP5, TP6, TP7, TP8, TP9, TP10, TP11, TP12, TP13, TP14, TP15, TP16, TP17, TP18, TP19, TP20, TP21, TP22, TP23, TP24, TP25, TP26, TP27, TP28, TP29, TP30, TP31, TP32, TP33, TP34	5002	Test Point, white, 0.032 Thru Hole		5002	Keystone
1	U1	TPS2411PW	IC, N+1 and Oring Power Rail Controller	TSSOP-14	TPS2411PW	TI
1	U10	LM60C	IC, 2.7V Temperature Sensor	SOT-23	LM60CIM3/NOPB	TI
1	U2	OPA345NA	IC, R-R Op Amp, Single Supply,	SOT23-5	OPA345NA/250	TI
4	U3, U4, U5, U8	UCC27424DGN	IC, Dual Non-Inverting 4A High Speed Low-Side MOSFET Driver w/ Enable	HTSSOP	UCC27424DGN	TI

1	U6	PWR050	Module, 5W, Auxiliary Bias PS	1.200x2.200 inch	PWR050	TI
1	U7	SN75C3221	IC, RS-232 Transceivers with AutoShutdown	SSOP-16	SN75C3221DBR	TI
1	U9	TPS715A33	IC LDO REG	QFN-8	TPS715A33DRBT	TI
1	U11	PWR030	Control Card, UCD3138 control card, PCB assembly	3.400x1.800 inch	UCD3138CC64EVM-030	TI
8			Jumper, dual beam contacts, 0.100 inch, Black		SPC02SYAN	Sullins
6	1903C	secondary (smd) side	STANDOFF F/F HEX 6-32THR 0.500"L NYLON		1903C	Keystone
6	4824	primary (TH) side	STANDOFF M/F HEX 6-32THR 1.50"L NYLON		4824	Keystone
8		4880SG	TO-220 Mounting Kit		4880SG	Aavid Thermalloy
1		PCB	PCB, FR-4, 0.062"	8.000x6.000 inch	PWR027	any

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- 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, U6, install and solder bias card PWR050, ref to U1 Bias Card Orientation sheet for Install info.
 6. see assembly drawing, U11, install UCD3138 control card UCD3138CCEVM-030 (PWR030), ref to U12 Daughter Card Orientation sheet
 7. see assembly drawing, HS1, 2, 3, and 4 install refer to the sheet of "HS1 to 4 Assembly".

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