

TIDA-00300_ISO_AFE-Power+Protection REV E1 Bill of Materials

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
C1	1	1000pF	1206GC102KAZ1A	AVX	CAP, CERM, 1000 pF, 2000 V, +/- 10%, X7R, 1206_190	1206_190
C2	1	0.01uF	CGA3E2X7R1H103K080AA	TDK Corporation	CAP, CERM, 0.01 μ F, 50 V, +/- 5%, X7R, 0603	0603
C3, C4	2	2.2uF	UMK316B7225KL-T	Taiyo Yuden	CAP, CERM, 2.2 μ F, 50 V, +/- 10%, X7R, 1206	1206
C5, C8, C15, C19, C23, C28, C29, C84	8	0.1uF	C0603X124K5RAC7867	KEMET	CAP, CERM, 0.12 μ F \pm 10% 50V Ceramic Capacitor X7R 0603	0603
C6	1	0.22uF	885012206048	Würth Elektronik	CAP, CERM, 0.22 μ F, 16 V, +/- 10%, X7R, 0603	0603
C7, C22	2	10uF	GRM21BC71E106KE11L	MuRata	CAP, CERM, 10 μ F, 25 V, +/- 10%, X7S, 0805	0805
C9, C32, C43	3	10uF	GMJ325KB7106KMHP	Taiyo Yuden	CAP, CERM, 10 μ F \pm 10% 35V Ceramic Capacitor X7R 1210	1210
C10	1	1000pF	885012206034	Würth Elektronik	CAP, CERM, 1000 pF, 16 V, +/- 10%, X7R, 0603	0603
C11, C18, C27, C33, C35, C38, C44	7	1uF	CGA3E1X7R1E105K080AC	TDK Corporation	CAP, CERM, 1 μ F, 25 V, +/- 10%, X7R, 0603	0603
C12	1	0.022uF	C1608X7R1H223K080AA	TDK Corporation	CAP, CERM, 0.022 μ F, 50 V, +/- 10%, X7R, 0603	0603
C13	1	2.2uF	C1608X7R1A225K080AC	TDK	CAP, CERM, 2.2 μ F, 10 V, +/- 10%, X7R, 0603	0603
C14	1	100pF	GCM1885C1H101JA16D	Murata	CAP, CERM, 100 pF, 50 V, +/- 5%, C0G/NP0, 0603	0603
C16, C17, C25, C26	4	10uF	GRM21BC71E106KE11L	MuRata	CAP, CERM, 10 μ F, 25 V, +/- 10%, X7S, 0805	0805
C20	1	6.8pF	06035A6R8CAT2A	AVX	CAP, CERM, 6.8 pF, 50 V, +/- 4%, C0G/NP0, 0603	0603
C21	1	0.22uF	GRM188R71C224KA01D	MuRata	CAP, CERM, 0.22 μ F, 16 V, +/- 10%, X7R, 0603	0603
C24	1	5.6pF	GRM1885C1H5R6DA01D	Murata	CAP, CERM, 5.6 pF, 50 V, +/- 5%, C0G/NP0, 0603	0603
C30	1	4700pF	885012206087	Würth Elektronik	CAP, CERM, 4700 pF, 50 V, +/- 10%, X7R, 0603	0603
C31	1	0.01uF	885012206040	Würth Elektronik	CAP, CERM, 0.01 μ F, 16 V, +/- 10%, X7R, 0603	0603
C34, C37, C39, C41	4	2.2uF	C0805C225K8RACTU	Kemet	CAP, CERM, 2.2uF, 10V, +/-10%, X7R, 0805	0805
C36, C40, C42	3	0.01uF	885012206040	Würth Elektronik	CAP, CERM, 0.01 μ F, 16 V, +/- 10%, X7R, 0603	0603
C45	1	4.7uF	C3216X7R1E475M160AC	TDK	CAP, CERM, 4.7 μ F, 25 V, +/- 20%, X7R, 1206	1206
C46, C47, C49, C54, C58, C61, C110, C111, C113, C116, C117, C137	12	0.1uF	06033D104KAT2A	AVX	CAP, CERM, 0.1 μ F, 25 V, +/- 10%, X5R, 0603	0603
C48, C53	2	1uF	CL21B105KPFNNNE	Samsung Electro-Mechanics	CAP, CERM, 1uF, 10V, +/-10%, X7R, 0805	0805
C50, C51, C52	3	1uF	C2012X7R1H105K125AE	MuRata	CAP, CERM, 1 μ F, 50 V, +/- 10%, X7R, 0805	0805
C55	1	10uF	EMK107BBJ106MA-T	Taiyo Yuden	CAP, CERM, 10uF, 16V, +/-20%, X5R, 0603	0603
C59	1	1uF	CGB3B3X7R0J105K055AB	TDK Corporation	CAP, CERM, 1 μ F, 6.3 V, +/- 10%, X7R, 0603	0603
C60, C62, C121	3	10uF	C2012X5R1E106K085AC	TDK Corporation	CAP, CERM, 10 μ F, 25 V, +/- 10%, X5R, 0805	0805
C108, C109, C112, C114, C115	5	10uF	593D106X9025C2TE3	Vishay-Sprague	CAP, TA, 10 μ F, 25 V, +/- 10%, 0.45 ohm, SMD	6032-28
C120, C122	2	1000pF	CGA2B2C0G1H102J050BA	TDK	CAP, CERM, 1000 pF, 50 V, +/- 5%, C0G/NP0, AEC-Q200 Grade 1, 0402	0402
D1, D6, D10, D11	4	Green	LTST-C190KGKT	Lite-On	LED, Green, SMD	1.6x0.8x0.8mm
D2, D7, D8	3	45V	NTS245SFT1G	ON Semiconductor	Diode, Schottky, 45 V, 2 A, AEC-Q101, SOD-123FL	SOD-123FL
D3, D9	2	40V	1N5819HW-7-F	Diodes Inc.	Diode, Schottky, 40 V, 1 A, SOD-123	SOD-123
D5	1	Red	LTST-C190CKT	Lite-On	LED, Red, SMD	Red LED, 1.6x0.8x0.8mm

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
H1, H2, H3, H4, H5	5		SJ61A1	3M	Bumpon, Cylindrical, 0.312 X 0.200, Black	Black Bumpon
J1, J4, J6	3		1751248	Phoenix Contact	Conn Term Block, 2POS, 3.5mm, TH	11x8.5x7.3mm
J2, J5, J8, J12	4		PBC02SAAN	Sullins Connector Solutions	Header, 100mil, 2x1, Gold, TH	Sullins 100mil, 1x2, 230 mil above insulator
L1, L2	2	2.2uH	LQM18PN2R2MFH	MuRata	Inductor, Ferrite, 2.2 uH, 0.35 A, 0.38 ohm, SMD	0603
L3	1	600 ohm	BLM18KG601SN1D	MuRata	Ferrite Bead, 600 ohm @ 100 MHz, 1.3 A, 0603	0603
L4, L5	2	10uH	74404024100	Würth Elektronik	Inductor, Wirewound, Ferrite, 10 uH, 0.47 A, 0.435 ohm, SMD	SMD, 2.5x2mm
L6	1	22uH	74489430220	Würth Elektronik	Coupled inductor, 22 uH, 1.1 A, 0.48 ohm, SMD	8x8mm
PT1	1		B59830C0160A070	Raychem	PTC THERMISTOR C 830-A 160-A 70	0.535 x 0.125 inch
R1	1	1.21k	CRCW06031K21FKEA	Vishay-Dale	RES, 1.21 k, 1%, 0.1 W, 0603	0603
R2, R22, R23, R52	4	1.00	CRCW06031R00FKEA	Vishay-Dale	RES, 1.00, 1%, 0.1 W, 0603	0603
R3	1	113k	CRCW0603113KFKEA	Vishay-Dale	RES, 113 k, 1%, 0.1 W, 0603	0603
R4	1	16.9k	CRCW060316K9FKEA	Vishay-Dale	RES, 16.9 k, 1%, 0.1 W, 0603	0603
R5	1	27.4k	CRCW060327K4FKEA	Vishay-Dale	RES, 27.4 k, 1%, 0.1 W, 0603	0603
R7	1	3.48k	CRCW06033K48FKEA	Vishay-Dale	RES, 3.48 k, 1%, 0.1 W, 0603	0603
R8, R14, R21	3	5.36k	CRCW06035K36FKEA	Vishay-Dale	RES, 5.36 k, 1%, 0.1 W, 0603	0603
R9	1	150	CRCW0603150RFKEA	Vishay-Dale	RES, 150, 1%, 0.1 W, 0603	0603
R10, R13	2	2.00k	CRCW06032K00FKEA	Vishay-Dale	RES, 2.00 k, 1%, 0.1 W, 0603	0603
R11	1	42.2	CRCW060342R2FKEA	Vishay-Dale	RES, 42.2, 1%, 0.1 W, 0603	0603
R12, R103, R104	3	0	ERJ-3GEY0R00V	Panasonic	RES, 0, 5%, 0.1 W, 0603	0603
R15	1	976k	CRCW0603976KFKEA	Vishay-Dale	RES, 976 k, 1%, 0.1 W, 0603	0603
R16	1	86.6k	CRCW060386K6FKEA	Vishay-Dale	RES, 86.6 k, 1%, 0.1 W, 0603	0603
R17	1	105k	CRCW0603105KFKEA	Vishay-Dale	RES, 105 k, 1%, 0.1 W, 0603	0603
R18	1	1.30Meg	CRCW06031M30FKEA	Vishay-Dale	RES, 1.30 M, 1%, 0.1 W, 0603	0603
R19	1	0	CRCW12060000Z0EA	Vishay-Dale	RES, 0, 5%, 0.25 W, 1206	1206
R20, R44, R45, R47	4	100	CRCW0603100RFKEA	Vishay-Dale	RES, 100, 1%, 0.1 W, 0603	0603
R25, R26, R31, R33, R36, R38, R41	7	0	CRCW06030000Z0EA	Vishay-Dale	RES, 0, 5%, 0.1 W, 0603	0603
R27, R28, R30, R34	4	249k	CRCW0603249KFKEA	Vishay-Dale	RES, 249 k, 1%, 0.1 W, 0603	0603
R29	1	10k	CRCW060310K0FKEA	Stackpole Electronics Inc	RES, 10.0k ohm, 1%, 0.1W, 0603	0603
R32, R37	2	75.0k	CRCW060375K0FKEA	Vishay-Dale	RES, 75.0 k, 1%, 0.1 W, 0603	0603
R35	1	27.0k	RC0603FR-0727KL	Yageo America	RES, 27.0 k, 1%, 0.1 W, 0603	0603
R39	1	24.0k	RC0603FR-0724KL	Yageo America	RES, 24.0 k, 1%, 0.1 W, 0603	0603
R43, R48, R49	3	0	CRCW06030000Z0EA	Vishay-Dale	RES, 0 ohm, 5%, 0.1W, 0603	0603
R46	1	2.55k	CRCW06032K55FKEA	Vishay-Dale	RES, 2.55 k, 1%, 0.1 W, 0603	0603
R51	1	0	RC1206JR-070RL	Yageo America	RES, 0, 5%, 0.25 W, 1206	1206
R75	1	1.00k	ERJ-3EKF1001V	Panasonic	RES, 1.00 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R112	1	0	ERJ-6GEY0R00V	Panasonic	RES, 0, 5%, 0.125 W, 0805	0805
R114, R115	2	10.0k	RC0603FR-0710KL	Yageo America	RES, 10.0 k, 1%, 0.1 W, 0603	0603
R116	1	1.00k	CRCW06031K00FKEA	Vishay-Dale	RES, 1.00 k, 1%, 0.1 W, 0603	0603
T1	1	105uH	750315371	Würth Elektronik	Transformer, 105uH, TH	12.6x8.3mm
TP1, TP2, TP5, TP6, TP24, TP25, TP27, TP29, TP31, TP43, TP44, TP49	12		5000	Keystone	Test Point, Miniature, Red, TH	Red Miniature Testpoint

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
TP4, TP33	2		5002	Keystone	Test Point, Miniature, White, TH	White Miniature Testpoint
TP32	1		5001	Keystone	Test Point, Miniature, Black, TH	Black Miniature Testpoint
U1	1		LM5160DNTR	Texas Instruments	Wide Input 65V, 1.5A Synchronous Step-Down DC-DC Converter, DNT0012B	DNT0012B
U2	1		TPS65130RGER	Texas Instruments	Positive and Negative Output DC-DC Converter, RGE0024B	RGE0024B
U3	1		LM27762DSST	Texas Instruments	Low-Noise Regulated Switched-Capacitor Voltage Inverter and Positive LDO, DSS0012B	DSS0012B
U4	1		TPS7A3901DSC	Texas Instruments	Wide-VIN (± 33 V), 150-mA, Spilt-Rail Output, Positive and Negative LDO Voltage Regulator with Startup Tracking, DSC0010J	DSC0010J
U5	1		REF3025AIDBZR	Texas Instruments	2.5 V, 50 ppm / degC, 50 uA Series (Bandgap) Voltage Reference, -40 to 125 degC, 3-pin SOT-23 (DBZ), Green (RoHS & no Sb/Br)	DBZ0003A
U6	1		OPA2376AID	Texas Instruments	Precision, Low Noise, Low Quiescent Current Operational Amplifier, 2 to 5.5 V, -40 to 125 degC, 8-pin SOIC (D8), Green (RoHS & no Sb/Br)	D0008A
U7	1		REF5025AIDGKT	Texas Instruments	Low Noise, Very Low Drift, Precision Voltage Reference, -40 to 125 degC, 8-pin MSOP(DGK), Green (RoHS & no Sb/Br)	DGK0008A
U8	1		LM4040AIM3-2.5/NOPB	Texas Instruments	Precision Micropower Shunt Voltage Reference, 3-pin SOT-23, Pb-Free	MF03A
U10	1		TLV70433DBVR	Texas Instruments	Single Output LDO, 150 mA, Fixed 3.3 V Output, 2.5 to 24 V Input, with Ultra-Low IQ, 5-pin SOT-23 (DBV), -40 to 125 degC, Green (RoHS & no Sb/Br)	DBV0005A
U11	1		TVS3300DRVR	Texas Instruments	33-V Precision Surge Protection Clamp, DRV0006A (WSON-6)	DRV0006A
U12, U14, U15	3		TVS0500DRVR	Texas Instruments	5-V Precision Surge Protection Clamp, DRV0006A (WSON-6)	DRV0006A
U13	1		SN6505BDBVR	Texas Instruments	LOW-NOISE 1A TRANSFORMER DRIVERS FOR ISOLATED POWER SUPPLIES, DBV0006A	DBV0006A
U24	1		TPS2400DBVR	Texas Instruments	Overvoltage/Undervoltage Protection IC in SOT-23-5, DBV0005A (SOT-23-5)	DBV0005A
U33	1		DCH010515DN7	Texas Instruments	Miniature, 1 W, 3 kVDC Isolated DC-DC Converter, -40 to 85 degC, 5-pin Module (EDJ5), Pb-Free (RoHS)	EDJ0005A
U37	1		DCH010505SN7	Texas Instruments	Miniature, 1 W, 3 kVDC Isolated DC-DC Converter, -40 to 85 degC, 4-pin Module (EDJ4), Pb-Free (RoHS)	EDJ0004A
U38, U39	2		TVS1400DRVR	Texas Instruments	14-V Precision Surge Protection Clamp, DRV0006A (WSON-6)	DRV0006A
U43	1		TPS22917DBVR	Texas Instruments	5.5-V, 2-A, 80 mohm Low Leakage Load Switch with RCB and Programmable Rise Time, DBV0006A (SOT-23-6)	DBV0006A
U51	1		REF3425IDBVR	Texas Instruments	2.5V Low-Drift Low-Power Small-Footprint Series Voltage Reference, DBV0006A (SOT-23-6)	DBV0006A
C56, C57, C99, C100, C135, C136, C138, C139	0	0.1uF	06033D104KAT2A	AVX	CAP, CERM, 0.1 μ F, 25 V, +/- 10%, X5R, 0603	0603
FID1, FID2, FID3	0		N/A	N/A	Fiducial mark. There is nothing to buy or mount.	N/A
J15	0		PBC02SAAN	Sullins Connector Solutions	Header, 100mil, 2x1, Gold, TH	Sullins 100mil, 1x2, 230 mil above insulator
R24, R40	0	0	CRCW06030000Z0EA	Vishay-Dale	RES, 0, 5%, 0.1 W, 0603	0603
R42, R118	0	0	CRCW06030000Z0EA	Vishay-Dale	RES, 0 ohm, 5%, 0.1W, 0603	0603
R50, R117	0	100	CRCW0603100RFKEA	Vishay-Dale	RES, 100, 1%, 0.1 W, 0603	0603
R86, R87, R94, R119	0	10.0k	RC0603FR-0710KL	Yageo America	RES, 10.0 k, 1%, 0.1 W, 0603	0603
R113	0	0	ERJ-6GEY0R00V	Panasonic	RES, 0, 5%, 0.125 W, 0805	0805
TP7, TP9, TP10, TP38, TP45, TP46, TP47, TP48	0		5002	Keystone	Test Point, Miniature, White, TH	White Miniature Testpoint

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
U9	0		LMT84LPM	Texas Instruments	1.5V-Capable, 10 uA Analog Output Temperature Sensor in SC70 and TO-92, LP0003A (TO-92-3)	LP0003A
U30	0		TPS3839E16DBZR	Texas Instruments	150-nA, Ultralow Power, Supply Voltage Monitor, DBZ0003A (SOT-23-3)	DBZ0003A
U31	0		TPS3828-33DBVR	Texas Instruments	Voltage Monitor With Watchdog Timer, DBV0005A (SOT-23-5)	DBV0005A
U50	0		TMP235DCK	Texas Instruments	TMP235DCK, DCK0005A (SOT-5)	DCK0005A
U52	0		TPS3840DL30DBVR	Texas Instruments	Nano Power, Wide VIN Voltage Detector with Programmable Delay, DBV0005A (SOT-23-5)	DBV0005A