

Variant: 001
Generated: 10/14/2023 12:43 PM
TID #: TIDA-010042

TIDA-010042 REV E3 Bill of Materials



Item #	Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
1	C1, C4, C51	3				Chip Multilayer Ceramic Capacitors for General Purpose, 0402, 0.10uF, X5R, 15%, 10%, 100V	
2	C2	1	47uF	ESY476M100AH1AA	Kemet	47 uF 100 V Aluminum Electrolytic Capacitors Radial, Can 240mOhm @ 100kHz 4000 Hrs @ 105°C	RADIAL
3	C3	1	68uF	ESY476M100AH1AA	Kemet	68 uF 100 V Aluminum Electrolytic Capacitors Radial, Can 180mOhm @ 100kHz 4000 Hrs @ 105°C	RADIAL
4	C5, C6, C7, C8	4		GRM32EC72A109KE0SL	Murata	10uF ±10% 100V Ceramic Capacitor X7S 1210 (3225 Metric)	1210
5	C9	1	2.2uF	GRM21BD72A225ME01K	Murata	Chip Multilayer Ceramic Capacitor for General Purpose 2.2uF ±20% 100V X7T SMD 0805	0805
6	C10	1	1000pF	06031C102JAT2A	AVX	CAP, CERM, 1000 pF, 100 V, +/- 5%, X7R, 0603	0603
7	C11, C17	2	10pF	04025U100FAT2A	KYOCERA AVX	10 pF ±1% 50V Ceramic Capacitor COG, NPO 0402 (1005 Metric)	0402
8	C12	1				Multilayer Ceramic Capacitors 100nF ±10% 10V X5R SMD 0402	
9	C13	1	100uF	ESY476M100AH1AA	Kemet	100 uF 100 V Aluminum Electrolytic Capacitors Radial, Can 180mOhm @ 100kHz 4000 Hrs @ 105°C	RADIAL
10	C14, C15, C16	3	10uF	22201C106MAT2A	AVX	CAP, CERM, 10 uF, 100 V, +/- 20%, X7R, 2220	2220
11	C18, C19	2	2.2uF	GRM188C71C225KE11D	Murata	2.2uF ±10% 16V Ceramic Capacitor X7S 0603 (1608 Metric)	0603
12	C20	1	100pF	06035A101FAT2A	AVX	CAP, CERM, 100 pF, 50 V, +/- 1%, COG/NPO, 0603	0603
13	C21, C22, C38, C41, C42, C43, C45, C46, C47	9	0.1uF	TMK107B1104KA-T	Taiyo Yuden	CAP CER 0.1UF 25V X5R 0603	0603
14	C23, C24	2	2.2uF	12061C225KAT2A	AVX	2.2uF @ ±10% 100V Ceramic Capacitor X7R 15% 1206 (3216 Metric)	1206
15	C25, C29	2		GRM188R72A104KA35D	Murata	0.1uF ±10% 100V Ceramic Capacitor X7R 0603 (1608 Metric)	0603
16	C26, C31	2	1uF	CC0603MRY5V7BB105	Yageo	CAP CER 1uF 16V Y5V 0603	0603
17	C27, C32, C35	3	10uF	GRM31CR71E106KA12L	MuRata	CAP, CERM, 10 uF, 25 V, +/- 10%, X7R, 1206	1206
18	C28	1		CL21B106KOQNNNG	Samsung Electro-Mechanics	Cap Ceramic 10uF 16V X7R 10% Pad SMD 0805 125°C T/R	0805
19	C30	1	1uF	CL10B105K08VPNC	Samsung Electro-Mechanics	CAP, CERM, 1 uF, 16 V +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603
20	C33, C34, C36	3	0.1uF	GRM188R71E104KA01D	MuRata	CAP, CERM, 0.1 uF, 25 V, +/- 10%, X7R, 0603	0603
21	C37	1	1uF	06033C105KAT2A	AVX	CAP, CERM, 1 uF, 25 V, +/- 10%, X7R, 0603	0603
22	C39, C44, C48	3	1000pF	GRM188R71E102KA01B	MuRata	CAP, CERM, 1000 pF, 25 V, +/- 10%, X7R, 0603	0603
23	C40	1	4.7nF	GRM188R71H472KA01B	Murata	Multilayer Ceramic Capacitors MLCC - SMD/SMT 0603 4700pF 50volt X7R +/-10%	0603
24	C49, C50, C53, C54	4	1nF	CC0603KRX7R7BB102	YAGEO	1000 pF ±10% 16V Ceramic Capacitor X7R 0603 (1608 Metric)	0603
25	C52	1	1uF	GRT155R61E105KE01D	Murata	Multi-Layer Ceramic Capacitor 1uF 25V X5R ±10% 0402 Paper T/R	0402
26	D1	1	15V	BZT52C15-T-F	Diodes Inc.	Diode, Zener, 15 V, 500 mW, AEC-Q101, SOD-123	SOD-123
27	D2	1	3.6V	MMSZ4685T1G	ON Semiconductor	Diode, Zener, 3.6 V, 500 mW, SOD-123	SOD-123
28	D3, D4	2	Green	LTST-C190KGKT	Lite-On	LED, Green, SMD	1.6x0.8x0.8mm
29	D5, D6	2	Red	LTST-C190KRKT	Lite-On	LED, Red, SMD	Red LED, 1.6x0.8x0.8mm
30	H1, H2, H3, H4	4		NY PMS 440 0025 PH	B&F Fastener Supply	Machine Screw, Round, #4-40 x 1/4, Nylon, Philips panhead	Screw
31	H5, H6, H7, H8	4		1902C	Keystone	Standoff, Hex, 0.5"L #4-40 Nylon	Standoff
32	H9, H10, H11, H12	4		SJ-5303 (CLEAR)	3M	Bump, Hemisphere, 0.44 X 0.20, Clear	Transparent Bump
33	J1, J2, J3	3		OSTT7020150	On-Shore Technology	Terminal Block, 6.35mm, 2x1, TH	On-Shore OSTT7020150
34	J4	1		FTSH-105-01-L-DV-K	Samtec	Header(Shrouded), 1.27mm, 5x2, Gold, SMT	Header(Shrouded), 1.27mm, 5x2, SMT
35	J5	1		61201621621	Würth Elektronik	Header(Shrouded), 2.54mm, 8x2, Gold, TH	Header, 2.54mm, 8x2, TH
36	L1	1	10uH	7443641000	Würth Elektronik	Inductor, Shielded, Ferrite, 10 uH, 30 A, 0.0024 ohm, SMD	28.5x19.5mm
37	LBL1	1		THT-14-423-10	Brady	Thermal Transfer Printable Labels, 0.650" W x 0.200" H - 10,000 per roll	PCB Label 0.650 x 0.200 inch
38	Q1, Q2, Q3	3	60V	CSD1854Q05B	Texas Instruments	MOSFET, N-CH, 60 V, 100 A, DNK0008A (VSON-CLIP-8)	DNK0008A
39	Q4	1	40 V	MMBT3904-TP	Micro Commercial Co	TRANS NPN 40V 0.2A SOT23	SOT-23
40	R1, R4, R5	3	0.002	CRE2512-FZ-R002E-3	Bourns Inc.	RES, 0.002 OHM 1% 3W 2512	2512
41	R2, R6	2	2.21	CRCW040222R2JFKED	Vishay-Dale	RES, 2.21, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
42	R3	1	10.0k	RC1608P-103-B-T5	Susumu Co Ltd	RES, 10.0 k, 0.1%, 0.1 W, 0603	0603
43	R7	1	5.6	CRCW251256R60JNEG	Vishay-Dale	RES, 5.6, 5%, 1 W, AEC-Q200 Grade 0, 2512	2512
44	R8, R11	2	5.11	CRCW1206R811FKEA	Vishay-Dale	RES, 5.11, 1%, 0.25 W, AEC-Q200 Grade 0, 1206	1206
45	R9, R10	2	20	RC0603FR-0720RL	Yageo	RES, 20.0, 1%, 0.1 W, 0603	0603
46	R12	1	768k	RC0603FR-07768KL	Yageo	RES, 768 k, 1%, 0.1 W, 0603	0603
47	R13, R14	2	100k	RC0603FR-07100KL	Yageo	RES, 100 k, 1%, 0.1 W, 0603	0603
48	R15	1	5.1	CRCW060351R0JUNEAE	Vishay-Dale	RES, 5.1, 5%, 0.1 W, 0603	0603
49	R16	1	47k	RC0603JR-0747KL	Yageo	RES, 47 k, 5%, 0.1 W, 0603	0603
50	R17, R19, R20, R21	4	3.3k	CRCW06033K30JNEAE	Vishay-Dale	RES, 3.3 k, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
51	R18	1	100k	RT0603BRD07100KL	Yageo America	RES, 100 k, 0.1%, 0.1 W, 0603	0603
52	R22, R23, R24, R26, R27	5	1.00k	RC0603FR-071KL	Yageo	RES, 1.00 k, 1%, 0.1 W, 0603	0603
53	R25, R35, R40	3	100	RC0603FR-07100RL	Yageo	RES, 100, 1%, 0.1 W, 0603	0603
54	R28, R33	2	1.0k	RC0603JR-071KL	Yageo	RES, 1.0 k, 5%, 0.1 W, 0603	0603
55	R29, R30, R31, R37	4	10.0k	ERJ-3EKF1002V	Panasonic	RES, 10.0 k, 1%, 0.1 W, 0603	0603
56	R32	1	0	RC0603JR-070RL	Yageo	RES, 0, 5%, 0.1 W, 0603	0603
57	R34, R36	2	22	RC0603FR-0722RL	Yageo	RES, 22.0, 1%, 0.1 W, 0603	0603
58	R38	1	2.05k	RC0603FR-072K05L	Yageo	RES, 2.05 k, 1%, 0.1 W, 0603	0603
59	R39	1	1	CRCW06031R00JNEAE	Vishay-Dale	RES, 1.0, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
60	R41, R42	2	10.0k	RMCF060310T10K0	Stackpole Electronics Inc	RES, 10.0 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
61	R43, R44, R49, R50	4	3.30k	CRCW06033K30FKEA	Vishay-Dale	RES, 3.30 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
62	R45, R46, R47, R48	4	80.6k	RC0603FR-0780K6L	Yageo	RES, 80.6 k, 1%, 0.1 W, 0603	0603
63	TP1, TP2, TP3, TP4, TP5, TP6, TP7, TP8, TP9, TP10, TP11, TP12, TP13, TP14	14		5000	Keystone	Test Point, Miniature, Red, TH	Red Miniature Testpoint
64	U1, U2	2		TVS3300DRVR	Texas Instruments	33-V Precision Surge Protection Clamp, DRV0006A (WSON-6)	DRV0006A
65	U3	1		LMG2100R044	Texas Instruments	4A/4A Single Channel High-speed Low-side Gate Driver, DBV0005A (SOT-23-5)	VQFN-FCRLF16
66	U4, U5	2		UCC27517DBVR	Texas Instruments	4A/4A Single Channel High-speed Low-side Gate Driver, DBV0005A (SOT-23-5)	DBV0005A
67	U6	1		TPSM365R6V5RDNR	Texas Instruments	3-V to 65-V Input, 1-V to 13-V Output, 600-mA Synchronous Buck Converter Power Module in a HotRod QFN Package	VQFN-HR9
68	U7	1		TPS7A203PDBVR	Texas Instruments	300-mA, Ultra-Low-Noise, Low-IQ, High PSRR LDO	SOT23-5
69	U8	1		MSPM0G1506SRGZ	Texas Instruments	Mixed-Signal Microcontrollers	VQFN48
70	U9, U11, U13	3		INA241A3IDDF	Texas Instruments	-4-V to 110-V, Bidirectional, Ultra-Precise Current Sense Amplifier With Enhanced PWM Rejection	SOT23-8
71	U10	1		OPT3004DNPR	Texas Instruments	Ambient Light Sensor (ALS), DNP0006A (USON-6)	DNP0006A
72	U12	1		TMP303CDRLR	Texas Instruments	Factory Programmed Temperature Window Comparator, DRL0006A (SOT-OTHER-6)	DRL0006A
73	FID1, FID2, FID3	0		N/A	N/A	Fiducial mark. There is nothing to buy or mount.	N/A

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