

**TIDA-010272 REV E1 Bill of Materials**

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
C1	1	4700pF	CGA3E2X7R2A472K080AA	TDK	CAP, CERM, 4700 pF, 100 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603
C2, C3	2	15uF	CGA9P3X7S2A156M250KB	TDK	CAP, CERM, 15 uF, 100 V, +/- 20%, X7S, AEC-Q200 Grade 1, 2220	2220
C4, C7, C21, C24	4	10uF	CGA6P3X7S1H106K250AB	TDK	CAP, CERM, 10 uF, 50 V, +/- 10%, X7S, AEC-Q200 Grade 1, 1210	1210
C5	1	0.1uF	CGA3E3X8R1H104M080AB	TDK	CAP, CERM, 0.1 uF, 50 V, +/- 20%, X8R, AEC-Q200 Grade 0, 0603	0603
C6, C9	2	1000pF	CGA2B2C0G1H102J050BA	TDK	CAP, CERM, 1000 pF, 50 V, +/- 5%, C0G/NP0, AEC-Q200 Grade 1, 0402	0402
C8	1	2.2uF	CGA4J3X7R1H225K125AB	TDK	CAP, CERM, 2.2 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0805	0805
C10	1	220uF	EEE-FK1H221GP	Panasonic	CAP, AL, 220 uF, 50 V, +/- 20%, 0.18 ohm, AEC-Q200 Grade 2, SMD	SMT Radial G
C11	1	1000pF	GRM1555C1H102JA01D	MuRata	CAP, CERM, 1000 pF, 50 V, +/- 5%, C0G/NP0, 0402	0402
C12, C92, C301	3	4.7uF	GRT188R61C475KE13D	MuRata	CAP, CERM, 4.7 uF, 16 V, +/- 10%, X5R, AEC-Q200 Grade 3, 0603	0603
C13, C300	2	10uF	GRT31CR61H106KE01L	MuRata	CAP, CERM, 10 uF, 50 V, +/- 10%, X5R, AEC-Q200 Grade 1, 1206	1206
C14, C49, C70, C71, C74, C75, C76, C77, C80, C81, C82, C84	12	0.1uF	GCM188R71E104KA57D	MuRata	CAP, CERM, 0.1 uF, 25 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603
C22, C23, C25, C27, C28, C29, C30, C31, C89, C91, C93, C150	12	0.1uF	GCM155R71H104KE02D	MuRata	CAP, CERM, 0.1 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0402	0402
C26	1	2.2uF	GRM188R71A225KE15J	MuRata	CAP, CERM, 2.2 uF, 10 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603
C72, C78	2	1uF	GCM188R71E105KA64D	MuRata	CAP, CERM, 1 uF, 25 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603
C73, C79	2		GCM1555C1H221JA16D	Murata Electronics North Ame	220pF Multilayer Ceramic Capacitor (MLCC) 50 V dc 5% C0G dielectric GCM max op. temp. +125C	0402
C83, C85	2	0.022uF	CGA3E2X7R2A223K080AA	TDK	CAP, CERM, 0.022 uF, 100 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603
C87, C88, C94, C95	4	0.47uF	GRM155R61A474KE15D	MuRata	CAP, CERM, 0.47 uF, 10 V, +/- 10%, X5R, 0402	0402
C90	1	4700pF	GCM155R71H472KA37D	MuRata	CAP, CERM, 4700 pF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0402	0402
C98, C101, C104, C107	4	220pF	CL10B221JB8NNNC	Samsung Electro-Mechanics	CAP, CERM, 220 pF, 50 V, +/- 5%, X7R, 0603	0603
C99, C105	2	100pF	GCM1885C1H101JA16J	MuRata	CAP, CERM, 100 pF, 50 V, +/- 5%, C0G/NP0, AEC-Q200 Grade 1, 0603	0603
C100, C106	2	0.01uF	CL10B103KB8NCNC	Samsung Electro-Mechanics	CAP, CERM, 0.01 uF, 50 V, +/- 10%, X7R, 0603	0603

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
C108_HV1, C108_HV3, C108_HV4, C109_HV1, C109_HV3, C109_HV4, C110_HV1, C110_HV3, C110_HV4, C500_HV1, C500_HV3, C500_HV4	12	1000pF	C1206C102KGRACAUTO	Kemet	CAP, CERM, 1000 pF, 2000 V, +/- 10%, X7R, AEC-Q200 Grade 1, 1206	1206
C111_HV1, C111_HV3, C111_HV4, C130	4	6800pF	GRM1885C1H682JA01D	MuRata	CAP, CERM, 6800 pF, 50 V, +/- 5%, C0G/NP0, 0603	0603
C112, C113, C114, C115	4	22pF	C1206C102KGRACAUTO	Knowles Capacitors	CAP, CERM, 2200 pF, 2000 V, +/- 10%, X7R, AEC-Q200 Grade 1, 1206	1206
C151	1	0.1uF	GCM155R71A104KA55D	MuRata	CAP, CERM, 0.1 uF, 10 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0402	0402
D1	1	60V	RB058L-60TE25	Rohm	Diode, Schottky, 60 V, 3 A, AEC-Q101, SMA	SMA
D2, D12, D30, D31, D32	5	Green	150060VS75000	Würth Elektronik	LED, Green, SMD	LED_0603
D6, D7	2	30V	MBR0530T1G	ON Semiconductor	Diode, Schottky, 30 V, 0.5 A, SOD-123	SOD-123
D18	1	15V	MMSZ4702-HE3-08	Vishay-Semiconductor	Diode, Zener, 15 V, 500 mW, AEC-Q101, SOD-123	SOD-123
D19	1	12V	BZT52B12-E3-08	Vishay-Semiconductor	Diode, Zener, 12 V, 500 mW, AEC-Q101, SOD-123	SOD-123
D20, D22	2		ESDS552DBZR	Texas Instruments	12-V Bi-directional ESD protection diode in SOT-23	SOT23-3
D23, D24	2	8V	TSD05CDYFR	Bourns	Diode, TVS, Bi, 8 V, 18.5 Vc, SOD-323	SOD323, 2-Leads, Body 1.9x1.45mm, No Polarity Mark
D33, D34, D301	3	Red	150060RS75000	Würth Elektronik	LED, Red, SMD	LED_0603
D300	1		SMCJ36A	Littelfuse	TVS DIODE 36VWM 58.1VC SMC	DO-214AB
FID1, FID2, FID3, FID4, FID5, FID6	6		N/A	N/A	Fiducial mark. There is nothing to buy or mount.	N/A
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
H5, H6, H7, H8	4		1902C	Keystone	Standoff, Hex, 0.5"L #4-40 Nylon	Standoff
J1	1		PJ-002BH	CUI Devices		PTH_POWER_CONN_14MM4_9 MM0
J5, J10, J11, J21	4		TSW-102-08-G-S	Samtec	Header, 2.54mm, 2x1, Gold, TH	Header, 2.54mm, 2x1, TH
J8	1		61301021021	Würth Elektronik	CONN HEADER 10POS .100 DL R/A AU	HDR10
J9	1		PEC02SAAN	Sullins Connector Solutions	Header, 100mil, 2x1, Tin, TH	Header, 2 PIN, 100mil, Tin
J22, J24	2		1792119	Phoenix Contact	Terminal Block, 7.5mm, 3x1, R/A, TH	Receptacle, 7.5mm, 3x1, TH
J25	1		TSW-101-07-G-S	Samtec	Header, 100mil, 1pos, Gold, TH	Testpoint
J28, J29	2		705550039	Molex	Connector Header Through Hole, Right Angle 5 position 0.100" (2.54mm)	
J30	1		TSW-103-07-G-D	Samtec	Header, 100mil, 3x2, Gold, TH	3x2 Header
J31	1		TSW-108-07-G-D	Samtec	Header, 100mil, 8x2, Gold, TH	8x2 Header
J32	1		TSW-104-08-L-D	Samtec	Header, 2.54mm, 4x2, Gold, TH	Header, 2.54mm, 4x2, TH
J33	1		TSW-105-07-G-D	Samtec	Header, 100mil, 5x2, Gold, TH	5x2 Header
J34, J39	2		TSW-103-07-G-S	Samtec	Header, 100mil, 3x1, Gold, TH	3x1 Header
J35, J38	2		HTSW-102-09-G-S	Samtec	Header, 100mil, 2x1, Gold, TH	Header, 2x1, 2.54mm, TH
J36, J37	2		70551-0038	Molex	Header(shrouded), 2.54mm, 4x1, R/A, Gold, TH	Header(shrouded), 2.54mm, 4x1, R/A, TH
K1	1		KT05-1A88-BV88926	Standex Electronics	Reed Relay 5VDC 80Ohm 1.5A SPST-NO(30.2x10.2x8.7)mm SMT	SMT_RELAY_10MM2_30MM2

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
L1	1	2.2uH	IHLP1616BZER2R2M01	Vishay-Dale	Inductor, Shielded Drum Core, Powdered Iron, 2.2 uH, 2.85 A, 0.08 ohm, SMD	4.7x2.0x4.3mm
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
Q1	1		2N7002BKS,115	Nexperia	Mosfet Array 2 N-Channel (Dual) 60V 300mA 295mW Surface Mount 6-TSSOP	SOT363
Q2, Q3	2	60V	2N7002BKVL	Nexperia	MOSFET, N-CH, 60 V, 0.35 A, AEC-Q101, SOT-23	SOT-23
R1, R2, R12, R14, R26, R31, R39, R66, R100, R107, R108, R113, R114, R117, R122, R125, R196, R197, R199, R200, R206, R207, R209, R210, R268_HV1, R268_HV3, R268_HV4, R350, R400, R401, R402, R403, R404, R405, R406	35	0	CRCW06030000Z0EA	Vishay-Dale	RES, 0, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R3, R4	2	100k	RR0816P-104-D	Susumu Co Ltd	RES, 100 k, .5%, .0625 W, 0603	0603
R5, R6, R7, R8, R9, R10, R11, R13, R17, R18	10	150k	CRCW1206150KJNEA	Vishay-Dale	RES, 150 k, 5%, 0.25 W, AEC-Q200 Grade 0, 1206	1206
R15, R16	2	20k	CRCW040220K0JNED	Vishay-Dale	RES, 20 k, 5%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R19, R20, R27	3	1.00Meg	ERJ-8ENF1004V	Panasonic	RES, 1.00 M, 1%, 0.25 W, AEC-Q200 Grade 0, 1206	1206
R21	1	100k	CRCW0402100KDHP	Vishay-Dale	RES, 100 k, 0.5%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R22, R23	2	100	CRCW0402100RJNED	Vishay-Dale	RES, 100, 5%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R24, R25	2	10k	CRCW040210K0JNED	Vishay-Dale	RES, 10 k, 5%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R28, R29, R30, R32, R33, R35	6	750k	TNPV1206750KBEEN	Vishay Draloric	RES, 750 k, 0.1%, 1 W, 1206	1206
R34, R67	2	1.0Meg	CRCW06031M00JNEA	Vishay-Dale	RES, 1.0 M, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R36, R37	2	24.9k	PTFR0603B24K9NT	RESI	High-Stability Precision Thin Film Chip Resistor 24.9kOhm .1% 0603	0603
R38, R68, R310, R311, R312	5	2.2k	CRCW06032K20JNEA	Vishay-Dale	RES, 2.2 k, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R40, R500, R501, R502, R503, R504	6	100k	CRCW0603100KJNEA	Vishay-Dale	RES, 100 k, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R41, R42	2	200	RT0603DRE07200RL	Yageo America	RES, 200, 0.5%, 0.1 W, 0603	0603
R198, R201, R208, R211, R214, R219, R230, R237, R247, R254	10	10	CRCW060310R0JNEA	Vishay-Dale	RES, 10, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R212, R216	2	10.0k	CRCW060310K0FKEA	Vishay-Dale	RES, 10.0 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R213, R218	2	1.0k	CRCW06031K00JNEA	Vishay-Dale	RES, 1.0 k, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R220	1	51	CRCW080551R0JNEA	Vishay-Dale	RES, 51, 5%, 0.125 W, AEC-Q200 Grade 0, 0805	0805

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
R221	1	0	CRCW04020000ZOED	Vishay-Dale	RES, 0, 5%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R228, R229, R235, R236, R245, R246, R252, R253	8	0	RC0603JR-070RL	Yageo	RES, 0, 5%, 0.1 W, 0603	0603
R231, R238, R248, R255	4	43	CRCW060343R0JNEA	Vishay-Dale	RES, 43, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R232, R234, R249, R251	4	499	RC0603FR-07499RL	Yageo	RES, 499, 1%, 0.1 W, 0603	0603
R233, R250	2	1.00k	CRCW06031K00FKEA	Vishay-Dale	RES, 1.00 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R265_HV1, R265_HV3, R265_HV4, R266_HV1, R266_HV3, R266_HV4, R267_HV1, R267_HV3, R267_HV4, R272_HV1, R272_HV3, R272_HV4, R300, R301, R302, R303	16	1.5M	CHV1206-FX-1504ELF	Bourns	Thick Film High Voltage Chip Resistors 1206 1.5M $\Omega$ $\pm$ 1% $\pm$ 100ppm/ $^{\circ}$ C	1206
R269_HV1, R269_HV3, R269_HV4, R270_HV1, R270_HV3, R270_HV4, R271_HV1, R271_HV3, R271_HV4	9	49.9k	RC0603FR-0749K9L	Yageo	RES, 49.9 k, 1%, 0.1 W, 0603	0603
T2	1		HCTSM151207FAL	Bourns	High Clearance and Creepage Transformer	SMT_XFRMR_21MM3_15MM0
T3, T4	2		LKBMT10B	LineKey Technology	SMD BMS Transformer	SMT_XFRMR_27MM9_12MM5
TP1, TP2, TP4, TP5, TP6, TP7, TP100	7		5012	Keystone	Test Point, Multipurpose, White, TH	White Multipurpose Testpoint
TP3, TP8, TP9, TP10	4		1598-2	Keystone	Terminal, Turret, TH, Triple	Keystone1598-2
U1, U100	2		TPS7B6950QDBVRQ1	Texas Instruments	Automotive High-Voltage Ultra-Low IQ Low-Dropout Regulator/Fixed 5-V Output Voltage, DBV0005A (SOT-23-5)	DBV0005A
U2, U11	2		TPSI2140QDWQRQ1	Texas Instruments	Isolated Solid State Relay	SOIC11
U3	1		SN6507DGQR	Texas Instruments	Low-Emission 36V Push-Pull Transformer Driver with Duty Cycle Control for Isolated Power Supplies	HVSSOP10
U4, U5	2		ISO7841DWWR	Texas Instruments	High-Immunity, 5.7kVRMS Reinforced Quad-Channel 3/1 Digital Isolator, 100Mbps, DWW0016A (SOIC-16)	DWW0016A
U6	1		SN74LVC1G07QDBVRQ1	Texas Instruments	Automotive Catalog Single Buffer/Driver With Open-Drain Output, DBV0005A (SOT-23-5)	DBV0005A
U16	1		BQ79731-Q1	Texas Instruments	Functional Safety-Compliant Automotive UIR sensor for Battery Junction Box (BJB) and other High Voltage and Current sensing	HTQFP48

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