

TIDA-010271 REV E1 Bill of Materials

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
C1, C2, C4, C10, C11, C15, C39, C120, C159, C160, C170	11	0.1uF	GCM155R71A104KA55D	MuRata	CAP, CERM, 0.1 uF, 10 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0402	0402
C3, C154	2		GCM31MR72A224KA37L	Murata	Multilayer Ceramic Capacitors MLCC - SMD/SMT 1206 0.22uF 100volts X7R +/-10%	1206
C5, C6, C7, C13, C30, C52, C53, C54, C55, C56, C57, C58, C59, C60, C61, C62, C63, C64, C65, C66, C67, C68, C69, C70, C71, C72, C73, C74, C75, C76, C77, C78, C79, C80, C81, C84, C162, C179, C190, C191, C192, C193, C194, C195, C196, C197, C198, C199, C200, C201, C202, C203, C204, C205, C206, C207, C208, C209, C210, C211, C212, C213, C214, C215, C216, C217, C218, C219, C220, C221, C222, C223	72	0.47uF	GCM188R71C474KA55D	MuRata	CAP, CERM, 0.47 uF, 16 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603
C8, C155	2	1uF	GRM21BR71C105KA01L	MuRata	CAP, CERM, 1 uF, 16 V, +/- 10%, X7R, 0805	0805
C9, C16, C19, C158, C165, C168	6		C0603C105K8RACAUTO	KEMET	CAP CER 0603 1UF 10V X7R 10%	0603 (1608 Metric)

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C12, C20, C21, C22, C23, C24, C25, C26, C27, C28, C29, C31, C32, C33, C34, C35, C36, C37, C38, C161, C171, C172, C173, C174, C175, C176, C177, C178, C180, C181, C182, C183, C184, C185, C186, C187, C188, C189	38	0.1uF	GCM155R71H104KE02D	MuRata	CAP, CERM, 0.1 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0402	0402
C14, C163	2	0.01uF	GCM188R72A103KA37J	MuRata	CAP, CERM, 0.01 uF, 100 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603
C17, C166	2	4.7uF	C2012X7R1A475M125AC	TDK	CAP, CERM, 4.7 uF, 10 V, +/- 20%, X7R, 0805	0805
C18, C167	2	2.2uF	C0603C225K8PACTU	Kemet	CAP, CERM, 2.2 uF, 10 V, +/- 10%, X5R, 0603	0603
C40, C41, C153	3	2200pF	1206J2K00222KXR	Knowles Capacitors	CAP, CERM, 2200 pF, 2000 V, +/- 10%, X7R, AEC-Q200 Grade 1, 1206	1206
C42, C43, C44, C45, C48, C49, C50, C51	8	220pF	CL10B221JB8NNNC	Samsung Electro-Mechanics	CAP, CERM, 220 pF, 50 V, +/- 5%, X7R, 0603	0603
C46, C47	2	100pF	GCM1885C1H101JA16J	MuRata	CAP, CERM, 100 pF, 50 V, +/- 5%, C0G/NP0, AEC-Q200 Grade 1, 0603	0603
C82, C83, C85, C86, C88, C89, C90, C91, C92, C93, C94, C95, C96, C97, C98, C99, C100, C101, C102, C103, C104, C105, C106, C107, C108, C109, C110, C111, C112, C113, C114, C115, C116, C117, C118, C119, C121, C122	38	0.01uF	8.85012E+11	Würth Elektronik	CAP, CERM, 0.01 uF, 100 V, +/- 10%, X7R, 0603	0603
C152, C169	2	0.022uF	CGA3E2X7R2A223K080AA	TDK	CAP, CERM, 0.022 uF, 100 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603
D1, D45	2	Green	150060VS75000	Würth Elektronik	LED, Green, SMD	LED_0603
D2, D3	2	70V	824500701	Würth Elektronik	Diode, TVS, Uni, 70 V, 113 Vc, 400 W, 3.5 A, SMA	SMA

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D4, D5, D10, D11, D16, D17, D22, D23, D28, D29, D34, D35, D41, D42, D47, D48, D57, D58, D59, D60, D61, D62, D63, D64, D65, D66, D67, D68, D69, D70, D71, D72	32	Red	150060RS75000	Würth Elektronik	LED, Red, SMD	LED_0603
D6, D7, D12, D13, D14, D15, D18, D19, D20, D21, D24, D25, D26, D27, D30, D31, D32, D33, D36, D37, D38, D39, D40, D43, D46, D49, D50, D51, D52, D53, D54, D55	32	6.1V	ESD441DPLR	Texas Instruments	Diode, TVS, Uni, 6.1 V, 0201	0201
D8, D9	2	8V	TSD05CDYFR	Texas Instruments	Diode, TVS, Bi, 8 V, 18.5 Vc, SOD-323	SOD323, 2-Leads, Body 1.9x1.45mm, No Polarity Mark
D44, D56	2	70V	824540701	Würth Elektronik	Diode, TVS, Uni, 70 V, 113 Vc, SMC	SMC
FID4, FID5, FID6	3		N/A	N/A	Fiducial mark. There is nothing to buy or mount.	N/A
J1, J17, J19	3		61300411121	Würth Elektronik	Header, 2.54 mm, 4x1, Gold, TH	Header, 2.54mm, 4x1, TH
J2, J7	2		61302421821	Würth Elektronik	24 Position Receptacle Connector 0.100" (2.54mm) Through Hole Gold	CONN_RCPT24
J3, J5, J16, J32, J33	5		61300211121	Würth Elektronik	Header, 2.54 mm, 2x1, Gold, TH	Header, 2.54mm, 2x1, TH
J4, J18	2		61302011121	Würth Elektronik	Header, 100mil, 20x1, Gold, TH	20x1 Header
J6, J8, J14	3		61300821121	Würth Elektronik	CONN HEADER VERT 8POS 2.54MM	HDR8
J9, J11	2		61302421121	Würth Elektronik	24 Position Receptacle Connector 0.100" (2.54mm) Through Hole Gold	CONN_RCPT24
J10, J21	2		705550056	Molex	Connector Header Through Hole, Right Angle 22 position 0.100" (2.54mm)	HDR22
J12	1		61301021021	Würth Elektronik	CONN HEADER 10POS .100 DL R/A AU	HDR10
J13, J20	2		61300511121	Würth Elektronik	Header, 2.54mm, 5x1, Gold, TH	Header, 2.54mm, 5x1, TH
J15	1		6.1302E+11	Würth Elektronik	Header, 100mil, 20x1, Gold, TH	20x1 Header
J26, J27, J28, J29	4		61300311121	Würth Elektronik	Header, 2.54 mm, 3x1, Gold, TH	Header, 2.54mm, 3x1, TH
J30, J31	2		70551-0038	Molex	Header(shrouded), 2.54mm, 4x1, R/A, Gold, TH	Header(shrouded), 2.54mm, 4x1, R/A, TH
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, Q39	2	150 V	ZXTN4004KTC	Diodes Inc.	Transistor, NPN, 150 V, 1 A, AEC-Q101, DPAK	DPAK

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Q2, Q3, Q4, Q5, Q6, Q7, Q8, Q9, Q10, Q11, Q12, Q13, Q14, Q15, Q16, Q17, Q40, Q41, Q42, Q43, Q44, Q45, Q46, Q47, Q48, Q49, Q50, Q51, Q52, Q53, Q54, Q55	32	45 V	FCX690BTA	Diodes Inc.	Transistor, NPN, 45 V, 1 A, SOT-89	SOT-89
Q37	1	-20V	BSS223PWH6327	Infineon Technologies	MOSFET, P-CH, -20 V, -0.39 A, SOT-323	SOT-323
Q38	1	80V	ISOM8110DFG	Texas Instruments	3.75-kVRMS, Single-Channel Opto-Emulator with Transistor Output	SOIC4
R1, R2, R3, R4, R5, R6, R7, R8, R10, R11, R14, R47, R51, R68, R70, R71, R76, R77, R79, R80, R83, R84, R87, R88, R91, R92, R150, R153, R154, R155, R174, R179, R183, R188, R408	35	0	RC0603JR-070RL	Yageo	RES, 0, 5%, 0.1 W, 0603	0603
R9, R192, R417, R418	4	0	CRCW06030000Z0EA	Vishay-Dale	RES, 0, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R12, R13, R16, R17, R20, R95, R106, R107, R123, R124, R134, R135, R136, R137, R138, R139, R427, R428, R437, R438, R447, R448, R457, R458, R467, R468, R477, R478, R487, R488, R497, R498	32	300	CRCW0402300RJNED	Vishay-Dale	RES, 300, 5%, 0.063 W, AEC-Q200 Grade 0, 0402	0402

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R15, R18, R19, R21, R22, R23, R26, R27, R28, R67, R96, R99, R100, R101, R102, R103, R104, R105, R108, R109, R112, R113, R116, R117, R118, R119, R120, R121, R122, R125, R126, R127, R130, R131, R419, R420, R421, R422, R429, R430, R431, R432, R439, R440, R441, R442, R449, R450, R451, R452, R459, R460, R461, R462, R469, R470, R471, R472, R479, R480, R481, R482, R489, R490, R491, R492, R499, R500	68	30	RC1210FR-0730RL	Yageo	RES, 30.0, 1%, 0.5 W, 1210	1210
R24, R151	2	100	CRCW2010100RFKEF	Vishay-Dale	RES, 100, 1%, 0.75 W, AEC-Q200 Grade 0, 2010	2010
R25, R152	2	200	CRCW2010200RFKEF	Vishay-Dale	RES, 200, 1%, 0.75 W, AEC-Q200 Grade 0, 2010	2010
R29, R156	2	30	CRCW080530R0JNEA	Vishay-Dale	RES, 30, 5%, 0.125 W, AEC-Q200 Grade 0, 0805	0805
R30, R97, R98, R114, R115, R132, R133, R140, R142, R148, R149, R157, R164, R165, R180, R181, R197, R198, R213, R214, R425, R426, R435, R436, R445, R446, R455, R456, R465, R466, R475, R476, R485, R486, R495, R496	36	1.0k	CRCW06031K00JNEA	Vishay-Dale	RES, 1.0 k, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	0603

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
R31, R33, R35, R37, R39, R41, R43, R45, R49, R53, R55, R57, R59, R61, R63, R65, R158, R162, R166, R168, R170, R172, R178, R185, R187, R191, R196, R200, R202, R223, R411, R413, R415	33	10.0k	CRCW060310K0FKEA	Vishay-Dale	RES, 10.0 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R32, R34, R36, R38, R40, R42, R44, R48, R52, R54, R56, R58, R60, R62, R64, R66, R159, R163, R167, R169, R171, R175, R184, R186, R190, R199, R201, R220, R282, R412, R414, R416	32	1.0k	CRCW04021K00JNED	Vishay-Dale	RES, 1.0 k, 5%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R46, R50, R173, R182	4	402	CRCW0603402RFKEA	Vishay-Dale	RES, 402, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R69, R72, R75, R78, R81, R82, R89, R90	8	51	CRCW060351R0JNEA	Vishay-Dale	RES, 51, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R73, R74, R85, R86	4	1.00k	ERJ-3EKF1001V	Panasonic	RES, 1.00 k, 1%, 0.1 W, 0603	0603
R93, R94, R110, R111, R128, R129, R144, R145, R160, R161, R176, R177, R193, R194, R209, R210, R225, R423, R424, R433, R434, R443, R444, R453, R454, R463, R464, R473, R474, R483, R484, R493, R494, R501	34	100	ERA-3AEB101V	Panasonic	RES, 100, 0.1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R141	1	100	CRCW0603100RJNEA	Vishay-Dale	RES, 100, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	0603

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
R143, R146, R147	3	100k	CRCW0603100KJNEA	Vishay-Dale	RES, 100 k, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R189, R195	2	0	CRCW04020000Z0ED	Vishay-Dale	RES, 0, 5%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R203, R205, R207, R211, R215, R217, R219, R222, R226, R230, R232, R234, R236, R238, R240, R242	16	100	CRCW2512100RFKEG	Vishay-Dale	RES, 100, 1%, 1 W, AEC-Q200 Grade 0, 2512	2512
RT1, RT2, RT3, RT4, RT5, RT6, RT7, RT8, RT9, RT10, RT11, RT12, RT13, RT14, RT15, RT16, RT17, RT18, RT19, RT20, RT21, RT22, RT23, RT24, RT25, RT26, RT27, RT28, RT29, RT30, RT31, RT32	32	10k	ERT-J1VG103GA	Panasonic	Thermistor NTC, 10k ohm, 2%, 0603	0603
T1, T2	2		HMU1228NL	Pulse	BMS TRANSFORMER	SMT_TRANSFORMER_8MM89_10MM09
TP1	1		5010	Keystone	Test Point, Multipurpose, Red, TH	Red Multipurpose Testpoint
TP2	1		5011	Keystone	Test Point, Multipurpose, Black, TH	Black Multipurpose Testpoint
U1, U2, U9, U15	4		ESD2CAN24DBZR	Texas Instruments	24-V, 2-Channel ESD Protection Diode for In-Vehicle Networks	SOT-23-3
U3, U18	2		TPS22810TDBVRQ1	Texas Instruments	IC PWR SWITCH N-CHAN 1:1 SOT23-6	
U4, U19	2		BQ79616PAP	Texas Instruments	SafeTI™ Precision Monitor With Integrated Hardware Protector for Lithium-Ion, Lithium Phosphate, Lithium Titanate Battery Pack, PAP0064F (HTQFP-64)	PAP0064F
U5, U20	2		TMUX1574PWR	Texas Instruments	Low-capacitance, 2:1 (SPDT) 4-channel, powered-off protection switch with 1.8 V logic, PW0016A (TSSOP-16)	PW0016A
U7, U8, U22, U23	4		TMUX1308PWR	Texas Instruments	5-V, 8: 1, 1-channel general-purpose multiplexer with 1.8-V logic control 16-TSSOP -40 to 125	TSSOP16
U16	1		TMUX1102DCKR	Texas Instruments	Analog Switch ICs 3-pA on-state leakage current, 5-V, 1:1 (SPST), 1-channel precision switch (active high) 5-SC70 -40 to 125	SC70-5
U17	1		ISO7742DWR	Texas Instruments	High-Speed, Low-Power, Robust EMC Quad-Channel Digital Isolator, DW0016B (SOIC-16)	DW0016B
!PCB1	0		TIDA-010271	Any	Printed Circuit Board	
FID1, FID2, FID3	0		N/A	N/A	Fiducial mark. There is nothing to buy or mount.	N/A

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