

# Bill of Materials

TI DESIGNS

TIDA-00282

Item	Qty	Reference	Value	Part Description	Manufacturer	Manufacturer Part Number	PCB Footprint
1	1	A1	PCB-034014001	Bare Board, Automotive Boost	D3 Engineering	PCB-034014001	
2	2	C1,C2	100uF	CAP 100uF 63V Alum. Electrolytic SMD, Ripple current 60mA RMS	Panasonic	EEE1JA101P	CAPAE1000X1050N
3	24	C3,C4,C6,C7,C10,C21,C22,C37,C41,C45,C48,C55,C56,C60,C61,C65,C69,C70,C71,C72,C74,C75,C85,C86	0.1uF	CAP 0.1UF 50V CERAMIC X7R 0402 SMD -55C to +125C AEC-Q200	TDK Corp.	CGA2B3X7R1H104K	CAPCEIA0402
4	1	C5	0.068uF	CAP 0.068uF(68nF) 50V CERAMIC X7R 0402 SMD -55C to +125C AEC-Q200	TDK Corp.	CGA2B3X7R1H683K050BB	CAPCEIA0402
5	4	C8,C93,C95,C97	4.7uF	CAP 4.7UF 50V CERAMIC X7R 1210 SMD -55C to +125C AEC-Q200	TDK Corp.	CGA6P3X7R1H475K	CAPCEIA1210
6	1	C9	22uF	CAP 22UF 16V CERAMIC X7R 1210 SMD -55C to +125C AEC-Q200	TDK Corp.	CGA6P1X7R1C226M	CAPCEIA1210
7	1	C11	1000pF	CAP 1000PF 50V CERAMIC NPO 0402 SMD -55C to +125C AEC-Q200	TDK Corp.	CGA2B2C0G1H102J050BA	CAPCEIA0402
8	12	C12,C25,C26,C27,C28,C29,C30,C31,C32,C33,C34,C35	3300pF	CAP3300 pF 50V CERAMIC X7R 0402 SMD -55C to +125C AEC-Q200	TDK Corp.	CGA2B2X7R1H332K	CAPCEIA0402
9	1	C13	4.7pF	CAP 4.7PF 50V CERAMIC NPO 0402 SMD -55C to +125C AEC-Q200	TDK Corp.	CGA2B2C0G1H4R7C050BA	CAPCEIA0402
10	1	C14	10uF	CAP 10UF 25V CERAMIC X7R 1206 SMD -55C to +125C AEC-Q200	TDK Corp.	CGA5L1X7R1E106K	CAPCEIA1206
11	1	C15	2700pF	CAP 2700PF 50V CERAMIC NPO 0603 SMD -55C to +125C AEC-Q200	TDK Corp.	CGA3E2C0G1H272J080AA	CAPCEIA0603
12	5	C16,C17,C18,C19,C36	1uF	CAP 1UF 25V CERAMIC X7R 0603 SMD -55C to +125C AEC-Q200	TDK Corp.	CGA3E1X7R1E105K080AC	CAPCEIA0603
13	2	C20,C24	68pF	CAP 68pF 50V CERAMIC NPO 0402 SMD -55C to +125C AEC-Q200	TDK Corp.	CGA2B2C0G1H680J050BA	CAPCEIA0402
14	1	C23	4700pF	CAP 4700pF 50V CERAMIC X7R 0402 SMD -55C to +125C AEC-Q200	TDK Corp.	CGA2B2X7R1H472K050BA	CAPCEIA0402
15	6	C38,C39,C40,C42,C43,C44	2.2uF	CAP 2.2UF 6.3V CERAMIC X7R 0603 SMD -55C to +125C AEC-Q200	TDK Corp.	CGA3E1X7R0J225K	CAPCEIA0603
16	1	C46	10uF	CAP 10.0UF 6.3V CERAMIC X7R 0805 SMD -55C to +125C AEC-Q200	TDK Corp.	CGA4J1X7R0J106K125AC	CAPCEIA0805
17	1	C47	4.7uF	CAP 4.7UF 16V CERAMIC X7R 0805 SMD -55C to +125C AEC-Q200	TDK Corp.	CGA4J3X7R1C475K	CAPCEIA0805
18	1	C51	2200pF	CAP 2200pF 50V CERAMIC X7R 0402 SMD -55C to +125C AEC-Q200	TDK Corp.	CGA2B2X7R1H222K050BA	CAPCEIA0402
19	2	C57,C62	0.22uF	CAP 0.22uF 10V CERAMIC X7R 0402 SMD -55C to +125C AEC-Q200	TDK Corp.	CGA2B1X7R1A224K	CAPCEIA0402

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20	3	C67,C68,C73	1.0uF	CAP 1.0UF 35V CERAMIC X7R 0805 SMD -55C to +125C AEC-Q200	TDK Corp.	CGA4J3X7R1V105K125AB	CAPCEIA0805
21	3	C76,C79,C82	10uF	CAP 10uF 63V Alum. Polymer SMD, Ripple current 1A RMS, ESR 120mOhm	Panasonic	EEHZA1J100P	CAPAE660X610N
22	6	C77,C78,C80,C81,C83,C84	100uF	CAP 100uF 50V Alum. Polymer SMD, Ripple current 2A RMS, ESR 28mOhm	Panasonic	EEHZA1H101P	CAPAE1000X1050N
23	3	C94,C96,C98	0.1uF	CAP 0.1UF 100V CERAMIC X7R 0805 SMD -55C to +125C AEC-Q200	TDK Corp.	CGA4J2X7R2A104K	CAPCEIA0805
24	1	D1	BZX84-A8V2	Diode, Zener, 8.2V, Tol: 1%, 250mW, SOT-23, Automotive Grade	NXP Semiconductors	BZX84-A8V2,215	SOT95P237X111-3N
25	1	D2	SM6T42AY	TVS Diode, 600W,42.1V, Unidirectional, DO-214AA, Automotive Grade	STMicroelectronics	SM6T42AY	DIOM5436X265
26	1	D3	SZBZX84C10LT1G	Diode, Zener, 10V, 225mW, SOT-23, Automotive Grade	ON Semiconductor	SZBZX84C10LT1G	SOT95P237X111-3N
27	7	D4,D19,D20,D21,D22,D23,D24	NP	DO NOT POPULATE, SOD-123	NO_PART	NO_PART	D3-SOD123-12
28	1	D5	B340A	3.0A 40V SCHOTTKY BARRIER RECTIFIER SMA	Diodes Inc.	B340A-13-F	DIOM5226X230N
29	1	D6	GREEN	LED GREEN Vf = 2.1V Ifcont = 20mA	Vishay Semiconductor	TLMG1100-GS08	LEDC1608X65N
30	1	D7	BLUE	LED BLUE Vf = 3.9V Ifcont = 10mA	Vishay Semiconductor	TLMB1100-GS08	LEDC1608X65N
31	6	D8,D9,D10,D11,D17,D18	MMSZ4684-E3-08	Diode, Zener 3.3V, 5%, 500mW, SOD-123, Automotive Grade	Vishay Semiconductors	MMSZ4684-E3-08	SOD3716X135N
32	1	D12	TPD2E007	TVS Diode Array, 2 Channel, low-capacitance, Bi-Directional, SC70-3	Texas Instruments Inc.	TPD2E007DCKR	SOT65P210X110-3N
33	3	D13,D14,D15	TPD4E001-Q1	TVS Diode Array, 4 Channel, low-capacitance, TSOP-6, Automotive Grade	Texas Instruments Inc.	TPD4E001QDBVRQ1	SOT95P280X110-6N
34	1	D16	RED	LED RED Vf = 2.1V Ifcont = 20mA	Vishay Semiconductor	TLMS1100-GS08	LEDC1608X65N
35	4	D25,D26,D27,D28	SDM10K45-7-F	DIODE SCHOTTKY, 45V, 0.1A, SOD323	Diodes Incorporated	SDM10K45-7-F	SOD2513X110N
36	1	D29	SBR160S23-7	900mA, 60V, SCHOTTKY BARRIER RECTIFIER, SOT23-3	Diodes Incorporated	SBR160S23-7	DIO_DIODES_SBR160S23
37	1	F1	456040	Fuse, 72VDC, 40A, Fast Response,Cold Resistance 1.05mOhm, SMD	Littelfuse Inc	0456040.DR	FUSE_LITTLEFUSE_0456040
38	1	J1	6450128-5	Multi-Beam XL Right angle header, 4x 35A power, 24x Signal, 4x 35A power	TE Connectivity	6450128-5	TE_CONNECTIVITY_6450128-5
39	1	J2	6450129-3	Multi-Beam XL Right angle header, 4x 35A power	TE Connectivity	6450129-3	TE_CONNECTIVITY_6450129-3
40	1	J5	HEADER7x2 SMT	HEADER, 2 ROW x 7 PIN 15u GOLD SMT	Molex	15-91-0140	D3-ST_HEADER_7X2_100_SMT
41	1	L1	6.8uH	Inductor, Coilcraft, 6.8uH, 3.6A, 70 m-Ohm DCR	Coilcraft	XAL4030-682MEB	DFN400x400x210-2N

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42	1	L2	51uH	Common Mode Choke, 51uH, 250mA, DCR 550mohms, Tin, Automotive Grade	Epcos	B82789C0513H002	XFMR_EPCOS_B82789
43	2	L3,L4	60ohm	Ferrite Bead, 60ohm@100MHz, 3A, DC Resistance 25mohm max, 0603 SMD	Taiyo Yuden	FBMH1608HM600-T	INDCEIA0603
44	1	L5	220ohm	Ferrite Bead, 220ohm@100MHz, 2000mA, DC Resistance 0.05ohm max, 0603 SMD	Murata	BLM18EG221SN1D	INDCEIA0603
45	3	L6,L7,L8	2.2uH	Power Inductor, 2.2uH, DCR 2.8mOhms, Isat 34 A, Irms 24.5A, Automotive Grade	Coilcraft	XAL1010-222ME	DFN1000X1130X1000-2N
46	2	Q1,Q13	AUIRFS8409	HEXFET Power MOSFET,40V, 195A, RDSon 1.2mOhm, D2PAK, Automotive Grade	International Rectifier	AUIRFS8409	TO254P1524X483-4_3N
47	2	Q2,Q3	STH315N10F7-6	STripFET Power MOSFET, 100V, 180A, RDSon 2.3mOhm, H2PAK-6, Automotive Grade	STMicroelectronics	STH315N10F7-6	TO127P1524X483-8N
48	3	Q4,Q5,Q6	2N7002A	N-channel, 60V, 180mA, SOT-23, Automotive Grade	Diodes Incorporated	2N7002A-7	SOT95P237X111-3N_GDS
49	6	Q7,Q8,Q9,Q10,Q11,Q12	AUIRFN8403TR	N-channel, MOSFET, 95A, 40V, 2.5mohm, PQFN	International Rectifier	AUIRFN8403TR	SON127P500X600X117-5
50	1	Q14	DNBT8105-7	NPN Transistor 60V, 1A, 600mW, SOT-23-3, Automotive Grade	Diodes Incorporated	DNBT8105-7	TRANS_DIODES_DNBT8105-7
51	1	R1	820.0_1%	Carbon Film Resistor 820.0 OHM 1/2W 1% 1206 SMD AEC-Q200 qualified	Vishay Dale	CRCW1206820RFKEAHP	RESCEIA1206
52	1	R2	6.8K_1%	Carbon Film Resistor 6.8K OHM 1/16W 1% 0402 SMD AEC-Q200 qualified	Panasonic	ERJ-2RKF6801X	RESCEIA0402
53	16	R3,R8,R19,R35,R56,R67,R86,R87,R88,R89,R95,R96,R104,R105,R106,R107	10.0K_1%	Carbon Film Resistor 10.0K OHM 1/16W 1% 0402 SMD AEC-Q200 qualified	Vishay Dale	CRCW040210K0FKED	RESCEIA0402
54	1	R4	49.9K_1%	Carbon Film Resistor 49.9K OHM 1/8W 1% 0402 SMD AEC-Q200 qualified	Vishay Dale	CRCW040249K9FKEDHP	RESCEIA0402
55	1	R6	3.9K_1%	Carbon Film Resistor 3.9K OHM 1/16W 1% 0402 SMD AEC-Q200 qualified	Vishay Dale	CRCW04023K90FKED	RESCEIA0402
56	3	R7,R11,R32	0.0	Carbon Film Resistor 0.0 OHM, 20mOHM max, 2.0A max 0603 SMD AEC-Q200 qualified	Vishay	CRCW06030000Z0EA	RESCEIA0603
57	1	R9	7.32K_1%	Carbon Film Resistor 7.32K OHM 1/16W 1% 0402 SMD AEC-Q200 qualified	Vishay Dale	CRCW04027K32FKED	RESCEIA0402
58	1	R10	0.00075_1%	Metal Alloy Resistor 0.75 mOHM 2W 1% 2512 SMD 6-terminal Kelvin Footprint, AEC-Q200 qualified	TT Electronics	ULRB22512R00075FLFSLT	RESCEIA2512_SNS_ALT
59	5	R12,R15,R18,R77,R79	27.0K_1%	Carbon Film Resistor 27.0K OHM 1/16W 1% 0402 SMD AEC-Q200 qualified	Vishay Dale	CRCW040227K0FKED	RESCEIA0402
60	1	R13	100.0_1%	Carbon Film Resistor 100.0 OHM 1/3W 1% 0805 SMD AEC-Q200 qualified	Vishay Dale	CRCW0805100RFKEAHP	RESCEIA0805
61	1	R14	53.6K_1%	Carbon Film Resistor 53.6K OHM 1/16W 1% 0402 SMD AEC-Q200 qualified	Vishay Dale	CRCW040253K6FKED	RESCEIA0402
62	1	R16	49.9_1%	Carbon Film Resistor 49.9 OHM 1/10W 1% 0603 SMD AEC-Q200 qualified	Vishay Dale	CRCW060349R9FKEA	RESCEIA0603

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63	4	R17,R41,R42,R43	47.0K_1%	Carbon Film Resistor 47.0K OHM 1/16W 1% 0402 SMD AEC-Q200 qualified	Vishay Dale	CRCW040247K0FKED	RESCEIA0402
64	1	R20	62.0K_1%	Carbon Film Resistor 62.0K OHM 1/16W 1% 0402 SMD AEC-Q200 qualified	Vishay Dale	CRCW040262K0FKED	RESCEIA0402
65	1	R21	20K_1%	Carbon Film Resistor 20K OHM 1/16W 1% 0402 SMD AEC-Q200 qualified	Vishay	CRCW040220K0FKED	RESCEIA0402
66	9	R22,R23,R47,R53,R55,R63,R66,R75,R76	1K_1%	Carbon Film Resistor 1K OHM 1/16W 1% 0402 SMD	Vishay	CRCW04021K00FKED	RESCEIA0402
67	6	R24,R25,R28,R29,R64,R72	13.0K_1%	Carbon Film Resistor 13.0K OHM 1/8W 1% 0805 SMD AEC-Q200 qualified	Vishay Dale	CRCW080513K0FKEA	RESCEIA0805
68	4	R26,R27,R30,R31	3.74K_1%	Carbon Film Resistor 3.74K OHM 1/10W 1% 0603 SMD AEC-Q200 qualified	Vishay Dale	CRCW06033K74FKEA	RESCEIA0603
69	2	R33,R36	60.4_1%	Carbon Film Resistor 60.4 OHM 1/4W 1% 1206 SMD AEC-Q200 qualified	Vishay Dale	CRCW120660R4FKEA	RESCEIA1206
70	3	R38,R51,R62	2.00K_1%	Carbon Film Resistor 2.00K OHM 1/16W 1% 0402 SMD AEC-Q200 qualified	Vishay Dale	CRCW04022K00FKED	RESCEIA0402
71	1	R39	2.49K_1%	Carbon Film Resistor 2.49K OHM 1/16W 1% 0402 SMD AEC-Q200 qualified	Vishay Dale	CRCW04022K49FKED	RESCEIA0402
72	1	R40	0.0	Carbon Film Resistor 0.0 OHM 1/10W 5% 0603 SMD	Vishay	CRCW06030000Z0EA	RESCEIA0603
73	4	R48,R49,R59,R70	0.0	Carbon Film Resistor 0.0 OHM, 20mOHM max, 1.5A max 0402 SMD AEC-Q200 qualified	Vishay	CRCW04020000Z0ED	RESCEIA0402
74	6	R50,R58,R61,R69,R73,R78	24.9K_1%	Carbon Film Resistor 24.9K OHM 1/16W 1% 0402 SMD AEC-Q200 qualified	Vishay Dale	CRCW040224K9FKED	RESCEIA0402
75	2	R52,R57	49.9_1%	Carbon Film Resistor 49.9 OHM 1/16W 1% 0402 SMD AEC-Q200 qualified	Vishay	CRCW040249R9FKED	RESCEIA0402
76	2	R54,R65	10.7K_1%	Carbon Film Resistor 10.7K OHM 1/10W 1% 0402 SMD AEC-Q200 qualified	Panasonic	ERJ-2RKF1072X	RESCEIA0402
77	2	R60,R71	560K_1%	Carbon Film Resistor 560K OHM 1/16W 1% 0402 SMD AEC-Q200 qualified	Vishay	CRCW0402560KFKED	RESCEIA0402
78	2	R68,R74	3.0K_1%	Carbon Film Resistor 3.0K OHM 1/10W 1% 0603 SMD AEC-Q200 qualified	Vishay Dale	CRCW06033K00FKEA	RESCEIA0603
79	6	R82,R83,R90,R91,R93,R97	0.0	Carbon Film Resistor 0.0 OHM, 20mOHM max, 2.5A max 0805 SMD AEC-Q200 qualified	Vishay	CRCW08050000Z0EA	RESCEIA0805
80	3	R98,R99,R100	0.003_1%	Metal Alloy Resistor 3 mOHM 3W 1% 2512 SMD 6-terminal Kelvin Footprint, AEC-Q200 qualified	TT Electronics	ULRG32512R003FLFSLT	RESCEIA2512_SNS_ALT
81	1	R108	15.0K_1%	Carbon Film Resistor 15.0K OHM 1/10W 1% 0603 SMD AEC-Q200 qualified	Panasonic	ERJ-3EKF1502V	RESCEIA0603
82	1	R109	10K_1%	Carbon Film Resistor 10K OHM 1/10W 1% 0603 SMD AEC-Q200 qualified	Panasonic - ECG	ERJ-3EKF1002V	RESCEIA0603
83	3	RN1,RN2,RN3	56	Chip Resistor Array, 4-Isolated 56 OHM 1/16W 5% SMD -55C-155C, AEC-Q200 qualified	Rohm	MNR04MRAPJ560	RESCAVS50P200X10 0X45-8N

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84	3	TP2,TP31,TP32	TEST-POINT-LOOP	Test Point, SMT, Compact Loop	Keystone	5016	D3-KEystone-COMPACT-TP-SMT
85	3	TP9,TP13,TP14	TEST-POINT-LOOP	Test Point, SMT, Miniature Loop	Keystone	5015	KEystone_5015
86	1	U1	LM5060-Q1	High-Side Protection Controller, 5.5V-65V, Adjustable Current Limit, UVLO, OVP, Automotive	Texas Instruments Inc.	LM5060Q1MM/NOPB	SOP50P490X110-10N
87	2	U10,U7	OPA2365-Q1	Dual, Precision,Low noise, 50Mhz , 2.2-5V, SOIC-8, Automotive Grade	Texas Instruments Inc.	OPA2365AQDRQ1	SOIC127P600X175-8N
88	3	U2,U14,U15	LMT84-Q1	1.5V-5.5V, Analog Temp Sensor, SC70, Class-AB, Automotive Grade	Texas Instruments Inc.	LMT84QDCKTQ1	SOT65P210X110-5N
89	1	U3	TPS65320-Q1	3.6V-40V, Buck Converter (1.1V-20V, 3.2A ) and LDO Regulator (1.1V to 7V, 280mA)	Texas Instruments Inc.	TPS65320QPWPRQ1	SOP65P640X120-15N
90	1	U4	SN65HVDA541-Q1	5V CAN Transceiver 8-SOIC, RXD Wake Up, -40C to +125C, AEC-Q100 qualified	Texas Instruments Inc.	HVDA541QDRQ1	D3-TI-D-SO8
91	1	U5	TMS320F28030-Q	TMS320F28030 Piccolo, TQFP-64, -40C-125C, Automotive Grade	Texas Instruments Inc.	TMS320F28030PAGQ	QFP50P1200X1200X120-64N
92	1	U6	LM4128AQ1-3.0	Precision 0.1%, Low Power, Series Reference, 3.0V,SOT-23-5, Automotive Grade	Texas Instruments Inc.	LM4128AQ1MF3.0/NOPB	SOT95P284X122-5N
93	1	U9	INA195A-Q1	Single, Current Monitor IC, 2.7-18V, CMRR -16to80V, Gain 100V/V, SOT-23-5, Automotive Grade	Texas Instruments Inc.	INA195AQDBVRQ1	SOT95P284X122-5N
94	3	U11,U12,U13	UCC27211A	4.0A, 8V to 17V, High and Low Side, High Freq. MOSFET Driver, 10VSON	Texas Instruments Inc.	UCC27211ADRMT	SON80P400X400X100-9N
95	1	U8	LMV762-Q1	Dual, Precision Comparator, 2.7V-5V, Push-Pull Output, 100dB CMRR, 8-SOIC (TI D package), Automotive Grade	Texas Instruments Inc.	LMV762QMA/NOPB	SOIC127P600X175-8N

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