

TIDA-050029 REV E1 Bill of Materials

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
!PCB1	1		TIDA-050029	Any	Printed Circuit Board	
C1, C22, C50, C71, C81, C86, C87	7	0.1uF	CGA2B3X7R1H104M050BB	TDK	CAP, CERM, 0.1 uF, 50 V, +/- 20%, X7R, AEC-Q200 Grade 1, 0402	0402
C2, C3, C4, C5, C6, C7, C8, C9, C10, C11, C12, C13, C19	13	0.1uF	GRM155R71C104KA88D	MuRata	CAP, CERM, 0.1 uF, 16 V, +/- 10%, X7R, 0402	0402
C14, C20, C34	3	0.01uF	GRM155R71C103KA01D	MuRata	CAP, CERM, 0.01 uF, 16 V, +/- 10%, X7R, 0402	0402
C15, C18, C82, C84	4	0.01uF	GRM188R72A103KA01D	MuRata	CAP, CERM, 0.01 uF, 100 V, +/- 10%, X7R, 0603	0603
C16	1	2.2uF	GRM155R61C225KE11D	MuRata	CAP, CERM, 2.2 uF, 16 V, +/- 10%, X5R, 0402	0402
C17	1	1uF	C1005X5R1C105K050BC	TDK	CAP, CERM, 1 uF, 16 V, +/- 10%, X5R, 0402	0402
C21, C52, C58, C60, C66, C75, C76, C77	8	1000pF	CGA2B2X7R1H102K050BA	TDK	CAP, CERM, 1000 pF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0402	0402
C23	1	2.2uF	C0603C225K8PACTU	Kemet	CAP, CERM, 2.2 uF, 10 V, +/- 10%, X5R, 0603	0603
C24, C26	2	22pF	C1005C0G1H220J050BA	TDK	CAP, CERM, 22 pF, 50 V, +/- 5%, C0G/NP0, 0402	0402
C25	1	4.7uF	C0603C475K8PACTU	Kemet	CAP, CERM, 4.7 uF, 10 V, +/- 10%, X5R, 0603	0603
C27, C38	2	56pF	GRM1885C1H560JA01D	MuRata	CAP, CERM, 56 pF, 50 V, +/- 5%, C0G/NP0, 0603	0603
C28	1	4700pF	GCM188R71H472KA37D	MuRata	CAP, CERM, 4700 pF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603
C29	1	0.1uF	GCM188R71H104KA57D	MuRata	CAP, CERM, 0.1 uF, 50 V, +/- 10%, X7R, 0603	0603
C30, C31	2	0.1uF	06033C104JAT2A	AVX	CAP, CERM, 0.1 uF, 25 V, +/- 5%, X7R, 0603	0603
C32, C42, C43, C44, C46, C47, C48, C62, C63	9	10uF	CGA6P3X7S1H106K250AB	TDK	CAP, CERM, 10 uF, 50 V, +/- 10%, X7S, AEC-Q200 Grade 1, 1210	1210
C35	1	0.01uF	C1005X7R1C103K050BA	TDK	CAP, CERM, 0.01 uF, 16 V, +/- 10%, X7R, 0402	0402
C36, C37, C89	3	22uF	GCM31CR71A226KE02	MuRata	CAP, CERM, 22 uF, 10 V, +/- 10%, X7R, AEC-Q200 Grade 1, 1206	1206
C39, C40	2	1uF	GCM188R71C105KA64D	MuRata	CAP, CERM, 1 uF, 16 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603
C41	1	100uF	EEE-FK1H101P	Panasonic	CAP, AL, 100 uF, 50 V, +/- 20%, 0.34 ohm, AEC-Q200 Grade 2, SMD	SMT Radial F
C45	1	1uF	CGA5L3X7R1H105K160AB	TDK	CAP, CERM, 1 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 1206	1206
C49, C53, C54, C64, C67, C68, C69, C88	8	4.7uF	CGA6M3X7S2A475K200AB	TDK	CAP, CERM, 4.7 uF, 100 V, +/- 10%, X7S, AEC-Q200 Grade 1, 1210	1210
C51, C59, C72, C80	4	0.1uF	CGA3E3X7S2A104K080AB	TDK	CAP, CERM, 0.1 uF, 100 V, +/- 10%, X7S, AEC-Q200 Grade 1, 0603	0603
C55	1	2.2uF	CGA5L3X7S2A225K160AB	TDK	CAP, CERM, 2.2 uF, 100 V, +/- 10%, X7S, AEC-Q200 Grade 1, 1206	1206
C56, C70	2	0.1uF	CGA5L2X7R2A104K160AA	TDK	CAP, CERM, 0.1 uF, 100 V, +/- 10%, X7R, AEC-Q200 Grade 1, 1206	1206
C57, C73	2	0.01uF	CGA3E2X7R2A103K080AA	TDK	CAP, CERM, 0.01 uF, 100 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603
C61	1	22uF	EEE-FK2A220P	Panasonic	CAP, AL, 22 uF, 100 V, +/- 20%, 1.3 ohm, AEC-Q200 Grade 2, SMD	SMT Radial F
C65, C74	2	2.2uF	GRM188Z71C225KE43	MuRata	CAP, CERM, 2.2 uF, 16 V, +/- 10%, X7R, 0603	0603
C78	1	0.022uF	CGA3E2X7R2A223K080AA	TDK	CAP, CERM, 0.022 uF, 100 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603
C79, C85	2	1uF	CGA5L2X7R2A105K160AA	TDK	CAP, CERM, 1 uF, 100 V, +/- 10%, X7R, AEC-Q200 Grade 1, 1206	1206
C90	1	1000pF	C1608C0G2A102J080AA	TDK	CAP, CERM, 1000 pF, 100 V, +/- 5%, C0G/NP0, 0603	0603
D2	1	100V	PDS3100Q-13	Diodes Inc.	Diode, Schottky, 100 V, 3 A, AEC-Q101, PowerDI5	PowerDI5
D3	1	3.3V	SZMM3Z3V3ST1G	ON Semiconductor	Diode, Zener, 3.3 V, 300 mW, AEC-Q101, SOD-323	SOD-323

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D4	1	100V	FSV8100V	Fairchild Semiconductor	Diode, Schottky, 100 V, 8 A, AEC-Q101, TO-277A	TO-277A
J1	1		FTSH-105-01-F-DV	Samtec	Header, 1.27mm, 5x2, Gold, Black, SMT	Header, 1.27mm, 5x2, SMT
J2	1		TSM-107-01-L-DV	Samtec	Header, 2.54mm, 7x2, Gold, SMT	Header, 2.54mm, 7x2, SMT
L1	1	1uH	NLCV32T-1R0M-PF	TDK	Inductor, Wirewound, Ferrite, 1 uH, 1 A, 0.06 ohm, SMD	3.2x2.2x2.5mm
L2	1	100uH	B82789C0104H001	TDK	Coupled inductor, 100 µH, 0.15 A, 1.5 ohm, SMD	4.5x3.0x3.2mm
L3	1	4.7uH	FDS0420D-4R7M	MuRata Toko	Inductor, Shielded, 4.7 uH, 2.7 A, 0.083 ohm, AEC-Q200 Grade 1, SMD	4.2x4.2mm
L4	1	3.3uH	XAL7070-332MEB	Coilcraft	Inductor, Shielded, Composite, 3.3 uH, 15.1 A, 0.01 ohm, SMD	7.2x7x7.5mm
L5	1	15uH	B82477D4153M000	TDK	Coupled inductor, 15 uH, 6.5 A, 0.0355 ohm, SMD	12.5x12.5mm
L6, L10	2	4.7uH	IHLP1616BZER4R7M11	Vishay-Dale	Inductor, Shielded Drum Core, Powdered Iron, 4.7 uH, 1.7 A, 0.095 ohm, SMD	4.7x2.0x4.3mm
L7, L11, L12, L13, L14	5	220 ohm	782853221	Würth Elektronik	Ferrite Bead, 220 ohm @ 100 MHz, 2 A, 0805	0805
L8	1	15uH	XAL1510-153MEB	Coilcraft	Inductor, Shielded, Composite, 15 uH, 18 A, 0.00917 ohm, SMD	15.4 x 11 x 16.4mm
L9	1	15uH	CLF10060NIT-150M-D	TDK	Inductor, Shielded, Ferrite, 15 µH, 3.3 A, 0.036 ohm, AEC-Q200 Grade 0, SMD	10.1x10x6.3mm
L15	1	115 ohm	28F0181-1SR-10	Laird-Signal Integrity Products	Ferrite Bead, 115 ohm @ 100 MHz, 10 A, SMD, 2-Leads, Body 8.74x4.65mm	SMD, 2-Leads, Body 8.74x4.65mm
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	60V	NVMFS5C604NLT1G	ON Semiconductor	MOSFET, N-CH, 60 V, 287 A, AEC-Q101, DFN5 5x6mm	DFN5 5x6mm
Q2, Q4	2	-60V	NVTFS5116PLTAG	ON Semiconductor	MOSFET, P-CH, -60 V, -6 A, AEC-Q101, 8-PowerWDFN	8-PowerWDFN
Q3	1	100V	STL8N10LF3	STMicroelectronics	MOSFET, N-CH, 100 V, 20 A, AEC-Q101, 8-PowerVDFN	8-PowerVDFN
Q6	1	100V	DMN10H120SFG-13	Diodes Inc.	MOSFET, N-CH, 100 V, 3.8 A, 8-PowerVDFN	8-PowerVDFN
Q7	1	80V	BUK9611-80E,118	Nexperia	MOSFET, N-CH, 80 V, 75 A, AEC-Q101, DDPAK	DDPAK
R1	1	100	RMCF0402JT100R	Stackpole Electronics Inc	RES, 100, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R2, R3, R8, R13, R26, R28, R44, R45, R72	9	10.0k	RMCF0402FT10K0	Stackpole Electronics Inc	RES, 10.0 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R4, R5, R6, R7, R59, R60, R61, R62, R63, R71	10	33.0	RMCF0402FT33R0	Stackpole Electronics Inc	RES, 33.0, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R9	1	51	CRCW060351R0JNEA	Vishay-Dale	RES, 51, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R10, R18	2	10k	CRCW040210K0JNED	Vishay-Dale	RES, 10 k, 5%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R14, R39, R43, R70	4	100k	CRCW0402100KFKEA	Vishay-Dale	RES, 100 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R16	1	4.87k	ERA-2AEB4871X	Panasonic	RES, 4.87 k, 0.1%, 0.062 W, AEC-Q200 Grade 0, 0402	0402
R17	1	0	ERJ-2GE0R00X	Panasonic	RES, 0, 5%, 0.1 W, AEC-Q200 Grade 0, 0402	0402
R19	1	0.1	CSRN2512FTR100	Stackpole Electronics Inc	RES, 0.1, 1%, 2 W, 2512	2512
R20	1	100k	NTCG164KF104F	TDK	Thermistor NTC, 100k ohm, 1%, 0603	0603
R21, R37, R55	3	2.20k	RC0603FR-072K2L	Yageo	RES, 2.20 k, 1%, 0.1 W, 0603	0603
R22, R32, R47, R50	4	100k	CRCW0603100KFKEA	Vishay-Dale	RES, 100 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R23, R25	2	60.4	CRCW120660R4FKEA	Vishay-Dale	RES, 60.4, 1%, 0.25 W, AEC-Q200 Grade 0, 1206	1206
R24	1	0.47	ERJ-2BQFR47X	Panasonic	RES, 0.47, 1%, 0.125 W, AEC-Q200 Grade 0, 0402	0402
R29, R48	2	0.1	ERJ-8BWFR100V	Panasonic	RES, 0.1, 1%, 0.5 W, 1206	1206
R30, R49	2	0	CRCW06030000Z0EA	Vishay-Dale	RES, 0, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R31, R46, R54, R66	4	10k	CRCW060310K0JNEA	Vishay-Dale	RES, 10 k, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	0603

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R33, R34, R40, R41, R51, R52, R53	7	10.0	CRCW060310R0FKEA	Vishay-Dale	RES, 10.0, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R35	1	5.90k	CRCW06035K90FKEA	Vishay-Dale	RES, 5.90 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R36	1	10.0	CRCW040210R0FKED	Vishay-Dale	RES, 10.0, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R38	1	0.03	CRA2512-FZ-R030ELF	Bourns	RES, 0.03, 1%, 3 W, 2512	2512
R42	1	1.20	CRCW25121R20FKEG	Vishay-Dale	RES, 1.20, 1%, 1 W, AEC-Q200 Grade 0, 2512	2512
R56	1	0.008	CRE2512-FZ-R008E-2	Bourns	RES, 0.008, 1%, 2 W, AEC-Q200 Grade 0, 2512	2512
U1	1		MSP432E401YTPDTR	Texas Instruments	MSP432E401YTPDT, PDT0128A (TQFP-128)	PDT0128A
U2	1		TPS61240IDRVRQ1	Texas Instruments	Automotive Catalog 5V, 400mA, 4MHz Step-Up DC/DC Converter, DRV0006A (WSON-6)	DRV0006A
U3	1		TCAN1042HVDQRQ1	Texas Instruments	Automotive Fault Protected CAN Transceiver With Flexible Data-Rate, D0008A (SOIC-8)	D0008A
U4	1		LM53601NQDSXRQ1	Texas Instruments	3.5V to 36V, 1A Synchronous 2.1MHz Step-Down Converter for Automotive Applications, DSX0010A (WSON-10)	DSX0010A
U5	1		TPD2E007DCKR	Texas Instruments	ESD Protection Array for AC Signal Data Interface, 2 Channels, -40 to +85 degC, 3-pin SC70 (DCK), Green (RoHS & no Sb/Br)	DCK0003A
U6	1		TPS92682QRHMQ1	Texas Instruments	Dual Channel Constant Voltage and Constant Current Controller with SPI Interface, RHM0032A (VQFN-32)	RHM0032A
U7	1		LM74700QDBVTQ1	Texas Instruments	Low Iq Always ON Smart Diode Controller, DBV0006A (SOT-23-6)	DBV0006A
Y1	1		NX5032GA-25.000M-STD-CSK-4	NDK	Crystal, 25 MHz, SMD	5x3.2mm
FID1, FID2, FID3	0		N/A	N/A	Fiducial mark. There is nothing to buy or mount.	N/A
R57	0	100k	CRCW0603100KFKEA	Vishay-Dale	RES, 100 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603

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