

TIDEP-01040 REV B Bill of Materials

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
PCB	1		TIDEP-01040	Any	Printed Circuit Board	
C1, C4, C30, C31, C36, C56, C57, C58, C65, C75, C89, C91, C134	13	0.1uF	GCM155R71H104KE02D	MuRata	CAP, CERM, 0.1 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0402	0402
C2, C26, C40, C41, C43, C62, C64, C94, C95, C99, C106, C113, C116, C125, C126	15	0.1uF	C0402C104K8RACTU	Kemet	CAP, CERM, 0.1 µF, 10 V, +/- 10%, X7R, 0402	0402
C5, C16, C21, C24	4	220nF	GRM033R61C224KE14D	Murata	Chip Multilayer Ceramic Capacitors for General Purpose, 0201, 0.22uF, X5R, 15%, 10%, 16V	0201
C6, C23, C44	3		GCM188D70J106ME36D	Murata	Chip Multilayer Ceramic Capacitors for Automotive	0603
C7, C13, C15, C29, C46, C47	6	10uF	GRM155R61A106ME11D	MuRata	CAP, CERM, 10 uF, 10 V, +/- 20%, X5R, 0402	0402
C9, C10, C19, C20	4	2.2uF	GRT155C71A225KE13	MuRata	CAP, CERM, 2.2 µF, 10 V, +/- 10%, X7S, AEC-Q200 Grade 1, 0402	0402
C17	1	2.2uF	CL03A225MQ3CRNC	Samsung Electro-Mechanics	CAP, CERM, 2.2 uF, 6.3 V, +/- 20%, X5R, 0201	0201
C18, C22, C35	3	1uF	CL03A105MP3NSNC	Samsung Electro-Mechanics	CAP, CERM, 1 uF, 10 V, +/- 20%, X5R, 0201	0201
C25	1	0.047uF	GRM033R61C473KE84D	MuRata	CAP, CERM, 0.047 uF, 16 V, +/- 10%, X5R, 0201	0201
C27	1	4.7µF	GCM155R71C475KA01L	Murata	Multilayer Ceramic Capacitors MLCC - SMD/SMT 0805 4.7uF 10%, 16VDC, X7R 15%	0805
C32, C33	2	4.7pF	GJM1555C1H4R7BB01D	MuRata	CAP, CERM, 4.7 pF, 50 V, +/- 2%, C0G/NP0, 0402	0402
C34	1	0.1uF	GRM033C71A104KE14D	MuRata	CAP, CERM, 0.1 uF, 10 V, +/- 10%, X7S, 0201	0201
C42, C105, C124	3	2.2uF	C1005X7S1A225K050BC	TDK	CAP, CERM, 2.2 uF, 10 V, +/- 10%, X7S, 0402	0402
C48, C63	2	47uF	T491B476K010AT	Kemet	CAP, TA, 47 µF, 10 V, +/- 10%, SMD	3528-21
C49, C50, C52	3		GRM033R6YA104KE14D	Murata Electronics North Am	Cap Ceramic 0.1uF 35V X5R 10% Pad SMD 0201 85C T/R	0201 (0603 Metric)
C51, C93, C108, C114, C127, C136, C137	7	1uF	GRT155C81A105KE01D	TDK	CAP, CERM, 1 uF, 10 V, +/- 10%, X6S, 0402	0402
C53, C85	2	0.22uF	GCM155R71C224KE02D	MuRata	CAP, CERM, 0.22 µF, 16 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0402	0402
C55	1	47uF	GRM31CR61A476KE15L	MuRata	CAP, CERM, 47 uF, 10 V, +/- 10%, X5R, 1206	1206
C68	1	47uF	GRM31CR60J476ME19L	MuRata	CAP, CERM, 47 uF, 6.3 V, +/- 20%, X5R, 1206	1206
C72, C128, C129, C135	4	10uF	GRM188Z71A106MA73D	MuRata	CAP, CERM, 10 uF, 10 V, +/- 20%, X7R, 0603	0603
C73	1	0.47uF	GRM188R71C474KA88D	MuRata	CAP, CERM, 0.47 uF, 16 V, +/- 10%, X7R, 0603	0603
C74	1	470pF	GRM1555C1H471JA01D	MuRata	CAP, CERM, 470 pF, 50 V, +/- 5%, C0G/NP0, 0402	0402
C84	1	0.47uF	GCM155C71A474KE36D	MuRata	CAP, CERM, 0.47 uF, 10 V, +/- 10%, X7S, 0402	0402
C86, C96	2	10uF	GRT188R61A106KE13D	MuRata	CAP, CERM, 10 uF, 10 V, +/- 10%, X5R, 0603	0603
C88, C90, C102, C115, C118	5	0.01uF	GCM155R71E103KA37D	MuRata	CAP, CERM, 0.01 uF, 25 V, +/- 10%, X7R, 0402	0402
C97, C98	2	8pF	CC0402DRNP09BN8R0	Yageo	CAP, CERM, 8 pF, 50 V, +/- 6.25%, C0G/NP0, 0402	0402
C117	1	15pF	04025A150FAT2A	AVX	CAP, CERM, 15 pF, 50 V, +/- 1%, C0G/NP0, 0402	0402
D1, D2	2	30V	PMEG3020EP,115	Nexperia	Diode, Schottky, 30 V, 2 A, AEC-Q101, SOD-128	SOD-128

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
D3	1	Yellow	TLMY1000-GS08	Vishay-Semiconductor	LED, Yellow, SMD	1.6x0.8mm
D5, D6, D7	3	Green	APHHS1005CGCK	Kingbright	LED, Green, SMD	0402
D9	1	Red	APHHS1005SURCK	Kingbright	LED, Red, SMD	0402
FB1	1	30 ohm	BLM21PG300SH1D	MuRata	Ferrite Bead, 30 ohm @ 100 MHz, 4 A, 0805	0805
J1	1		61300311021	Würth Elektronik	Header, 2.54 mm, 3x1, Gold, R/A, TH	Header, 2.54 mm, 3x1, R/A, TH
J2	1		PBC07SAAN	Sullins Connector Solutions	Header, 2.54 mm, 7x1, Gold, TH	Header, 2.54 mm, 7x1, TH
J3	1		M50-3610742	Harwin		HDR14
J4	1		M50-3000745	Harwin		CONN RCPT14
J5	1		105017-0001	Molex	Connector, Receptacle, Micro-USB Type B, R/A, Bottom Mount SMT	Micro USB receptacle
J6	1		QSH-030-01-L-D-A	Samtec	Receptacle, 0.5 mm, 30x2, Gold, TH	Receptacle, 0.5 mm, 30x2, TH
J7	1		B2B-PH-K-S(LF)(SN)	JST Manufacturing	Header(shrouded), 2mm, 2x1, Tin, TH	Header(shrouded), 2mm, 2x1, TH
L1, L2, L3, L9	4		BLM15PD300SZ1D	MuRata	Inductor, Ferrite Bead, Ferrite, 2.2 A, 0.035 ohm, AEC-Q200 Grade 1, SMD	0402
L6	1	0.1uH	LQM2MPZR10MJHL	Murata	100nH Shielded Multilayer Inductor 4A 19mOhm Max 0806 (2016 Metric)	0806 (2016)
L15	1	0.47uH	DFE201210U-R47M=P2	Murata	470nH Shielded Wirewound Inductor 3A 42mOhm Max 0805 (2012 Metric)	0805 (2012)
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, Q2, Q3, Q4	4	100V	BSS123W-7-F	Diodes Inc.	MOSFET, N-CH, 100 V, 0.17 A, SOT-323	SOT-323
R1, R9, R129, R130	4	0	MCT06030Z0000ZP500	Vishay/Beyschlag	RES, 0, 5%, 0.125 W, 0603	0603
R3, R45, R46, R47, R48, R51, R122, R124, R125, R126	10	33.2	CRCW020133R2FNED	Vishay-Dale	RES, 33.2, 1%, 0.05 W, 0201	0201
R4, R5, R7, R11, R13, R15, R18, R19, R20, R23, R27, R44, R49, R54, R72, R75, R76, R82, R83, R84, R90, R91, R94, R101, R103, R123, R138, R158, R162, R165, R203, R206, R231	33	10.0k	CRCW040210K0FKED	Vishay-Dale	RES, 10.0 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R6, R33	2	4.7k	CRCW04024K70JNED	Vishay-Dale	RES, 4.7 k, 5%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R8	1	4.99k	CRCW04024K99FKED	Vishay-Dale	RES, 4.99 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R10	1	49.9k	CRCW040249K9FKED	Vishay-Dale	RES, 49.9 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R12	1	30.0k	CRCW040230K0FKED	Vishay-Dale	RES, 30.0 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
R25, R29, R34, R37, R38, R39, R40, R41, R42, R52, R53, R55, R56, R58, R61, R62, R63, R159, R160, R190, R219, R220, R221, R222, R223, R224, R225, R226, R227, R228, R229, R230	32	0	CRCW02010000Z0ED	Vishay-Dale	RES, 0, 5%, 0.05 W, 0201	0201
R28, R66, R141, R171, R174	5	510	RC0201JR-07510RL	Yageo America	RES, 510, 5%, 0.05 W, 0201	0201
R50	1	47.5k	AC0402FR-0747K5L	Yageo	Res Thick Film 0402 47.5K Ohm 1% 1/16W ±100ppm/°C Molded SMD Paper T/R	0402
R64, R213	2	220	RC0201JR-07220RL	Yageo America	RES, 220, 5%, 0.05 W, 0201	0201
R73, R74	2	100k	CRCW0402100KFKED	Vishay-Dale	RES, 100 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R102, R175, R177, R244	4	100k	CRCW0402100KFKEDC	Vishay	100 kOhms ±1% 0.063W, 1/16W Chip Resistor 0402 (1005 Metric) Thick Film	0402
R120	1	33.0k	RC0201FR-0733KL	Yageo America	RES, 33.0 k, 1%, 0.05 W, 0201	0201
R151	1	0	CRCW04020000Z0ED	Vishay-Dale	RES, 0, 5%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R169	1	100	ERJ-2GEJ101X	Panasonic	RES, 100, 5%, 0.1 W, AEC-Q200 Grade 0, 0402	0402
R170, R181, R188	3	0	ERJ-2GE0R00X	Panasonic	RES, 0, 5%, 0.1 W, AEC-Q200 Grade 0, 0402	0402
R172, R179	2	510	ERJ-2GEJ511X	Panasonic	RES, 510, 5%, 0.1 W, AEC-Q200 Grade 0, 0402	0402
R173, R214	2		RC0201JR-070RL	Yageo	RES SMD 0 OHM JUMPER 1/20W 0201	0201 (0603 Metric)
R180	1	18.0k	CRCW040218K0FKED	Vishay-Dale	RES, 18.0 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R191, R194, R195, R196, R233	5	1.00k	CRCW04021K00FKED	Vishay-Dale	RES, 1.00 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R192	1	0.002	PMR18EZPFV2L00	Rohm	RES, 0.002, 1%, 1 W, AEC-Q200 Grade 0, 1206	1206
R202	1	49.9	CRCW040249R9FKED	Vishay-Dale	RES, 49.9, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R204, R207	2	7.87k	CRCW04027K87FKED	Vishay-Dale	RES, 7.87 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R205, R208	2	82.5k	CRCW040282K5FKED	Vishay-Dale	RES, 82.5 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R215	1	100k	CRCW0201100KFKED	Vishay-Dale	RES, 100 k, 1%, 0.05 W, 0201	0201
R234	1	4.87k	CRCW04024K87FKED	Vishay-Dale	RES, 4.87 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R236, R239	2	330k	CRCW0402330KFKED	Vishay-Dale	RES, 330 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
S1	1		218-6LPST	CTS Electrocomponents	Switch, SPST, Slide, Off-On, 6 Pos, 0.025A, 24V, SMD	5.8x8.79mm
S2, S3	2		KMR243GLFG	C&K Components	Switch, SPST-NO, Off-Mom, 0.01 A, 32 VDC, SMD	4.2x2.8mm
S5	1		218-2LPST	CTS Electrocomponents	Switch, SPST, 2 Pos, 25mA, 24VDC, SMD	3.71x5.8mm
U1	1		xWR6432WCSP	Texas Instruments	xWR6432WCSP	DSBGA112
U2	1		MX25R1635FZUIH0	Macronix International Co., L	ULTRA LOW POWER, 16M-BIT [x 1/x 2/x 4] CMOS MXSMIO (SERIAL MULTI I/O) FLASH MEMORY, SON-8	SON-8
U3	1		TMP112AQDRLRQ1	Texas Instruments	Automotive Grade, 1.4V-Capable +/-0.5degC Temperature Sensor with Alert Function and I2C/SMBus, DRL0006A (SOT-OTHER-6)	DRL0006A
U4, U24	2		TS3A5018RSVR	Texas Instruments	10-Ohm Quad SPDT Analog Switch, RSV0016A (UQFN-16)	RSV0016A
U5, U8, U18	3		SN74AVC8T245RHLR	Texas Instruments	8-Bit Dual-Supply Bus Transceiver with Configurable Voltage-Level Shifting and 3-State Outputs, RHL0024A (VQFN-24)	RHL0024A
U6	1		INA228AIDGST	Texas Instruments	Current Sense Amplifier 1 Circuit 10-VSSOP	VSSOP10

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
U9	1		TPD4E004DRYR	Texas Instruments	4-Channel ESD Protection Array for High-Speed Data Interfaces, DRY0006A (USON-6)	DRY0006A
U10, U14	2		SN65LVDS31MDREP	Texas Instruments	400 Mbps Enhanced Product Quad LVDS Transmitter with LVTTTL Input and Output, 4 Tx and 0 Rx, -55 to +125 degC, 16-pin SOIC (D), Green (RoHS & no Sb/Br)	D0016A
U11	1		CAT24C08WI-GT3	ON Semiconductor	IC, EEPROM, 8KBIT, 400KHZ, 8SOIC	SOIC-8
U12	1		TS3A24157DGSR	Texas Instruments	0.65 Ohm Dual SPDT Analog Switch Dual-Channel 2:1 Multiplexer/ Demultiplexer, DGS0010A (VSSOP-10)	DGS0010A
U13	1		TPS79601DRBR	Texas Instruments	Single Output High PSRR LDO, 1 A, Adjustable 1.2 to 5.5 V Output, 2.7 to 5.5 V Input, 8-pin SON (DRB), -40 to 125 degC, Green (RoHS & no Sb/Br)	DRB0008B
U15	1		TS3A27518EPWR	Texas Instruments	3.3-V, 2:1 (SPDT), 6-channel analog multiplexer with 1.8-V compatible control inputs 24-TSSOP -40 to 85	TSSOP24
U16	1		TPS2116DRLR	Texas Instruments	1.6 V to 5 V, 2.5-A Low IQ Power Mux With Manual and Automatic Switchover	FCSOT8
U17	1		SN74LVC1G11	Texas Instruments	Single 3-Input Positive-AND Gate, DSF0006A, LARGE T&R	DSF0006A
U20	1		TPS6285020MQDRLRQ1	Texas Instruments	2.7-V to 6-V Adjustable-Frequency Step-Down Converter in SOT583 Package	FCSOT8
U21	1		TM4C1294NCPDTT3	Texas Instruments	Tiva C Series Microcontroller, 1024 KB Flash, 256 KB SRAM, 12 Bit, 20 Channels, -40 to 105 degC, 128-Pin TQFP (PDT), Green (RoHS & no Sb/Br), Tray	PDT0128A
U22	1		LM4040C25QDBZR	Texas Instruments	Precision Micropower Shunt Voltage Reference, 0.5% accuracy, 2.5 V, 15 ppm / degC, 15 mA, -40 to 125 degC, 3-pin SOT-23 (DBZ), Green (RoHS & no Sb/Br)	DBZ0003A
U23	1		TXS0102DQER	Texas Instruments	2-Bit Bidirectional Voltage-Level Shifter for Open-Drain and Push-Pull Application, DQE0008A (X2SON-8)	DQE0008A
Y1	1		FW4000044Q	Diodes	40MHz ±10ppm Crystal 8pF 50 Ohms 4-SMD, No Lead	4-SMD-2.0x1.6mm
Y2	1		ECS-160-8-33Q-RES-TR	ECS	16 MHz ±15ppm Crystal 8pF 80 Ohms 4-SMD, No Lead	SMT4 3MM2 2MM5
C92	0	0.47uF	GCM155C71A474KE36D	MuRata	CAP, CERM, 0.47 uF, 10 V, +/- 10%, X7S, 0402	0402
C130, C131	0	22uF	GRM31CR70J226ME19K	Murata	Chip Multilayer Ceramic Capacitors for General Purpose, 1206, 22uF, X7R, 15%, 20%, 6.3V	1206
FB2	0	30 ohm	BLM21PG300SH1D	MuRata	Ferrite Bead, 30 ohm @ 100 MHz, 4 A, 0805	0805
FID1, FID2, FID3, FID4, FID5, FID6	0		N/A	N/A	Fiducial mark. There is nothing to buy or mount.	N/A
L4	0		BLM15PD300SZ1D	MuRata	Inductor, Ferrite Bead, Ferrite, 2.2 A, 0.035 ohm, AEC-Q200 Grade 1, SMD	0402
R2, R14, R16, R17, R31, R32, R35, R65, R152, R157, R161	0	10.0k	CRCW040210K0FKED	Vishay-Dale	RES, 10.0 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R24, R26, R197, R199	0	0	ERJ-2GE0R00X	Panasonic	RES, 0, 5%, 0.1 W, AEC-Q200 Grade 0, 0402	0402
R30	0	0	MCT06030Z0000ZP500	Vishay/Beyschlag	RES, 0, 5%, 0.125 W, 0603	0603
R57	0	0	CRCW04020000Z0ED	Vishay-Dale	RES, 0, 5%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R59, R60	0	0	CRCW02010000Z0ED	Vishay-Dale	RES, 0, 5%, 0.05 W, 0201	0201
R176	0		RC0201JR-070RL	Yageo	RES SMD 0 OHM JUMPER 1/20W 0201	0201 (0603 Metric)

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