

TIDA-00834 REV E2 Bill of Materials

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
C1, C2, C4, C5, C19, C20, C82, C84, C88, C90, C99, C100, C101, C102, C104, C105	16	100pF	06033C101KAT2A	AVX	CAP, CERM, 100pF, 25V, +/-10%, X7R, 0603	0603
C3, C6, C9, C66, C103, C106, C110	7	0.1uF	06033C104JAT2A	AVX	CAP, CERM, 0.1uF, 25V, +/-5%, X7R, 0603	0603
C7, C8, C107, C108	4	1000pF	C1608C0G1H102J080AA	TDK	CAP, CERM, 1000pF, 50V, +/-5%, C0G/NP0, 0603	0603
C10, C11, C109, C111, C120, C121	6	0.01uF	C1608C0G1E103J080AA	TDK	CAP, CERM, 0.01uF, 25V, +/-5%, C0G/NP0, 0603	0603
C12, C18, C43, C75, C81, C85, C92, C98	8	1uF	GRM188R61C105KA93D	Murata	CAP, CERM, 1 µF, 16 V, +/- 10%, X5R, 0603	0603
C13, C17, C44, C76, C80, C83, C86, C87, C89, C91, C93, C97	12	0.1uF	CGA3E2X8R1E104K080AA	TDK	CAP, CERM, 0.1 µF, 25 V, +/- 10%, X8R, AEC-Q200 Grade 0, 0603	0603
C14, C16, C47, C52, C77, C79, C94, C96	8	1000pF	C0603X102K5RACTU	Kemet	CAP, CERM, 1000 pF, 50 V, +/- 10%, X7R, 0603	0603
C15, C48, C54, C70, C74, C78, C95	7	0.01uF	06031C103KAT2A	AVX	10000pF 100V Ceramic Capacitor X7R 0603	0603
C21, C22, C23, C24, C112, C113, C114, C115	8	0.01uF	C0805C103K5RACTU	Kemet	CAP, CERM, 0.01 µF, 50 V, +/- 10%, X7R, 0805	0805
C25	1	4.7uF	293D475X9025C2TE3	Vishay-Sprague	CAP, TA, 4.7 µF, 25 V, +/- 10%, 2 ohm, SMD	6032-28
C26, C27, C28, C29, C36, C38, C39, C40, C41	9	4.7uF	C3216X7R1E475M160AC	TDK	CAP, CERM, 4.7 µF, 25 V, +/- 20%, X7R, 1206	1206
C30, C33, C35, C42	4	0.01uF	GRM188R70J103KA01D	MuRata	CAP, CERM, 0.01 µF, 6.3 V, +/- 10%, X7R, 0603	0603
C31	1	0.22uF	C0603C224K9RACTU	Kemet	CAP, CERM, 0.22 µF, 6.3 V, +/- 10%, X7R, 0603	0603
C32, C34	2	10pF	C0603C100J5GACTU	Kemet	CAP, CERM, 10 pF, 50 V, +/- 5%, C0G/NP0, 0603	0603
C37	1	1uF	GRM188R61E105KA12D	MuRata	CAP, CERM, 1 µF, 25 V, +/- 10%, X5R, 0603	0603
C45, C55, C68	3	4.7uF	C2012X5R1H475M125AB	TDK	CAP, CERM, 4.7uF, 50V, +/-10%, X5R, 0805	0805
C46, C51, C56, C58, C69, C71, C118, C119	8	0.1uF	C0603C104K5RACTU	Kemet	CAP, CERM, 0.1uF, 50V, +/-10%, X7R, 0603	0603
C49, C50	2	1uF	CGA3E3X5R1H105K080AB	TDK	CAP, CERM, 1uF, 50V, +/-10%, X5R, 0603	0603
C53, C116	2	0.1uF	C0603C104J4RACTU	Kemet	CAP, CERM, 0.1uF, 16V, +/-5%, X7R, 0603	0603
C57, C60, C67, C72	4	10uF	GMK325AB7106MM-T	Taiyo Yuden	CAP, CERM, 10uF, 35V, +/-20%, X7R, 1210	1210
C59	1	0.47uF	UMK107ABJ474KA-T	Taiyo Yuden	CAP, CERM, 0.47uF, 50V, 10%, X5R, 0603	0603
C61, C62	2	1uF	C0805C105K8RACTU	Kemet	CAP, CERM, 1uF, 10V, +/-10%, X7R, 0805	0805
C63, C117	2	0.1uF	C0603C104K8RACTU	Kemet	CAP, CERM, 0.1uF, 10V, +/-10%, X7R, 0603	0603
C64	1	10uF	EMK107BBJ106MA-T	Taiyo Yuden	CAP, CERM, 10uF, 16V, +/-20%, X5R, 0603	0603
C65	1	10uF	885012208069	Würth	CAP, CERM, 10uF, 25V, +/-10%, X7R, 1206	1206
C73	1	2.2uF	C0805C225K8RACTU	Kemet	CAP, CERM, 2.2uF, 10V, +/-10%, X7R, 0805	0805
C122	1	3.3uF	C1608X5R1V335K080AC	TDK	CAP, CERM, 3.3 µF, 35 V, +/- 10%, X5R, 0603	0603
D1, D2, D3, D9, D15, D16, D17, D18	8	12V	PESD12VL1BA,115	NXP Semiconductor	TVS DIODE 12VWM 37VC SOD323	SOD323
D4, D7	2	20V	MBRM120ET1G	ON Semiconductor	Diode, Schottky, 20 V, 1 A, POWERMITE	POWERMITE
D5, D6, D11, D13	4	15V	DZ2W15000L	Panasonic	Diode, Zener, 15V, 1W, SOD-123	SOD-123
D8	1	3.6V	MMSZ4685T1G	On semiconductor	Diode, Zener, 3.6V, 500mW, SOD-123	SOD-123
D10, D12, D14	3	Green	LG L29K-G2J1-24-Z	OSRAM	LED, Green, SMD	1.7x0.65x0.8mm

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
D19, D20, D21, D22	4	100V	BAV19WS-7-F	Diodes Inc.	Diode, Switching, 100 V, 0.2 A, SOD-323	SOD-323
D23	1	5.6V	MMSZ5232B-7-F	Diodes Inc.	Diode, Zener, 5.6 V, 500 mW, SOD-123	SOD-123
D24	1	100V	BAS316,115	NXP Semiconductor	Diode, Ultrafast, 100 V, 0.25 A, SOD-323	SOD-323
FB1, FB2, FB3	3	1000 ohm	MMZ1608B102CTA00	TDK	Ferrite Bead, 1000 ohm @ 100 MHz, 0.3 A, 0603	0603
H1, H2, H3, H4, H13, H15	6		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, H14, H16	6		1902C	Keystone	Standoff, Hex, 0.5"L #4-40 Nylon	Standoff
H9, H11	2		PMSSS 440 0025 PH	B&F Fastener Supply	MACHINE SCREW PAN PHILLIPS 4-40	Machine Screw, 4-40, 1/4"
H10, H12	2		1891	Keystone	Hex Standoff, #4-40, Aluminum, 1/4"	1/4" Aluminum Hex Standoff
J1, J2, J10, J31, J34, J48, J49	7		ED120/2DS	On-Shore Technology	TERMINAL BLOCK 5.08MM VERT 2POS, TH	TERM_BLK, 2pos, 5.08mm
J3, J4, J17, J18, J19, J26, J27, J29, J32, J33, J35, J36	12	PEC02SAAN	PEC02SAAN	Sullins	Header, Male 2-pin, 100mil spacing,	0.100 inch x 2
J5, J6, J7, J8, J9, J13, J14, J20, J21, J22, J23, J24, J25, J28, J30, J37, J38, J39, J40, J41, J42, J43, J44, J45, J46, J47	26		5-146280-3	TE Connectivity	Header, 2.54mm, 3x1, Gold, TH	Header, 2.54mm, 3x1, TH
J11, J12	2		OSTVN02A150	On Shore Technology Inc	Terminal Block, 4x1, 2.54mm, TH	TERM_BLK, 2pos, 2.54mm
J15, J16, JP1, JP2, JP3, JP4, JP6, JP7, JP8, JP9	10		5-146280-2	TE Connectivity	Header, 100mil, 2x1, Gold, TH	2x1 Header
JP5	1		5-534206-8	Samtec	Receptacle, 2.54mm, 16x2, Gold, TH	Receptacle, 2.54mm, 16x2, TH
L1, L2, L5, L6, L7, L8, L9, L10, L11, L12, L13, L14, L15, L16, L17, L18	16	21 ohm@100 Mhz	FBMJ2125HM210NT	Taiyo Yuden	Ferrite Bead, 21 ohm @ 100 MHz, 6 A, 0805	0805
L3, L4	2	4.7uH	VLF504012MT-4R7M	TDK	Inductor, Shielded, Ferrite, 4.7uH, 1.83A, 0.1 ohm, SMD	IND_5x1.2x4mm
R1, R3, R138, R140	4	56.2k	CRCW060356K2FKEA	Vishay-Dale	RES, 56.2 k, 1%, 0.1 W, 0603	0603
R2, R4, R5, R7, R11, R16, R139, R141, R142, R144, R148, R153	12	330k	RC1206FR-07330KL	Yageo America	RES, 330 k, 1%, 0.25 W, 1206	1206
R6, R9, R12, R13, R27, R33, R82, R143, R146, R149, R150, R164, R170	13	10k	CRCW060310K0FKEA	Stackpole Electronics Inc	RES, 10.0k ohm, 1%, 0.1W, 0603	0603
R8, R10, R26, R32, R45, R99, R118, R134, R145, R147, R163, R169, R196, R197	14	100	CRCW0603100RFKEA	Vishay-Dale	RES, 100 ohm, 1%, 0.1W, 0603	0603
R15, R18, R152, R155	4	68.0k	RC0603FR-0768KL	Yageo America	RES, 68.0 k, 1%, 0.1 W, 0603	0603
R19, R21, R156, R158	4	3.90k	CRCW06033K90FKEA	Vishay-Dale	RES, 3.90 k, 1%, 0.1 W, 0603	0603
R20, R22, R157, R159	4	30.0k	RC0603FR-0730KL	Yageo America	RES, 30.0 k, 1%, 0.1 W, 0603	0603

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
R23, R29, R160, R166	4	1.00Meg	CRCW06031M00FKEA	Vishay-Dale	RES, 1.00Meg ohm, 1%, 0.1W, 0603	0603
R25, R31, R88, R162, R168	5	10.0k	CRCW060310K0FKEA	Vishay-Dale	RES, 10.0k ohm, 1%, 0.1W, 0603	0603
R28, R34, R165, R171	4	1.00k	CRCW12061K00FKEA	Vishay-Dale	RES, 1.00k ohm, 1%, 0.25W, 1206	1206
R35, R41, R89, R95, R106, R112, R122, R128	8	249	RT0603BRD07249RL	Yageo America	RES, 249, 0.1%, 0.1 W, 0603	0603
R36, R40, R48, R86, R90, R94, R102, R107, R111, R121, R123, R127, R137	13	100k	RC0603FR-07100KL	Yageo America	RES, 100 k, 1%, 0.1 W, 0603	0603
R37, R91, R108, R124	4	169	RC0603FR-07169RL	Yageo America	RES, 169, 1%, 0.1 W, 0603	0603
R38, R92, R109, R125	4	5.60k	RG1608P-562-B-T5	Susumu Co Ltd	RES, 5.60 k, 0.1%, 0.1 W, 0603	0603
R39, R93, R110, R126	4	15.0	CRCW060315R0FKEA	Vishay-Dale	RES, 15.0, 1%, 0.1 W, 0603	0603
R43, R97, R115, R131	4	82.0k	RG1608P-823-B-T5	Susumu Co Ltd	RES, 82.0 k, 0.1%, 0.1 W, 0603	0603
R44, R46, R98, R100, R117, R119, R133, R135	8	8.20k	RC0603FR-078K2L	Yageo America	RES, 8.20 k, 1%, 0.1 W, 0603	0603
R49, R50, R51, R52, R53, R54, R55, R56, R173, R174, R175, R176, R177, R178, R179, R180	16	1.00k	CRCW08051K00FKEA	Vishay-Dale	RES, 1.00 k, 1%, 0.125 W, 0805	0805
R57, R62, R104, R105, R113, R114, R129, R130, R198, R199, R200, R201, R202, R203, R204, R205	16	0	RC0603JR-070RL	Yageo America	RES, 0, 5%, 0.1 W, 0603	0603
R58	1	0	CRCW12060000Z0EA	Vishay-Dale	RES, 0 ohm, 5%, 0.25W, 1206	1206
R59, R63, R65	3	0	CRCW06030000Z0EA	Vishay-Dale	RES, 0, 5%, 0.1 W, 0603	0603
R60	1	576k	CRCW0603576KFKEA	Vishay-Dale	RES, 576 k, 1%, 0.1 W, 0603	0603
R61, R66, R67	3	49.9k	RG1608P-4992-B-T5	Susumu Co Ltd	RES, 49.9 k, 0.1%, 0.1 W, 0603	0603
R64	1	620k	CRCW0603620KFKEA	Vishay-Dale	RES SMD 620K OHM 1% 1/10W 0603	0603
R68	1	1.00	CR0603-J/-1R0ELF	Bourns inc	RES SMD 1 OHM 5% 1/10W 0603	0603
R69	1	1.0k	CRCW06031K00JNEA	Vishay-Dale	RES, 1.0 k, 5%, 0.1 W, 0603	0603
R70, R103, R172	3	0	CRCW08050000Z0EA	Vishay-Dale	RES, 0 ohm, 5%, 0.125W, 0805	0805
R71	1	300	CRCW0603300RJNEA	Vishay-Dale	RES, 300 ohm, 5%, 0.1W, 0603	0603
R73, R77, R78, R81, R83, R190, R191, R192, R195, R206, R207	11	0	CRCW06030000Z0EA	Vishay-Dale	RES, 0 ohm, 5%, 0.1W, 0603	0603
R74, R84	2	3.9k	CRCW06033K90JNEA	Vishay-Dale	RES, 3.9k ohm, 5%, 0.1W, 0603	0603
R75, R76	2	2.00k	CRCW12062K00FKEA	Vishay-Dale	RES, 2.00 k, 1%, 0.25 W, 1206	1206
R79	1	8.45k	CRCW06038K45FKEA	Vishay-Dale	RES, 8.45 k, 1%, 0.1 W, 0603	0603
R80	1	100k	CRCW0603100KFKEA	Vishay-Dale	RES, 100 k, 1%, 0.1 W, 0603	0603
R85	1	1.07Meg	CRCW06031M07FKEA	Vishay-Dale	RES, 1.07 M, 1%, 0.1 W, 0603	0603
R87	1	31.6k	CRCW060331K6FKEA	Vishay-Dale	RES, 31.6k ohm, 1%, 0.1W, 0603	0603

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R181, R182, R183, R184, R185, R186, R187, R188	8	100k	CRCW0805100KFKEA	Vishay-Dale	RES, 100 k, 1%, 0.125 W, 0805	0805
SH-J1, SH-J2, SH-J3, SH-J4, SH-J5, SH-J6, SH-J7, SH-J8, SH-J9, SH-J10, SH-J11, SH- J12, SH-J13, SH-J14, SH-J15, SH-J16, SH- J17, SH-J18, SH-J19, SH-J20, SH-J21, SH- J22, SH-J23, SH-J24, SH-J25, SH-J26, SH- J27, SH-J28, SH-J29, SH-J30, SH-J31, SH- J32, SH-J33, SH-J34, SH-J35, SH-J36, SH- J37, SH-J38	38		881545-2	TE Connectivity	Shunt, 100mil, Gold plated, Black	Shunt 2 pos. 100 mil
T1, T2, T3, T4	4		CR8350-2500-N	CR MAGNETICS	CURRENT TRANSFORMER, 20-1 KHz, 57 OHM, VERTICAL, THRU-4P	
TP1, TP2, TP5, TP6, TP11, TP12, TP13, TP14, TP18, TP21, TP25, TP31, TP32, TP33, TP34, TP35, TP36, TP37, TP38, TP42, TP43, TP46, TP47, TP48, TP49, TP50, TP51, TP52, TP53, TP54, TP55, TP56, TP57, TP58, TP59, TP60, TP61, TP62, TP63, TP64	40	Double	1573-2	Keystone	Terminal, Turret, TH, Double	Keystone1573-2
TP7, TP8, TP27, TP39	4	White	5002	Keystone	Test Point, Miniature, White, TH	White Miniature Testpoint
TP9, TP26, TP29, TP40	4	Black	5001	Keystone	Test Point, Miniature, Black, TH	Black Miniature Testpoint
TP15, TP16	2	5001	5001	Keystone	Test Point, Black, Thru Hole Color Keyed	0.100 x 0.100 inch
TP23	1	Red	5010	Keystone	Test Point, Multipurpose, Red, TH	Red Multipurpose Testpoint
TP24	1	Green	5126	Keystone	Test Point, Multipurpose, Green, TH	Green Multipurpose Testpoint
U1, U4, U14, U17	4		OPA2188AID	Texas Instruments	0.03 uV/degC, 6 uV Vos, Low Noise, Rail-to-Rail Output, Zero-Drift Operational Amplifier, 4 to 36 V, -40 to 105 degC, 8-pin SOIC (D0008A), Green (RoHS & no Sb/Br)	D0008A
U2, U18	2		LM2903DR	Texas Instruments	Dual Comparator, D0008A	D0008A
U3, U6, U13, U15	4		INA188ID	Texas Instruments	INA188 Precision, Zero-Drift, Rail-to-Rail Out, High Voltage Instrumentation Amplifier, D0008A	D0008A
U5	1		TPS65131RGET	Texas Instruments	Postive and Negative Output DC-DC Converter, 2.7 to 5.5 V, -40 to 85 degC, 24-pin QFN (RGE24), Green (RoHS & no Sb/Br)	RGE0024B
U7	1	TPS7A6533QKV URQ1	TPS7A6533QKVURQ1	TI	IC, 300-mA 40-V LOW-DROPOUT REGULATOR WITH 25-uA QUIESCENT CURRENT	PFM
U8	1	TLV1117I- xxCDCY	TLV1117IDCYR	TI	IC, vvV, 800mA LDO Voltage Regulators	SOT-223

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U9, U16	2		OPA322AIDBVR	Texas Instruments	20 MHz, Low Noise, RRIO, CMOS Operational Amplifier with Shutdown, 1.8 to 5.5 V, -40 to 125 degC, 5-pin SOT23 (DBV0005A), Green (RoHS & no Sb/Br)	DBV0005A
U10	1		REF5025AID	Texas Instruments	Low-Noise, Very Low Drift, Precision VOLTAGE REFERENCE, 2.5V, D008A	D0008A
U11	1		LP2951CSD/NOPB	Texas Instruments	Series of Adjustable Micropower Voltage Regulators, 8-pin LLP	SDC08A
U12	1		TPS7A3001DGNR	Texas Instruments	Single Output High PSRR LDO, 200 mA, Adjustable -1.18 to -33 V Output, -3 to -36 V Input, with Ultra-Low Noise, 8-pin MSOP (DGN), -40 to 125 degC, Green (RoHS & no Sb/Br)	DGN0008D
U19	1		REF3025AIDBZR	Texas Instruments	2.5 V, 50 ppm / degC, 50 uA Series (Bandgap) Voltage Reference, -40 to 125 degC, 3-pin SOT-23 (DBZ), Green (RoHS & no Sb/Br)	DBZ0003A
FID1, FID2, FID3	0		N/A	N/A	Fiducial mark. There is nothing to buy or mount.	Fiducial
R14, R17, R151, R154	0	68.0k	RC0603FR-0768KL	Yageo America	RES, 68.0 k, 1%, 0.1 W, 0603	0603
R24, R30, R161, R167	0	10k	CRCW060310K0FKEA	Stackpole Electronics Inc	RES, 10.0k ohm, 1%, 0.1W, 0603	0603
R42, R96, R116, R132	0	0	RC0603JR-070RL	Yageo America	RES, 0, 5%, 0.1 W, 0603	0603
R47, R101, R120, R136	0	100k	RC0603FR-07100KL	Yageo America	RES, 100 k, 1%, 0.1 W, 0603	0603
R72, R189, R193, R194	0	0	CRCW06030000Z0EA	Vishay-Dale	RES, 0 ohm, 5%, 0.1W, 0603	0603