

Bill of Materials

TI DESIGNS

TIDA-00601

Item	Qty	Reference	Value	Part Description	Digikey Part Number	Manufacturer	Manufacturer Part Number	PCB Footprint	Note
1	2	C37, C40	12 pf	CAP CER 12PF 50V 5% NPO 0603	311-1059-1-ND	YAGEO	CC0603JRNPO9B120	0603	
2	2	C33 C58	0.47 UF	CAP CER 0.47UF 16V 10% X7R 0603	311-1428-1-ND	YAGEO	CC0603KRX7R7B8474	0603	
3	8	C4, C6, C14, C16, C29, C32, C49	4.7 UF	CAP CER 4.7UF 10V 10% X5R 0603	311-1455-1-ND	YAGEO	CC0603KRX5R6BB475	0603	
4	10	C5, C7, C15, C17, C18, C28, C30, C31, C53, C59	0.1 UF	CAP CER 0.1UF 50V Y5V 0603	311-1343-1-ND	YAGEO	CC0603ZRY5V9BB104	0603	
5	3	C1, C9, C38	0.1 UF	CAP CER 0.1UF 50V Y5V 0805	311-1361-1-ND	YAGEO	CC0805ZRY5V9BB104	0805	
6	3	C8, C36, C43	10UF	CAP CER 10UF 10V Y5V 0805	311-1355-1-ND	YAGEO	CC0805ZKY5V6BB106	0805	
7	1	XT1	CRYSTAL	CRYSTAL 32.768 KHZ 6PF SMD	300-8341-1-ND	CITIZEN FINETECH	CMR200T32768DZBT	SMD	
8	6	D44, D45, D46, D47, D48, D49	DIODE	DIODE SWITCHING 75V 0.15A SOD523	1N4148XTPMSCT-ND	MICRO COMM	1N4148X-TP	SOD523	
9	4	L1, L3, L5, L6	0.0 OHM	RES 0.0 OHM 1/8W 0805 SMD	RMCF0805ZTOR00CT-ND	STACKPOLE	RMCF0805ZTOR00	0805	
10	8	ACT, JP1, JP2, JP3, JP14, JP15, JP16, REACT	2-PIN CONNECTOR	CONN HEADER VERT SGL 2POS GOLD	3M9447-ND	3M	961102-6404-AR	Through-hole	
11	8	JP4, JP5, JP6, JP7, JP8, JP9, JP10	3-PIN CONNECTOR	CONN HEADER VERT SGL 3POS GOLD	3M9448-ND	3M	961103-6404-AR	Through-hole	
12	1	LED_ACT	RED LED	LED 3.1MM 650NM RED TRANSPARENT	511-1249-ND	ROHM	SLR-342VC3F	Through-hole	
13	3	LED_PHASE_1, LED_PHASE_2, LED_PHASE_3	YELLOW LED	LED 3.1MM 585NM YELLOW TRANSP	511-1251-ND	ROHM	SLR-342YC3F	Through-hole	
14	1	LED_REACT	GREEN LED	LED 3.1MM 563NM GREEN TRANSP	511-1247-ND	ROHM	SLR-342MC3F	Through-hole	
15	3	DGND, DVCC, ISO_PULSE	4-PIN CONNECTOR	CONN HEADER VERT SGL 4POS GOLD	3M9449-ND	3M	961104-6404-AR	Through-hole	
16	1	JTAG	14-PIN CONNECTOR	CONN HEADER 14 POS STRGHT GOLD	MHC14K-ND	3M	N2514-6002-RB	Through-hole	
17	1	U4	MSP430F67641	MSP430F67641	SUPPLIED FROM TI			JPZ	
18	2	BTN1, RESET	SWITCH	SWITCH TACTILE SPST-NO 0.02A 15V	P8079SCT-ND	PANASONIC	EVQ-11105R	Through-hole	
19	5	R20, R21, R22, R57, R58	100 OHM	RES 100 OHM 1/10W 5% 0603 SMD	RMCF0603JT100RCT-ND	STACKPOLE	RMCF0603JT100R	0603	
20	1	R48	330 OHM	RES 330 OHM 1/10W 5% 0603 SMD	RMCF0603JT330RCT-ND	STACKPOLE	RMCF0603JT330R	0603	
21	1	R49	100K OHM	RES 100K OHM 1/8W 5% 0805 SMD	RMCF0805JT100KCT-ND	STACKPOLE	RMCF0805JT100K	0805	
22	3	R117, R123, R127	10 OHM	RES 10 OHM 1/8W 0.1% 0805 SMD	CRT0805-BY-10R0ELFCT-ND	BOURNS	CRT0805-BY-10R0ELF	0805	
23	1	R36	10 OHM	RES 10 OHM 1/8W 5% 0805 SMD	RMCF0805JT10R0CT-ND	STACKPOLE	RMCF0805JT10R0	0805	
24	9	R/L1, R/L2, R/L3, R/L4	0.0 OHM	RES 0.0 OHM 1/8W 0805 SMD	RMCF0805ZTOR00CT-ND	STACKPOLE	RMCF0805ZTOR00	0805	CSEL1, CSEL2, CSEL3 Solder Bridge to L option instead of A
25	21	R4, R14, R15, R102, R103	1M OHM	RES 1M OHM 1/8W 0.1% 0805	P1MDACT-ND	PANASONIC	ERA-6AEB105V	0805	
26	3	R118, R121 R125	20K OHM	RES 20K OHM 1/8W 0.1% 0805	P20KDACT-ND	PANASONIC	ERA-6AEB203V	0805	
27	3	R119 R122 R126	10K OHM	RES 10K OHM 1/8W 0.1% 0805	P10KDACT-ND	PANASONIC	ERA-6AEB103V	0805	
28	3	R1, R2, R3	VARISOTR	VARISTOR 275V RMS 20MM RADIAL	495-1417-ND	TDK	S20K275	20 MM Radial	
29	1	LCD1	LCD	160-segment LCD	SUPPLIED FROM TI	Custom	Custom	Custom	Provided by TI
30	3	TVS1, TVS2, TVS3	DIODE	DIODE TVS 5.0V 400W BI 5% SMD	SMAJ5.0CABCT-ND	BOURNS	SMAJ5.0CA	SMD	
31	12	D1, D2, D3, D4, D5, D10, D11, D12, D13, D14, D15, D35	DIODE	DIODE SW GPP 75V 200MA SOD80C	568-1749-1-ND	NXP	PMLL4148L115	SOD80C	
32	3	R116, R120, R124	1.0K OHM	RES 1.0K OHM 1/16W 0.1% 0805 SMD	MCU0805-1.00K-MDCT-ND	VISHAY	MCU0805MD1001DP500	0805	
33	1	R51	47K OHM	RES 47K OHM 1/10W 5% 0603 SMD	RMCF0603JT47K0CT-ND	STACKPOLE	RMCF0603JT47K0	0603	
34	1	C22	10000PF	CAP CER 10000PF 50V 10% X7R 0603	445-1311-1-ND	TDK	C1608X7R1H103K080AA	0603	
35	3	R5, R6, R7	0.0 OHM	RES 0.0 OHM 1/10W 0603 SMD	RMCF0603ZTOR00CT-ND	STACKPOLE	RMCF0603ZTOR00	0603	
36	1	U5	ISOLATION	IC ISOLATOR DGTL 2CH 2/0 85OIC	296-42100-1-ND	TI	ISO7320D	85OIC	
37	1	U1	ISOLATION	IC ISOLATOR DGTL 2CH 2/0 85OIC	296-42102-1-ND	TI	ISO7321D	85OIC	
38	1	U3	LDO	IC REG LDO 3.3V 0.15A SOT23-5	296-11021-1-ND	TI	TPS76333DBVR	SOT23-5	
39	1	U2	RS232	IC DVR/RCV RS232 MULTICH 16TSSOP	296-24863-1-ND	TI	TRS3232EQPWRQ1	16TSSOp	
40	10	C56, C57, C60, C61, C62, C63, C64, C65, C66, C67	0.1UF	CAP CER 0.1UF 25V 10% X7R 0603	445-1316-1-ND	TDK	C1608X7R1E104K080AA	0603	
41	1	RS1	RS-232 CONNECTOR	CONN D-SUB RCPT R/A 9POS 30GOLD	A32119-ND	TE CONN	5747844-6	Through-hole	
42	2	D6, D7	DIODE	DIODE GEN PURP 75V 150MA SOD323F	1N4148WFSCT-ND	FAIRCHILD	1N4148WS	SOD323F	
43	1	C55	1UF	AP CER 1UF 25V 10% X7R 0603	445-5956-1-ND	TDK	C1608X7R1E105K080AB	0603	
44	1	C54	47UF	CAP CER 47UF 25V 20% X5R 1206	445-8047-1-ND	TDK	C3216X5R1E476M160AC	1206	

Item	Qty	Reference	Value	Part Description	Digikey Part Number	Manufacturer	Manufacturer Part Number	PCB Footprint	Note
45	3	U\$6, U\$10, U\$12	REGULATOR	IC REG CONV PWR SUPPLIES SOT23-5	296-37700-1-ND	TI	SN6501DBVR	SOT23-5	
46	3	U\$2, U\$3, U\$4	AMC1304M05	AMC1304M05	SUPPLIED FROM TI	TI	AMC1304M05	SOIC-16	Provided by TI
47	1	CLOCK_GENERATOR	Do not populate	20 MHZ CLOCK	DNP	Do Not Populate	Do Not Populate	Custom	Do Not Populate
48	3	U\$7, U\$13, U\$14	TERMINAL BLOCK	TERMINAL BLOCK 5.08MM VERT 2POS	ED1609-ND	ON-SHORE	ED120/2DS	Through-hole	
49	3	U\$8, U\$15, U\$16	TRANSFORMER	CUSTOM TRANSFORMER	Please Order DA2304-AL from Coilcraft	DA2304-AL	Coilcraft	Custom	Please Order DA2304-AL from Coilcraft
50	6	U\$1, U\$5, U\$9, U\$11, U\$17, U\$19	DIODE	DIODE SCHOTTKY 20V 0.5A SOD123	MBR0520LT1GOSCT-ND	ON SEMI	MBR0520LT1G	SOD123	
51	9	C35, C39, C41, C44, C45, C46, C48, C50, C51	10 UF	CAP, CERM, 10 µF, 16 V, +/- 10%, X5R, 0805	587-1295-1-ND	TAIYO	EMK212BJ106KG-T	0805	
52	3	C42, C47, C52	0.1 UF	CAP, CERM, 0.1 µF, 25 V, +/- 10%, X7R, 0805	399-1168-1-ND	KEMET	C0805C104K3RACTU	0805	
53	6	C11, C13, C20, C23, C25, C27	0.1UF	CAP, CERM, 0.1 µF, 25 V, +/- 10%, X7R, 0805	399-1168-1-ND	KEMET	C0805C104K3RACTU	0805	
54	3	C24, C26, C34	2.2UF	CAP, CERM, 2.2 µF, 16 V, +/- 10%, X7R, 0805	587-1431-1-ND	TAIYO	EMK212B7225KG-T	0805	
55	6	R135, R136, R137, R138, R139, R140	20.0 OHM	RES, 20.0, 0.1%, 0.1 W, 0603	RT0603BRD0720RL	YAGEO	RT0603BRD0720RL	0603	
56	3	C2, C3, C10	5600 PF	CAP, CERM, 5600 pF, 25 V, +/- 5%, COG/NP0, 0603	445-2666-1-ND	TDK	C1608COG1E562J080AA	0603	
57	3	C12, C19, C21	4.7 UF	CAP, CERM, 4.7 µF, 10 V, +/- 10%, X5R, 0805	587-1297-1-ND	TAIYO	LMK212BJ475KD-T	0805	
58	1	R16	Do not populate	RES 0.0 OHM 1/10W 0603 SMD	Do Not Populate	Do not populate	Do not populate	0603	Do Not Populate
59	3	AMC1PWR, AMC2PWR, AMC3PWR	N/A	N/A	N/A	N/A	N/A	Solder Bridge	Solder Bridge to I (i) option instead of E option
60	3	Shunts	400µΩ or 200µΩ	Power Metal Strip® Meter Shunt Resistor	Please Order WSM3124 from Vishay	Vishay	WSM3124	Custom	This is an off-board shunt.

IMPORTANT NOTICE FOR TI DESIGN INFORMATION AND RESOURCES

Texas Instruments Incorporated ("TI") technical, application or other design advice, services or information, including, but not limited to, reference designs and materials relating to evaluation modules, (collectively, "TI Resources") are intended to assist designers who are developing applications that incorporate TI products; by downloading, accessing or using any particular TI Resource in any way, you (individually or, if you are acting on behalf of a company, your company) agree to use it solely for this purpose and subject to the terms of this Notice.

TI's provision of TI Resources does not expand or otherwise alter TI's applicable published warranties or warranty disclaimers for TI products, and no additional obligations or liabilities arise from TI providing such TI Resources. TI reserves the right to make corrections, enhancements, improvements and other changes to its TI Resources.

You understand and agree that you remain responsible for using your independent analysis, evaluation and judgment in designing your applications and that you have full and exclusive responsibility to assure the safety of your applications and compliance of your applications (and of all TI products used in or for your applications) with all applicable regulations, laws and other applicable requirements. You represent that, with respect to your applications, you have all the necessary expertise to create and implement safeguards that (1) anticipate dangerous consequences of failures, (2) monitor failures and their consequences, and (3) lessen the likelihood of failures that might cause harm and take appropriate actions. You agree that prior to using or distributing any applications that include TI products, you will thoroughly test such applications and the functionality of such TI products as used in such applications. TI has not conducted any testing other than that specifically described in the published documentation for a particular TI Resource.

You are authorized to use, copy and modify any individual TI Resource only in connection with the development of applications that include the TI product(s) identified in such TI Resource. NO OTHER LICENSE, EXPRESS OR IMPLIED, BY ESTOPPEL OR OTHERWISE TO ANY OTHER TI INTELLECTUAL PROPERTY RIGHT, AND NO LICENSE TO ANY TECHNOLOGY OR INTELLECTUAL PROPERTY RIGHT OF TI OR ANY THIRD PARTY IS GRANTED HEREIN, including but not limited to any patent right, copyright, mask work right, or other intellectual property right relating to any combination, machine, or process in which TI products or services are used. Information regarding or referencing third-party products or services does not constitute a license to use such products or services, or a warranty or endorsement thereof. Use of TI Resources may require a license from a third party under the patents or other intellectual property of the third party, or a license from TI under the patents or other intellectual property of TI.

TI RESOURCES ARE PROVIDED "AS IS" AND WITH ALL FAULTS. TI DISCLAIMS ALL OTHER WARRANTIES OR REPRESENTATIONS, EXPRESS OR IMPLIED, REGARDING TI RESOURCES OR USE THEREOF, INCLUDING BUT NOT LIMITED TO ACCURACY OR COMPLETENESS, TITLE, ANY EPIDEMIC FAILURE WARRANTY AND ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND NON-INFRINGEMENT OF ANY THIRD PARTY INTELLECTUAL PROPERTY RIGHTS.

TI SHALL NOT BE LIABLE FOR AND SHALL NOT DEFEND OR INDEMNIFY YOU AGAINST ANY CLAIM, INCLUDING BUT NOT LIMITED TO ANY INFRINGEMENT CLAIM THAT RELATES TO OR IS BASED ON ANY COMBINATION OF PRODUCTS EVEN IF DESCRIBED IN TI RESOURCES OR OTHERWISE. IN NO EVENT SHALL TI BE LIABLE FOR ANY ACTUAL, DIRECT, SPECIAL, COLLATERAL, INDIRECT, PUNITIVE, INCIDENTAL, CONSEQUENTIAL OR EXEMPLARY DAMAGES IN CONNECTION WITH OR ARISING OUT OF TI RESOURCES OR USE THEREOF, AND REGARDLESS OF WHETHER TI HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

You agree to fully indemnify TI and its representatives against any damages, costs, losses, and/or liabilities arising out of your non-compliance with the terms and provisions of this Notice.

This Notice applies to TI Resources. Additional terms apply to the use and purchase of certain types of materials, TI products and services. These include; without limitation, TI's standard terms for semiconductor products (<http://www.ti.com/sc/docs/stdterms.htm>), [evaluation modules](#), and [samples](http://www.ti.com/sc/docs/sampterm.htm) (<http://www.ti.com/sc/docs/sampterm.htm>).

Mailing Address: Texas Instruments, Post Office Box 655303, Dallas, Texas 75265
Copyright © 2017, Texas Instruments Incorporated