

Bill of Materials

TI DESIGNS

TIDA-00287

Item	Qty	Reference	Value	Part Description	Manufacturer	Manufacturer Part Number	Alternate Part	PCB Footprint	Note
1	16	C1,C8,C9,C10,C15,C16,C34, C43,C48,C50,C56,C57 C60,C61,C64,C65	0.1uF	cap 0402, 0.1uF, +/- 10%, X7R, 16V	TDK Corporation	C1005X7R1C104K		0402	
2	6	C2,C3,C32,C40,C42,C44	0.1uF	cap 0201, 0.1uF, +/- 20%, X5R, 6.3V	TDK Corporation	C0603X5R0J104M030BC		0201RND	
3	2	C4,C5	18pF	cap 0402, 18pF, +/- 5%, COG (NPO), 50V	Murata Electronics North America	GRM1555C1H180J201D		0402	
4	3	C6,C51,C52	1uF	cap 0402, 1uF, +/- 10%, X5R, 10V	Taiyo Yuden	LMK105BJ105KV-F		0402	
5	8	C7,C11,C13,C14,C18,C19C62,C63	.01uF	cap 0402, 0.1uF, +/- 10%, X7R, 50V	Murata Electronics North America	GRM155R71H103KA88D		0402	
6	2	C12,C17	10uF	cap 0402, 10uF, +/- 20%, X5R, 6.3V	Samsung	CL05A106MQ5NUNC		0402	
7	2	C45,C46	4.7uF	cap 0402, 4.7uF, +/- 10%, X5R, 6.3V	TDK Corporation	C1005X5R0J475K		0402	
8	2	C47,C49	22uF	cap 0603, 22uF, +/- 20%, X5R, 6.3V	TDK Corporation	C1608X5R0J226M		0603	
10	1	C53	2.2uF	cap 0402, 2.2uF, +/- 20%, X5R, 6.3V	TDK Corporation	C1005X5R0J225M		0402	
11	1	C54	15pF	cap 0402, 15pF, +/- 5%, COG, 50V	Venkel	C0402COG500-150JNE		0402	
12	1	C55	10uF	cap 0603, 10uF, +/- 20%, X5R, 6.3V	TDK Corporation	C1608X5R0J106M080AB		0603	
13	1	D4	LED - Blue	LED BLUE, 0805, 104MCD, 20mA	Lite-On Inc.	LTST-C170TBK		0805	
15	3	FB1,FB4,FB5	220 @ 100MHZ,2A	EMI Filter Beads, 220 Ohms, 25%	MuRata	BLM18EG221SN1D		0603	
16	1	J1	USB3_PLUG	USB 3.0 - A Type R/A	Assmann	A-USB/3-A-LP/SMT-R		CON_SMRT_USB3A_M	
17	2	J4,J5	USB3_TYPEA_CONNECTOR	Connectors USB 3.0, Super Speed USB - A, Receptacle	FCI	10117835-002LF		USB - A, Receptacle	
18	1	L3	2.2uH@1.3A	INDUCTOR 2.2UH 20% 1.3A 1008	Murata	LQM2HPN2R2MG0L		IND_1008	
19	2	R1,R24	DNI	DNI	DNI	DNI		0402	
20	1	R2	DNI,1M	DNI	DNI	DNI		0402	
21	3	R7,R30,R31	10K	RES 0402, 10K, +/- 1%, 1/10W	Panasonic	ERJ-2RKF1002		0402	
22	4	R3,R4,R8,R9	4.7K	RES 0402, 4.7K, +/- 1%, 1/16w	Vishay Dale	CRCW04024K70FKED		0402	
23	1	R5	90.9K	RES 0402, 90.9K, +/- 1%, 1/16W	Yageo	RC0402FR-0790K9L		0402	
24	1	R6	9.53K	RES 0402, 9.53K, +/- 1%, 1/16w	Vishay Dale	CRCW04029K53FKED		0402	
25	2	R19,R27	47K	RES 0402, +/- 1%, 1/10W	Panasonic	ERJ-2RKF4702X		0402	
26	2	R25,R28	28.7K	RES 0402, 28.7k, +/- 1%, 1/16w	Venkel	CRO402-16W-2872FT		0402	
27	1	R29	180	RES 0402, 180, +/- 1%, 1/16W	Panasonic Electronic Components	ERJ-2RKF1800X		0402	

Item	Qty	Reference	Value	Part Description	Manufacturer	Manufacturer Part Number	Alternate Part	PCB Footprint	Note
28	1	R32	237K	RES 0402, 237K, +/- 1%, 1/10W	Panasonic Electronic Components	ERJ-2RKF2373X		0402	
29	1	R33	200K	RES 0402, 200K, +/- 1%, 1/16W	Panasonic Electronic Components	ERJ-2RKF2003X		0402	
30	1	U1	TUSB8020B	Two-Port USB Hub	INSTRUMENTS	TUSB8020B		HMPAD	
31	3	U16,U19,U20	TPD6E05U06	IEC ESD protection diodes	INSTRUMENTS	TPD6E05U06RVZ		UQFN_14_142X57_20	
32	2	U17,U18	TPS2553	Power Distribution Switch	INSTRUMENTS	TPS2553DBV		SOT23_6	
33	1	U21	TLV70033	LDO linear regulator	INSTRUMENTS	TLV70033DCK		SC70-5	
34	1	U22	LM3674	600 mA Buck Converter	INSTRUMENTS	ADJ/NOPBTR-ND		SOT_23_5	
35	1	Y1	24MHz	24 MHz Crystal	CTS Freq Controls	445C25D24M00000		XTAL_2_SM_197X126	

IMPORTANT NOTICE FOR TI REFERENCE DESIGNS

Texas Instruments Incorporated ("TI") reference designs are solely intended to assist designers ("Buyers") who are developing systems that incorporate TI semiconductor products (also referred to herein as "components"). Buyer understands and agrees that Buyer remains responsible for using its independent analysis, evaluation and judgment in designing Buyer's systems and products.

TI reference designs have been created using standard laboratory conditions and engineering practices. **TI has not conducted any testing other than that specifically described in the published documentation for a particular reference design.** TI may make corrections, enhancements, improvements and other changes to its reference designs.

Buyers are authorized to use TI reference designs with the TI component(s) identified in each particular reference design and to modify the reference design in the development of their end products. HOWEVER, NO OTHER LICENSE, EXPRESS OR IMPLIED, BY ESTOPPEL OR OTHERWISE TO ANY OTHER TI INTELLECTUAL PROPERTY RIGHT, AND NO LICENSE TO ANY THIRD PARTY TECHNOLOGY OR INTELLECTUAL PROPERTY RIGHT, 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 components or services are used. Information published by TI regarding third-party products or services does not constitute a license to use such products or services, or a warranty or endorsement thereof. Use of such information 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 REFERENCE DESIGNS ARE PROVIDED "AS IS". TI MAKES NO WARRANTIES OR REPRESENTATIONS WITH REGARD TO THE REFERENCE DESIGNS OR USE OF THE REFERENCE DESIGNS, EXPRESS, IMPLIED OR STATUTORY, INCLUDING ACCURACY OR COMPLETENESS. TI DISCLAIMS ANY WARRANTY OF TITLE AND ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, QUIET ENJOYMENT, QUIET POSSESSION, AND NON-INFRINGEMENT OF ANY THIRD PARTY INTELLECTUAL PROPERTY RIGHTS WITH REGARD TO TI REFERENCE DESIGNS OR USE THEREOF. TI SHALL NOT BE LIABLE FOR AND SHALL NOT DEFEND OR INDEMNIFY BUYERS AGAINST ANY THIRD PARTY INFRINGEMENT CLAIM THAT RELATES TO OR IS BASED ON A COMBINATION OF COMPONENTS PROVIDED IN A TI REFERENCE DESIGN. IN NO EVENT SHALL TI BE LIABLE FOR ANY ACTUAL, SPECIAL, INCIDENTAL, CONSEQUENTIAL OR INDIRECT DAMAGES, HOWEVER CAUSED, ON ANY THEORY OF LIABILITY AND WHETHER OR NOT TI HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, ARISING IN ANY WAY OUT OF TI REFERENCE DESIGNS OR BUYER'S USE OF TI REFERENCE DESIGNS.

TI reserves the right to make corrections, enhancements, improvements and other changes to its semiconductor products and services per JESD46, latest issue, and to discontinue any product or service per JESD48, latest issue. Buyers should obtain the latest relevant information before placing orders and should verify that such information is current and complete. All semiconductor products are sold subject to TI's terms and conditions of sale supplied at the time of order acknowledgment.

TI warrants performance of its components to the specifications applicable at the time of sale, in accordance with the warranty in TI's terms and conditions of sale of semiconductor products. Testing and other quality control techniques for TI components are used to the extent TI deems necessary to support this warranty. Except where mandated by applicable law, testing of all parameters of each component is not necessarily performed.

TI assumes no liability for applications assistance or the design of Buyers' products. Buyers are responsible for their products and applications using TI components. To minimize the risks associated with Buyers' products and applications, Buyers should provide adequate design and operating safeguards.

Reproduction of significant portions of TI information in TI data books, data sheets or reference designs is permissible only if reproduction is without alteration and is accompanied by all associated warranties, conditions, limitations, and notices. TI is not responsible or liable for such altered documentation. Information of third parties may be subject to additional restrictions.

Buyer acknowledges and agrees that it is solely responsible for compliance with all legal, regulatory and safety-related requirements concerning its products, and any use of TI components in its applications, notwithstanding any applications-related information or support that may be provided by TI. Buyer represents and agrees that it has all the necessary expertise to create and implement safeguards that anticipate dangerous failures, monitor failures and their consequences, lessen the likelihood of dangerous failures and take appropriate remedial actions. Buyer will fully indemnify TI and its representatives against any damages arising out of the use of any TI components in Buyer's safety-critical applications.

In some cases, TI components may be promoted specifically to facilitate safety-related applications. With such components, TI's goal is to help enable customers to design and create their own end-product solutions that meet applicable functional safety standards and requirements. Nonetheless, such components are subject to these terms.

No TI components are authorized for use in FDA Class III (or similar life-critical medical equipment) unless authorized officers of the parties have executed an agreement specifically governing such use.

Only those TI components that TI has specifically designated as military grade or "enhanced plastic" are designed and intended for use in military/aerospace applications or environments. Buyer acknowledges and agrees that any military or aerospace use of TI components that have **not** been so designated is solely at Buyer's risk, and Buyer is solely responsible for compliance with all legal and regulatory requirements in connection with such use.

TI has specifically designated certain components as meeting ISO/TS16949 requirements, mainly for automotive use. In any case of use of non-designated products, TI will not be responsible for any failure to meet ISO/TS16949.