

Bill of Materials

TI DESIGNS
TIDM-DCDC-LED Main Board [R3].2

Item	Macro Name	Ref. Des	Type	Description	# per macro	# per board	Digikey Part #	Mouser Part #	Comments
1	Main	C1,C2,C3,C4	C	Elec. Cap - 330uf, 63V, Alum. Radial	4	4	P5195-ND		
2	Main	Cd1	C	-DO NOT POPULATE-		0			
3	Main	TB1,TB2,TB3,TB4, TB5,TB6,TB7,TB8	TB	Terminals (2 screw) 5.08mm, 7.5mm wide	8	8	ED1975-ND		
4	Main	BS1,BS2,BS3,BS4	BC	Banana Connector and Nuts (discard washer)	4	4	501-1115-ND		Each Bag contains 10
5	Main	PR1	R	Power Resistor	1	1	PPC5W1.0KCT-ND		
6	Main	R1	R	-DO NOT POPULATE-		0			
7	Main	R2, R3	R	Res. - 4K7, 5%, 0.1W, 0805	1	1	RHM4.7KACT-ND		
8	Main	Q1	Q	-DO NOT POPULATE-		0			
9	Main	J1	J	100 pin DIMM socket - Molex 0876301001	1	1		538-87630-1001	
10	Main	J2,J3,J6	J	Standard 0.1" SIL headers, cut to fit, total needed 1x9	3	3			
11	Main	Rubber Feet	Feet	Rubber Feet	7	7	SJ5303-7-ND		
12	USB-JTAG-ISO	C1, C4, C5	C	Cer. Cap - 1u, 6.3V, X5R, 0603	1	1	PCC2174CT-ND		
13	USB-JTAG-ISO	C2	C	Cer. Cap - 2u2, 6.3V, X5R, 0603	1	1	490-1551-1-ND		
14	USB-JTAG-ISO	C3, C6-C16	C	Cer. Cap - 100n, 16V, X7R, 0603	12	12	GRM188R71C104KA01 D		
15	USB-JTAG-ISO	C17	C	Cer. Cap - 0.1uf, 100V, 20% , Axial	1	1	478-3154-1-ND		
16	USB-JTAG-ISO	DA1	DA	Diode Array, Quad, SOT363	1	1	BAW567DW-FDICT-ND		
17	USB-JTAG-ISO	J1, J3, J4, J5	J	Standard 0.1" SIL headers, cut to fit, total needed 1x8	4	4			
18	USB-JTAG-ISO	J2	J	Standard 0.1" DIL header, cut to fit, remove pin 6, total needed 2x7	1	1			
19	USB-JTAG-ISO	JP1	JP	Connector - USB Type B	1	1	ED90064-ND		

Item	Macro Name	Ref. Des	Type	Description	# per macro	# per board	Digikey Part #	Mouser Part #	Comments
20	USB-JTAG-ISO	L1, L2	L	Inductor, 22uH, 0805	2	2	490-4030-1		
21	USB-JTAG-ISO	LD1	LD	LED, green, 0805	1	1	404-1021-1		
22	USB-JTAG-ISO	R1	R	Res. - 470R, 5%, 0.1W, 0603	1	1	RHM470GCT-ND		
23	USB-JTAG-ISO	R2, R3	R	Res. - 27R, 5%, 0.1W, 0603	2	2	RHM27GCT-ND		
24	USB-JTAG-ISO	R4, R6, R9, R10, R14	R	Res. - 2K2, 5%, 0.1W, 0603	5	5	RHM2.2KGCT-ND		
25	USB-JTAG-ISO	R5	R	Res. - 1M, 1%, 0.1W, 0603	1	1	RHM1.00MHCT-ND		
26	USB-JTAG-ISO	R7	R	Res. - 10K, 5%, 0.1W, 0603	1	1	RHM10KGCT-ND		
27	USB-JTAG-ISO	R8	R	Res. - 1K, 5%, 0.1W, 0603	1	1	RHM1.0KGCT-ND		
28	USB-JTAG-ISO	R11	R	Res. - 680R, 5%, 0.1W, 0603	1	1	RHM680GCT-ND		
29	USB-JTAG-ISO	R13	R	Res. - 47K, 5%, 0.1W, 0603	1	1	RHM47KGCT-ND		
30	USB-JTAG-ISO	U1	U	FTDI UART/FIFO Dual, 48-LQFP	1	1	768-1010-1-ND		
31	USB-JTAG-ISO	U2	U	EEPROM, SOT23-6	1	1	93LC46BT-I/OTCT-ND		
32	USB-JTAG-ISO	U3	U	DFF - LVC2G74	1	1	296-13273-1-ND		
33	USB-JTAG-ISO	U4	U	LDO - 3.3V - TPS73033	1	1	296-17580-1-ND		
34	USB-JTAG-ISO	U5	U	Digital Isolator, Quad 4/0, 25Mbps	1	1		595-ISO7240CDW	
35	USB-JTAG-ISO	U6	U	Digital Isolator, Quad 2/2, 25Mbps	1	1		595-ISO7242CDW	
36	USB-JTAG-ISO	X1	X	Resonator - 6MHz	1	1	490-1218-1-ND		
37	Sepic-LV	C1,C13	C	Elec. Cap - 330uf, 63V, Alum. Radial	2	2	P5195-ND		
38	Sepic-LV	C2,C3,C4,C5	C	Elec. Cap - 470uf, 63V, Alum. Radial	4	4	493-1127-ND		
39	Sepic-LV	C12,C14	C	Cer. Cap - 100n, 63V, X7R, 0805	2	2	587-1276-1-ND		
40	Sepic-LV	C8,C9	C	Cer. Cap - 220p, 50V, X7R, 0805	2	2	311-1123-1-ND		
41	Sepic-LV	C10,C11	C	Cer. Cap - 10p, 50V, C0G, 0805	2	2	399-1108-1-ND		

Item	Macro Name	Ref. Des	Type	Description	# per macro	# per board	Digikey Part #	Mouser Part #	Comments
42	Sepic-LV	Cd1,Cd2,Cd3	C	Cer. Cap - 1u, 25V, X7R, 0805	3	3	587-1281-1-ND		
43	Sepic-LV	C6	C	Cer. Cap - 47n, 50V, X7R, 0805	1	1	587-1278-1-ND		
44	Sepic-LV	C7	C	Cer. Cap - 3n3, 50V, X7R, 0805	1	1	399-1153-1-ND		
45	Sepic-LV	R1,R2	R	Res. - 12K, 1%, 0.1W, 0805	2	2	RHM12.0KCCT-ND		
46	Sepic-LV	R3	R	Res. - 1K7, 1%, 0.1W, 0805	1	1	RHM1.69KCRCT-ND		
47	Sepic-LV	R5,R7	R	Res. - 5R, 5%, 0.1W, 0805	2	2	RHM5.1ACT-ND		
48	Sepic-LV	R6, R14	R	Res. - 10K, 5%, 0.1W, 0805	2	2	RHM10KARCT-ND		
49	Sepic-LV	R8	R	Res. - 3K, 1%, 0.1W, 0805	1	1	RHM3.00KCCT-ND		
50	Sepic-LV	R12, R13	R	Res. - 820R, 1%, 0.1W, 0805	2	2	RHM820CCT-ND		
51	Sepic-LV	R9	R	Res. - 0R1, 1%, 3W, 2512	1	1	CRA2512-FZ-R100ELFCT-ND		
52	Sepic-LV	R10, R11	R	Res. - 100R, 1%, 0.1W, 0805	2	2	RHM100CCT-ND		
53	Sepic-LV	L1	L	INDUCTOR TORD HI AMP 470UH VERT	1	1	M8862-ND		
54	Sepic-LV	L2	L	INDUCTOR TORD HI AMP 330UH VERT	1	1	M8860-ND		
55	Sepic-LV	Q1	Q	MOSFET N-CH 500V TO-220, FDP20N50F T0220	2	2	FDP20N50F-ND		
56	Sepic-LV	HS1,HS2	H	Heat Sink Manufacturer Part Number 637-15ABP	2	2	345-1029-ND		
57	Sepic-LV	D1	D	DIODE ULTRA FAST 600V 8A TO220AC, VS-8ETH06PBF	1	1	VS-8ETH06PBF-ND		
58	Sepic-LV	D2	D	DIODE SS 100V 4.0NS SOD-323F, 1N4148WS	1	1	1N4148WTPMSCT-ND		
59	Sepic-LV	U1	U	UCC27324, SOIC - 0.05"	1	1	296-12531-5-ND		
60	Sepic-LV	U2	U	OPA354 SOT 3-5	1	1		595-OPA354AIDBVTG4	
61	Sepic-LV			Screws and Nuts (4-48 x 3/8") for attaching mosfets to heatsinks	2	2			

Item	Macro Name	Ref. Des	Type	Description	# per macro	# per board	Digikey Part #	Mouser Part #	Comments
62	DC-PwrEntry-36V-12V-5V-3V	C1,C2,C3	C	Elec. Cap - 330uf, 63V, Alum, radial	3	3	P5195-ND		
63	DC-PwrEntry-36V-12V-5V-3V	C4	C	Cer. Cap - 10u, 16V, X5R, 0805	1	1	PCC2403CT-ND		
64	DC-PwrEntry-36V-12V-5V-3V	C5,C7	C	Cer. Cap - 10u, 25V, X5R, 1206	2	2	PCC2326CT-ND		
65	DC-PwrEntry-36V-12V-5V-3V	C6	C	Cer. Cap - 22u, 25V, X5R, 1206	1	1	587-1433-1-ND		
66	DC-PwrEntry-36V-12V-5V-3V	C8	C	Cer. Cap - 0.1uf, 25V, X5R, 0805	1	1	PCC1828CT-ND		
67	DC-PwrEntry-36V-12V-5V-3V	C9	C	Cer. Cap - 4u7, 25V, X5R, 0805	1	1	490-3335-1-ND		
68	DC-PwrEntry-36V-12V-5V-3V	R1	R	Res. - 1K5, 5%, 0.1W, 0805	1	1	RHM1.50KCRCT-ND		
69	DC-PwrEntry-36V-12V-5V-3V	R2,R3,R4	R	Res. - 47K, 1%, 0.1W, 0805	3	3	RHM47.0KCCT-ND		
70	DC-PwrEntry-36V-12V-5V-3V	R5	R	Res. - 820R, 1%, 0.1W, 0805	1	1	RHM820CCT-ND		
71	DC-PwrEntry-36V-12V-5V-3V	R6	R	Res. - 732R, 1%, 0.1W, 0805	1	1	RHM732CCT-ND		
72	DC-PwrEntry-36V-12V-5V-3V	R7	R	Res. - 330R, 1%, 0.1W, 0805	1	1	RHM330CTR-ND		
73	DC-PwrEntry-36V-12V-5V-3V	R8	R	Res. - 470R, 5%, 0.1W, 0805	1	1	RHM470ARCT-ND		
74	DC-PwrEntry-36V-12V-5V-3V	LD1,LD2	LD	LED, green, 0805	2	2	404-1021-1		
75	DC-PwrEntry-36V-12V-5V-3V	SW1	SW	Toggle Switch - SPDT	1	1	CKN1002-ND		
76	DC-PwrEntry-36V-12V-5V-3V	SW2	SW	Toggle Switch - Miniature, SPDT	1	1		108-2AS1T1203-EVX	

Item	Macro Name	Ref. Des	Type	Description	# per macro	# per board	Digikey Part #	Mouser Part #	Comments
77	DC-PwrEntry-36V-12V-5V-3V	M2	P	Power Module - PTH08080	1	1	296-20432-ND		
78	DC-PwrEntry-36V-12V-5V-3V	M1	P	Power Module - PTN78000W	1	1	296-20506-ND		
79	DC-PwrEntry-36V-12V-5V-3V	D1,D2	D	Diode Ultra Fast 3A 100V SMC	2	2	ES3B-E3/57TGICT-ND		
80	DC-PwrEntry-36V-12V-5V-3V	U1	U	LDO - 3.3V - TPS79533	1	1	296-13810-1-ND		
81	DC-PwrEntry-36V-12V-5V-3V	J1	J	Standard 0.1" SIL headers, cut to fit, total needed 1x2	1	1			
82	DC-PwrEntry-36V-12V-5V-3V	JP1	JP	Power jack 2.1 x 5.5 mm	1	1	CP-002AH-ND		
83	DC-PwrEntry-36V-12V-5V-3V	F1	F	Fuse Holder w/ Fuse Cap	1	1	486-1159-ND		
84	DC-PwrEntry-36V-12V-5V-3V	Fuse-F1	F	Fuse - 5A FAST UL Glass 5X20	1	1	283-2845-ND		
85	DC-PwrEntry-36V-12V-5V-3V	TB1	TB	Terminals (2 screw) 5.08mm, 7.5mm wide	1	1	ED1975-ND		
86	Led-Dimming-Dual	C1,C2	C	Cer. Cap - 470n, 25V, X5R, 0805	2	8	587-1290-1-ND		
87	Led-Dimming-Dual	C4,C5	C	Cer. Cap - 3n3, 100V, X7R, 0805	2	8	478-1355-1-ND		
88	Led-Dimming-Dual	Cd1, Cd2	C	Cer. Cap - 220n, 25V, X7R, 0805	2	8	490-1675-1-ND		
89	Led-Dimming-Dual	Cd3	C	Cer. Cap - 4u7, 16V, X7R, 0805	1	4	587-1294-1-ND		
90	Led-Dimming-Dual	R1,R2	R	Res. - 33R, 1%, 0.1W, 0805	2	8	RHM33.0CCT-ND		
91	Led-Dimming-Dual	R3,R4,R7,R8	R	Res. - 10K, 5%, 0.1W, 0805	4	16	RHM10KARCT-ND		
92	Led-Dimming-Dual	R5,R6	R	Res. - 5R, 5%, 0.1W, 0805	2	8	RHM5.1ACT-ND		
93	Led-Dimming-Dual	R9,R10	R	Res. - 0R25, 1%, 1W, 1206	2	8	CSR1/20.25FICT-ND		
94	Led-Dimming-Dual	R11,R12	R	Res. - 330R, 1%, 0.1W, 0805	2	8	RHM330CTR-ND		

Item	Macro Name	Ref. Des	Type	Description	# per macro	# per board	Digikey Part #	Mouser Part #	Comments
95	Led-Dimming-Dual	R13-R16	R	Res. - 620R, 1%, 0.1W, 0805	4	16	RHM620CCT-ND		
96	Led-Dimming-Dual	R17-R20	R	Res. - 7K5, 1%, 0.1W, 0805	4	16	RHM7.50KCCT-ND		
97	Led-Dimming-Dual	U1	U	UCC27324, SOIC - 0.05"	1	4	296-12531-5-ND		
98	Led-Dimming-Dual	U2	U	TLV272IDGK, MSOP, Op-amp	1	4	296-11946-1-ND	595-TLV272IDGKR	
99	Led-Dimming-Dual	Q1,Q2	Q	MOSFET N-CHAN 400V 2A DPAK, FDD3N40 T0-220	2	8	FDD3N40TMCT-ND		
100	Led-Dimming-Dual	GP	J	Standard 0.1" SIL headers, cut to fit, total needed per macro 1x2	1	4			

Bill of Materials

TI DESIGNS
TIDM-DCDC-LED LED Panel [R2].1

Item	Macro Name	Ref. Des	Type	Description	# per macro	# per board	Digikey Part #	Mouser Part #	Comments
1	Main	LD (see BuildInstructions)	LD	High Brightness Golden Dragon Osram LED (350mA)	36	36	475-2621-1-ND		
2	Main	R (see BuildInstructions)	R	Res. - 0R, 5%, 0.1W, 0805	6	6	RHM0.0ACT-ND		
3	Main	J(see BuildInstructions)	J	Standard 0.1" SIL headers, cut to fit, total needed 1x9	8	8			

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.