



Bill of Materials
 TI DESIGNS
 TIDM-RM46XDRV8301KIT
 DRV8301 EVM

Item	Qty	Reference	Value	Part Description	Manufacturer	Manufacturer Part Number	Alternate Part	PCB Footprint	Note
1	1			PWB,DRV830X-HC-C2 MOTOR BOARD			515501-0001R		
2	1			LOGIC,DRV830X-HC-C2 MOTOR BOARD			515502-0001		
4	1	U7		IC,TSSOP16,TRANSLATOR,6-BIT BIDIRECTIONAL,VOLTAGE-LEVEL	Texas Instruments	TXB0106PWR	103742-0001R	pw16-14x70	
5	1	U1		IC,TSSOP56,THREE PHASE PRE-DRIVER	Texas Instruments	DRV8301DCA	103808-0001R		
7	2	U13, U9		IC,SOT23-5,OP AMP	Texas Instruments	OPA365AIDBVR	103805-0001R	dbv-20x60-5	
8	1	U5		IC,SOIC,HIGH SPEED QUAD DIGITAL ISOLATORS,1Mbps	Texas Instruments	ISO7241ADW	103806-0001R	dw16-25x75-375	
9	1	U4		IC,SMT8,ISOLATED CAN TRANSCEIVER	Texas Instruments	ISO1050DUBR	103518-0001R	dub8-35x90	
10	1	U6		IC,DBV6,DUAL SCHMITT-TRIGGER BUFFER	Texas Instruments	SN74LVC2G17DBVR	103743-0001R	dbv6-27x39-6	
11	2	U3, U8		IC,DBV5,LDO REGULATOR,3.3V,400mA	Texas Instruments	TPS73633MDBVREP	103807-0033R	dbv-20x60-5	
12	1	U2		POWER MODULE,5V,1W,ADJUSTABLE	Texas Instruments	DCH010505SN7	103739-0005R	edj4-6040	
15	2	Q1, Q2		TRANSISTOR,SOT23,MOSFET,150V,530mA	Vishay Intertechnology	SI2325DS-T1-E3	103825-0001R		
16	1	Q3		TRANSISTOR,SOT23,MOSFET,N CHANNEL	NXP Semiconductors	2N7002E,215	103824-0001R	SOT23-28X44-GSD	
17	6	Q4, Q5, Q6, Q7, Q8, Q9		TRANSISTOR,TO263,MOSFET,60V,110A	Vishay Intertechnology	SUM110N06-3M9H-E3	103810-0001R		
18	3	U10, U11, U12		IC,SO5,OP AMP,1.8V	Texas Instruments	TLV27811DBVR	103952-0001R	dbv5-27x39	
20	1	D1		DIODE,SMT,SCHOTTKY,2A,100V	Comchip Technology	CDBB2100-G	103820-0001R		
25	5	LED1, LED10, LED11, LED12, LED3		LED,SMT 0805, GREEN	LITEON	LTST-C170KGKT	103827-0002R	led2-47sq	
26	1	LED6		LED,SMT 0805, SUPER RED	LITEON	LTST-C170KRKT	103827-0001R	led2-47sq	
27	1	LED5		LED,SMT 0805, YELLOW	LITEON	LTST-C171YKT	103330-0003R		
30	1	L1		INDUCTOR,SMT 33uh	Coiltronics Incorporated	DR74-330-R	103135-0331R	dr74-98x126	
40	1	C57	220uF	CAP,ELEC,SMT,220uF,10V	Panasonic	EEE-1AA221XP	103818-0222R		
45	2	C93, C94	330uF	CAP,ELEC,RADIAL,330uF,100V,20%	Nichicon Corporation	UVZ2A331MH4	103819-0332R		
46	1	C50	1000uF	CAP,ELEC,RADIAL,1000uF,100V,20%	Panasonic	ECA-2AHG1000	103817-0103R		
50	1	C11	47uF	CAP,CER,SMT 1210,47uF,16V,X5R,+/-20%	Taiyo Yuden	EMK325BJ476MM-T	103815-0471R	c1210-70x102	
51	5	C6, C7, C81, C82, C83	2.2uF	CAP,CER,SMT 1210,2.2uF,100V,X7R,+/-10%	TDK Corporation	C3225X7R2A225K	103814-0220R	c1210-70x102	
55	1	C14	2.2uF	CAP,CER,SMT 0805,2.2uF,25V,X7R,10%	AVX Corporation	08053C225KAT2A	101415-0220R	c805-35x60	
56	3	C5, C51, C8	0.1uF	CAP,CER,SMT 0805,.1uF,100V,+10/-10%,X7R	Kemet Electronics Corporation	C0805C104K1RACTU	103813-1100R	c805-35x60	
58	1	C1	6800pF	CAP,CER,SMT 0603,6800pF,50V,+/-10%,X7R	Panasonic	ECJ-1VB1H682K	100993-1682R	c603-35x45	
59	1	C2	39pF	CAP,CER,SMT 0603,39pF,50V,+/-5%,NPO	Panasonic	ECJ-1VC1H390J	101002-1394R	c603-35x45	
60	5	C20, C22, C44, C46, C48	2.2uF	CAP,CER,SMT 0603,2.2uF,10V,+/-10%,X7R	Murata Electronics	GRM188R71A225KE15D	102965-0220R	c603-35x45	
61	5	C10, C12, C15, C19, C23	1uF	CAP,CER,SMT 0603,1uF,25V,+/-10%,X5R	Murata Electronics	GRM188R61E105KA12D	103594-0100R	c603-35x45	
62	4	C29, C30, C31, C33	47uF	CAP,CER,SMT 0603,47uF,25V,+/-10%,X7R	Murata Electronics	GRM188R71E474KA12D	103816-1470R	c603-35x45	
63	29	C13, C16, C17, C18, C21, C24, C25, C26, C27, C28, C32, C34, C35, C42, C43, C45, C47, C58, C59, C67, C68, C69, C72, C73, C74, C76, C77, C85, C9	0.1uF	CAP,CER,SMT 0603,.1uF,50V,+/-10%,X7R	AVX Corporation	06035C104KAT2A	100993-1100R	c603-35x45	
64	1	C3	0.022uF	CAP,CER,SMT 0603,.022uF,50V,+/-10%,X7R	Murata Electronics	GRM188R71H223KA01D	100993-1221R	c603-35x45	
65	1	C53	0.01uF	CAP,CER,SMT 0603,.01uF,100V,+/-10%,X7R	TDK Corporation	C1608X7R2A103K	102482-1101R	c603-35x45	
66	1	C4	0.015uF	CAP,CER,SMT 0603,.015uF,50V,+/-10%,X7R	Panasonic	ECJ-1VB1H153K	100993-1151R	c603-35x45	
67	12	C36, C37, C38, C39, C40, C41, C75, C78, C79, C80, C84, C98	0.001uF	CAP,CER,SMT 0603,.001uF,50V,+/-10%,X7R	AVX Corporation	06035C102KAT2A	100993-1102R	c603-35x45	
75	1	R28	10Kohm	POT,12mm SQ,10K,1/8 WATT,SINGLE TURN	CTS Electronics Corporation	296UD103B1N	103811-1003R		
80	16	R109, R110, R111, R112, R119, R130, R132, R133, R134, R135, R5, R50, R91, R97, R98	0ohm	RES,SMT 0603,0 OHM,1/16 WATT	Panasonic	ERJ-3GEY0R00V	100687-0001R	r603-35X45	
81	7	R66, R67, R68, R69, R70, R71, R8	1ohm	RES,SMT 0603,1 OHM,5%,1/16 WATT	Panasonic	ERJ-3RQJ1R0V	100687-0100R	r603-35X45	
82	1	R87	10ohm	RES,SMT 0603,10 OHM,1%,1/16 WATT	Panasonic	ERJ-3EKF10R0V	100642-1000R	r603-35x45	
84	1	R17	120ohm	RES,SMT 0603,120 OHM,5%,1/16 WATT	Panasonic	ERJ-3GEYJ121V	100687-1201R	r603-35X45	
85	9	R12, R13, R21, R29, R30, R31, R32, R33, R34	1Kohm	RES,SMT 0603,1K OHM,5%,1/16 WATT	Yageo	RC0603JR-071KL	100687-1002R	r603-35X45	
86	1	R49	820ohm	RES,SMT 0603,820 OHM,5%,1/16 WATT	Panasonic	ERJ-3GEYJ821V	100687-8201R	r603-35X45	
87	4	R20, R22, R23, R26	470ohm	RES,SMT 0603,470 OHM,5%,1/16 WATT	Panasonic	ERJ-3GEYJ471V	100687-4701R	r603-35X45	
88	5	R14, R15, R18, R24, R27	330ohm	RES,SMT 0603,330 OHM,5%,1/16 WATT	Panasonic	ERJ-3GEYJ331V	100687-3301R	r603-35X45	
93	4	R10, R11, R7, R9	10Kohm	RES,SMT 0603,10K OHM,1%,1/16 WATT	Panasonic	ERJ-3EKF1002V	100642-1003R	r603-35x45	
94	1	R1	205Kohm	RES,SMT 0603,205K OHM,1%,1/16 WATT	Panasonic	ERJ-3EKF2053V	100642-2054R	r603-35x45	
95	1	R4	28Kohm	RES,SMT 0603,28K OHM,1%,1/16 WATT	Panasonic	ERJ-3EKF2802V	100642-2803R	r603-35x45	
96	13	R122, R123, R124, R125, R126, R127, R19, R25, R36, R48, R62, R64, R65	4.99Kohm	RES,SMT 0603,4.99K OHM,1%,1/16 WATT	Panasonic	ERJ-3EKF4991V	100642-4992R	r603-35x45	

Item	Qty	Reference	Value	Part Description	Manufacturer	Manufacturer Part Number	Alternate Part	PCB Footprint	Note
97	2	R128, R129	49.9Kohm	RES.SMT 0603,49.9K OHM,1%,1/16 WATT	Panasonic	ERJ-3EKF4992V	100642-4993R	r603-35x45	
98	1	R6	53.6Kohm	RES.SMT 0603,53.6K OHM,1%,1/16 WATT	Panasonic	ERJ-3EKF5362V	100642-5363R	r603-35x45	
99	4	R35, R60, R61, R63	95.3Kohm	RES.SMT 0603,95.3K OHM,1%,1/16 WATT	Panasonic	ERJ-3EKF9532V	100642-9533R	r603-35x45	
101	6	R103, R105, R107, R108, R113, R95	20Kohm	RES.SMT 0603,20K OHM, .1%,1/10 WATT	Panasonic	ERA-3AEB203V	103951-2003R	r603-35x45	
102	2	R37, R38	10Kohm	RES.SMT 0603,10K OHM, .1%,1/10 WATT	Panasonic	ERA-3AEB103V	103951-1003R	r603-35x45	
103	6	R99, R101, R104, R92, R94, R102	1Kohm	RES.SMT 0603,1K OHM, .1%,1/10 WATT	Panasonic	ERA-3AEB102V	103951-1002R	r603-35x45	
106	1	R16	1ohm	RES.SMT 1206,1 OHM,5%,1/4 WATT	Panasonic	ERJ-8GEYJ1R0V	100155-0100R	r1206-40x70	
108	1	R39	3.3ohm	RES.SMT 1206,3.3 OHM,5%,1/4 WATT	Panasonic	ERJ-8GEYJ3R3V	100155-0330R	r1206-40x70	
110	3	R80, R81, R82	0.002ohm	RES.SMT 4527, .002 OHM,1%,5W	Vishay Intertechnology	WSR52L000FEA	103809-0002R		
115	2	SW1, SW2		SWITCH,SMT PUSHBUTTON,MOMENTARY,4mm	Bourns	7914J-1-000E	102984-0001R	sw4-50x70-7914J	
120	2	J25, J26		TERMINAL BLOCK,2 POS.,VERT.,15mm SPC.,90A	Molex	39920-0502	103823-0002R		
121	1	J2		TERMINAL BLOCK,2 POS.,VERT.,5mm SPC.	On-Shore Technology, Inc.	ED500/2DS	103821-0002R		
122	1	J11		TERMINAL BLOCK,4 POS.,VERT.,15mm SPC.,90A	Molex	39920-0504	103823-0004R		
125	1	J1		CONN,100 PINDIMM SOCKET,W/EXTRACTORS	Molex	87630-1001	102232-0100R	molex100-71251-5101	
129	6	J12, J13, J23, J24, JP2, JP4		HEADER,2 X 1,VERTICAL,PIN			100115-0002R	JUMP1X2-6040	
130	1	J7		HEADER,3 X 1,VERTICAL,PIN			100115-0003R	JUMP1X3-6040	
133	4	J10, J4, J6, J8		HEADER,5 X 1,VERTICAL,PIN			100115-0005R	JUMP1X5-6040	
134	1	J20		HEADER,5 X 2,VERTICAL,PIN	Oupin	2011-2X05G00SB/SN	100116-0005R	JUMP2X5-6040	
135	1	J21		HEADER,7 X 2,VERTICAL,PIN	Oupin	2011-2X07G00SB/SN	100116-0007R	JUMP2X7-6040	
136	1	J5		HEADER,20 X 2,VERTICAL,PIN			100116-0020R	conn40-5638	
145	10	TP12, TP13, TP14, TP16, TP17, TP19, TP23, TP24, TP25, TP3		TEST POINT,ORANGE	Keystone Electronics Corp.	5003	103020-5003R		
146	4	TP11, TP4, TP5, TP6		TEST POINT,RED	Keystone Electronics Corp.	5000	103020-5000R		
147	5	TP10, TP20, TP7, TP8, TP9		TEST POINT,BLACK	Keystone Electronics Corp.	5001	103020-5001R		
150	2	JP2, JP4		JUMPER,SHUNT,2 POS	Sullins Electronics, Corp.	SPC02SYAN	100123-0001R		
151	8	XMH1, XMH2, XMH3, XMH4, XMH5, XMH6, XMH7, XMH8		SCREW,PHILLIPS,PAN,SS,4-40 X .250	Above Board Electronics,Inc.	0440X0250PNPHSSPS	100329-0250R		
152	8	XXMH1, XXMH2, XXMH3, XXMH4, XXMH5, XXMH6, XXMH7, XXMH8		SPACER,ROUND,ALUM,4-40,.187 O.D. X .875L	Keystone Electronics Corp.	2030	103812-0875R		
155	7	C52, C86, C87, C88, C95, C96, C97					C0603-NOPOP	c603-35x45	No pop
160	10	R2, R3, R40, R41, R42, R43, R44, R45, R46, R47					R0603-NOPOP	r603-35X45	No pop
170	1	D2					NO-POP		No pop
200	6	TP1, TP15, TP18, TP2, TP21, TP22					TP-27SQ15-NO-POP		No pop

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.