

		BILL OF MATERIALS DAC38J84-DAC38J82-DAC37J84-DAC37J82 REV D		Texas Instruments TIDA-00996		4/16/2014	
Item Number	Quantity	Part Reference	Value	PCB Footprint	Mfr. Name	Mfr. Part Number	Note
1	0	C1 C8 C12 C16 C69 C70 C71 C72 C73	0.01uF	0402	MURATA	GRM155R71H103KA88D_DNI	DNI
2	10	C3 C6 C10 C11 C15 C17 C18 C20 C21 C22	10uF	0603	TDK CORP	C1608XR1C106M080AB	
3	49	C4 C5 C7 C9 C13 C14 C23 C24 C25 C26 C27 C28 C31 C32 C33 C34 C35 C36 C37 C38 C39 C40 C169 C170 C171 C174 C175 C176 C177 C178 C179 C180 C181 C182 C183 C184 C185 C186 C187 C188 C189 C190 C191 C192 C193 C194 C195 C196 C197	.1uF	0201	MURATA	GRM033R61A104KE15D	
4	10	C41 C47 C104 C105 C117 C119 C123 C129 C138 C149	.01uF	0603	KEMET	C0603C103K5RACTU	
5	2	C42 C55	27pF	0402	YAGEO	CC0402JRNPO9BMN270	
6	2	C43 C49	100uF	1206	KEMET	C1206C107M9PACTU	
7	2	C44 C46	4.7uF	0603	Kemet	C0603C475K8PACTU	
8	48	C45 C48 C58 C60 C64 C67 C68 C74 C75 C78 C79 C80 C82 C83 C86 C88 C89 C90 C91 C93 C94 C95 C97 C103 C108 C121 C122 C124 C152 C153 C154 C155 C156 C157 C158 C159 C160 C161 C162 C163 C164 C165 C166 C167 C200 C206 C207 C236	.1uF	0402	MURATA	GRM155R71C104KA88D	
9	0	C50 C92 C198	.1uF	0402	MURATA	GRM155R71C104KA88D_DNI	DNI
10	0	C51 C52	22pF	0402	AVX	04025A220KAT2A_DNI	DNI
11	0	C53 C168	.001uF	0402	AVX	04025C102IAT2A_DNI	DNI
12	2	C54 C56	10uF	1206	MURATA	GRM31CR61E106KA12L	
13	17	C57 C66 C125 C340 C341 C344 C346 C348 C350 C352 C354 C356 C358 C360 C362 C364 C366	1uF	0402	MURATA	GRM155R61A105KE15D	
14	14	C59 C65 C343 C345 C347 C349 C351 C353 C355 C357 C359 C361 C363 C365	0.01uF	0402	MURATA	GRM155R71H103KA88D	
15	1	C61	.68uF	0402	MURATA	GRM155F50J684ZE01D	
16	1	C62	3900pF	0402	MURATA	GRM155R71H392KA01D	
17	1	C63	47pF	0402	MURATA	GRM1555C1H470JA01D	
18	2	C81 C120	100pF	0603	AVX CORP	06031A101GAT2A	
19	1	C84	2200pF	0402	MURATA	GRM155R71E222KA01D	
20	1	C85	10pF	0402	MURATA	GRM1555C1H100JA01D	
21	1	C87	10uF	0603	TDK	C1608XR1C106M080AB	
22	8	C96 C102 C107 C130 C139 C143 C144 C146	10uF	0805	MURATA	GRM21BR71A106KE51L	
23	9	C98 C106 C109 C116 C127 C128 C134 C137 C150	1.0uF	0603	YAGEO	CC0603KR778B15L	
24	2	C99 C110	4.7uF	1206	MURATA	GRM31CR61EA476ME15L	
25	0	C100 C113	4.7uF	TANT_B	AVX	TAJ8475K010RNJ_DNI	DNI
26	1	C101	33uF	TANT_B	AVX	TPS8336K016R0350	
27	2	C126 C135	2.2uF	0603	MURATA	GRM188R71A225KE15D	
28	2	C133 C136	.015uF	0402	MURATA	GRM155R71C153KA01D	
29	2	C145 C147	22uF	1206	Murata	GRM31CR60J226KE19L	
30	1	C148	33pF	0402	TDK CORP	C1005C0G1H330G050BA	
31	1	C151	4.7uF	TANT_B	AVX	TAJ8475K010RNJ	
32	2	C172 C173	.01uF	0201	TDK	C0603XR1A103K030BA	
33	1	C199	.01uF	0603	AVX	06035C103IAT2A	
34	1	C235	47uF	tant_b	Kemet	T491B476M010AT	
35	4	D1 D2 D3 D11	LED BLUE	LED_1206	LITE ON	LTST-C150T8KT	
36	4	D4 D5 D6 D7	LED GREEN	LED_1206	LITE ON	LTST-C150K8KT	
37	1	D8	LED AMBER	LED_1206	LITE ON	LTST-C150AKT	
38	0	D9	MMS25235B	DIODE_SM_SOD_123	FAIRCHILD	MMS25235B_DNI	DNI
39	0	F1	FUSE 2.0A 63V FAST	1206	TE Connectivity	12065FF200F/63-2_DNI	DNI
40	10	FB2 FB3 FB4 FB5 FB6 FB7 FB8 FB9 FB10 FB17	120 OHM @ 100MHz	1206	MURATA	BLM31PG1215N1L	
41	4	FB15 FB16 FB20 FB24	50 OHM @ 100MHz	1206	MURATA	BLM31PG5005N1	
42	6	FB18 FB19 FB25 FB29 FB32 FB33	120 OHM @ 100MHz	IND_0402	MURATA	BLM15AG1215N1	
43	2	FB30 FB31	27uF	1206_BEAD_NFM31P	MURATA	NFM31PC276B0J3	
44	1	FB34	1K	1810	Taiyo Yuden	FBMH4525HM102NT	
45	0	FB35	1K @ 100MHz	0603	TAIYO YUDEN	BLM21AG1025N1D_DNI	DNI
46	0	GP1 GP2 GP3 GP4 GP5 GP6 GP7 GP8	GND PAD	testpad20_30	NO PART	CU PAD ONLY	DNI
47	8	J1 J3 J5 J7 J13 J18 J19 J20	SMP PCB_SMT	SMP 8120	MOLEX INC.	0853050232	
48	4	J2 J8 J9 J11	SMA END LAUNCH	SMA_SMEL_DUAL_PSF-501_250x215	Johnson Components	142-0711-821	
49	0	J4 J6 J10 J12	SMA END LAUNCH	SMA_SMEL_DUAL_PSF-501_250x215	Johnson Components	142-0711-821_DNI	DNI
50	1	J14	USB_MINI_AB	CON_SMRT_USBMMNE20_F	WURTH ELEKTRONIK	651 305 142 821	
51	1	J15	HTSW-105-07-G-D	HDR_THVT_2x5_100_M	SAMTEC	HTSW-105-07-G-D	
52	1	J16	CON_SMVT_40x10_SEAM	CON_SMVT_40x10_ASP-134487-01	SAMTEC	SEAM-40-02.0-S-10-Z-A-K-TR	
53	1	J17	SMB_THVT_REC	SMA_THVT_312x312	Johnson Components	142-0701-201	
54	1	J21	HMTSW-104-07-G-D-240	HDR_THVT_2x4_100_M	SAMTEC	HMTSW-104-07-G-D-240	
55	0	J22	SMP_PCB_SMT	smp_b120	MOLEX INC.	0853050232_DNI	DNI
56	1	J23	CONN JACK PWR	CON_RAPCT22_JACK_THVT_3	Switchcraft	RAPCT22X	
57	2	J24 J25	HMTSW-110-07-G-D-240	HDR_THVT_2x10_100_M	SAMTEC	HMTSW-110-07-G-D-240	
58	3	JPI JP5 JP6	Jumper 1x3_100_430L	HDR_THVT_1x3_100_M	SAMTEC	HMTSW-103-07-G-S-230	(SHUNT 1-2)
59	1	JP2	HDR_THVT_2POS	HDR_THVT_1x2_100_M	SAMTEC	HTSW-102-08-G-S	(SHUNT 1-2)
60	2	JP3 JP4	Jumper 1x3_100_430L	HDR_THVT_1x3_100_M	SAMTEC	HMTSW-103-07-G-S-230	(SHUNT 2-3)
61	2	L17 L18	2.2uH	LPS3015	Coilcraft	LPS3015-222ML	
62	8	MT1 MT2 MT3 MT4 MT5 MT6 MT7 MT8	STANDOFF, HEX, 4-40 X 1 1/4", ALUM	MFG125_PLATED	RAF ELECTRONIC HARDWARE	2116-440-AL-7	OR EQUIVALENT
63	0	PP1 PP2 PP3 PP4 PP5 PP6 PP7 PP9 PP10 PP11	PROBE POINT	PROBE_POINT_22PAD	N/A	N/A	
64	1	Q1	CSD17313Q2	mosfet_8_2mmx2mm_0p65	Texas Instruments	CSD17313Q2	
65	3	Q2 Q3 Q4	DTC114EET1G	SOT_416_3_63x31	ON Semiconductor	DTC114EET1G	
66	1	R1	0	0805	PANASONIC	ERJ-6GEY0R00V	
67	42	R2 R4 R5 R7 R9 R11 R12 R16 R18 R19 R21 R24 R25 R27 R30 R33 R38 R40 R41 R44 R46 R47 R49 R50 R71 R72 R90 R91 R93 R94 R95 R97 R108 R109 R136 R177 R183 R184 R191 R192 R193 R194	0	0402	PANASONIC	ERJ-2GE0R00X	
68	0	R3 R6 R8 R10 R13 R20 R23 R26 R28 R29 R31 R32 R34 R35 R36 R37 R39 R45 R48 R104 R112 R195 R196 R197 R198 R199 R200 R201 R202	49.9	0402	PANASONIC	ERJ-2RKF49R9X_DNI	DNI
69	0	R14 R15 R17 R22 R42 R43 R92 R96 R102 R103 R113 R133 R178 R185 R186 R187 R188 R189 R190	0	0402	PANASONIC	ERJ-2GE0R00X_DNI	DNI
70	4	R51 R119 R120 R121	0	0603	PANASONIC	ERJ-3GEY0R00V	
71	1	R52	12K	0402	PANASONIC	ERJ-2RKF1202X	
72	1	R53	4.7K	0402	PANASONIC	ERJ-2RKF4701X	
73	5	R54 R57 R63 R101 R110	1K	0402	PANASONIC	ERJ-2RKF1001X	
74	2	R55 R56	10	0402	PANASONIC	ERJ-2RKF10R0X	
75	6	R58 R60 R61 R64 R107 R111	10K	0402	PANASONIC	ERJ-2RKF1002X	
76	1	R59	2.2K	0402	Yageo	RC0402FR-072K2L	
77	0	R62	1K	0402	PANASONIC	ERJ-2RKF1001X_DNI	DNI
78	1	R65	620	0402	PANASONIC	ERJ-2GEJ621X	
79	1	R66	39K	0402	PANASONIC	ERJ-2GEJ393X	
80	0	R67 R68 R69 R70 R79 R80 R122 R123 R124 R125	240	0402	PANASONIC	ERJ-2RKF2400X_DNI	DNI
81	0	R73 R78	130	0603	DALE	CRCW0603130RFKEA_DNI	DNI
82	0	R74 R87	82	0603	DALE	CRCW060382RFKEA_DNI	DNI
83	4	R75 R76 R83 R84	240	0402	PANASONIC	ERJ-2RKF2400X	
84	3	R77 R99 R100	49.9	0402	PANASONIC	ERJ-2RKF49R9X	
85	4	R81 R82 R85 R86	750	0603	DALE	CRCW0603750RFKEA	
86	6	R88 R105 R106 R115 R116 R138	100	0402	PANASONIC	ERJ-2RKF1000X	
87	2	R89 R98	200	0402	PANASONIC	ERJ-2RKF2000X	
88	8	R114 R117 R118 R129 R130 R131 R132 R134	49.9	0201	PANASONIC	ERJ-1GEF49R9C	
89	4	R126 R127 R128 R143	10K	0603	PANASONIC	ERJ-3EKF1002V	
90	1	R135	1.91K	0402	PANASONIC	ERJ-2RKF1911X	
91	1	R148	475K	0402	PANASONIC	ERJ-2RKF4753X	

92	1	R150	95.3K	0402	PANASONIC	ERJ-2RKF9532X	
93	1	R151	150K	0402	Yageo	RC0402FR-07150KL	
94	1	R153	182K	0402	Vishay/Dale	CRCW0402182KFKED	
95	1	R173	2.87K	0603	PANASONIC	ERJ-3EKF2871V	
96	1	R174	3.65K	0603	PANASONIC	ERJ-3EKF3651V	
97	1	R175	4.99K	0603	PANASONIC	ERJ-3EKF4991V	
98	1	R176	634	0603	PANASONIC	ERJ-3EKF6340V	
99	2	R179 R180	121	0402	PANASONIC	ERJ-2RKF1210X	
100	0	R181 R182	121	0402	PANASONIC	ERJ-2RKF1210X_DNI	DNI
101	0	SH1 SH2 SH3 SH4	RF SHIELD		LEADER TECH	SL-11356_DNI	DNI
102	0	SJP1 SJP2 SJP3	JUMPER_L_0603_SMT	JUMPER_SMD_L_0603		DNI	DNI
103	1	SW1	SW RESET	SW_SMDV_RESET		C&K	KT1193IM34LFS
104	1	SW2	B3F-1002	SW_THVT_SPST_4_B3F		Omron	B3F-1002
105	4	T1 T3 T5 T7	JTX-2-10TA+	TFMR_6_RF_DUAL_FOOTPRINT		Mini-Circuits	JTX-2-10TA+
106	4	T2 T4 T6 T8	MABA-007159-000000	TFMR_6_RF_DUAL_FOOTPRINT		AMP M/A-COM	MABA-007159-000000
107	2	TP1 TP2	ORN	TP_THVT_100_RND			5003
108	12	TP3 TP4 TP5 TP6 TP7 TP8 TP9 TP10 TP11 TP12 TP22 TP27	BLK	TP_THVT_100_RND_GND		KEYSTONE	5001
109	4	TP13 TP21 TP26 TP28	GRN	TP_THVT_100_RND		KEYSTONE	5116
110	10	TP14 TP15 TP16 TP17 TP18 TP19 TP20 TP23 TP24 TP25	BLU	TP_THVT_100_RND		KEYSTONE	5117
111	1	TP29	RED	TP_THVT_100_RND		KEYSTONE	5000
112	1	U1	5M80ZT100	tqfp_100_551x551_20		ALTERA	5M80ZT100CSN
113	1	U10	TPS2400	DBV5		Texas Instruments	TPS2400DBVT
114	2	U11 U9	TPS74201	qfn20_rgw_p65pitch		Texas Instruments	TPS74201RGWR
115	1	U12	TLV70233DBV	SOT_5_118x67_57		TI	TLV70233DBVT
116	1	U15	SN74AUP1T14	SOP_5_85x55_26		TI	SN74AUP1T14DCKR
117	1	U2	DAC38J84	BGA_144_10MMx10MM_0P80MM		Texas Instruments	DAC38J84IAAV or DAC38J82IAAV or DAC37J84IAAV or DAC37J82IAAV
118	1	U3	FT2232H	LQFP_64_402x402_20		FTDI	FT2232HQ-REEL
119	1	U4	93LC46B-I/MS	MSOP_8_118x118_26		Microchip	93LC46B-I/MS
120	1	U5	LMK04828	QFN_64_360x360_0P50MM_PWRPAD		TI	LMK04828BISQ/NOPB
121	2	U6 U8	TPS7A4700	qfn20_rgw_p65pitch		Texas Instruments	TPS7A4700RGWT
122	1	U7	TPS62420	SON_DRC_10		Texas Instruments	TPS62420DRCR
123	1	Y1	122.88MHz	VCXO_6_CUSTOM		Crystek	CVHD-950-122.88
124	1	Y2	12MHz w/ 10pF	XTAL_4_SM_130X102		Abracon	ABM8G-12.000MHZ-B4Y-T
125	1		BARE BOARD, DAC38J84			VIASYSTEMS	DAC38J84 REV D
126	8		SCREW, PHIL, 4-40x3/4", 55			BUILDING FASTENERS	PMS55 440 0075 PH OR EQUIVALENT
127	6	SEE NOTE 4	SHUNT-HEADER			TE CONNECTIVITY	382811-8 SHUNT FOR HEADER
128	2	SEE NOTE 5	SHUNT-JUMPER-0603			PANASONIC	ERJ-3GEY0R00V SHUNT FOR JUMPER

NOTES:

1. DNI MEANS DO NOT INSTALL.
2. ASSEMBLY MUST BE LEAD FREE AND RoHS COMPLAINT.
3. USE WATER SOLUBLE FLUX DURING BOARD ASSEMBLY.
4. INSTALL ITEM 127:
JP1, JP2, JP5 & JP6 PINS 1-2
JP3 & JP4 PINS 2-3
5. INSTALL ITEM 128:
SJP2 & SJP3 PINS 2-3

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.