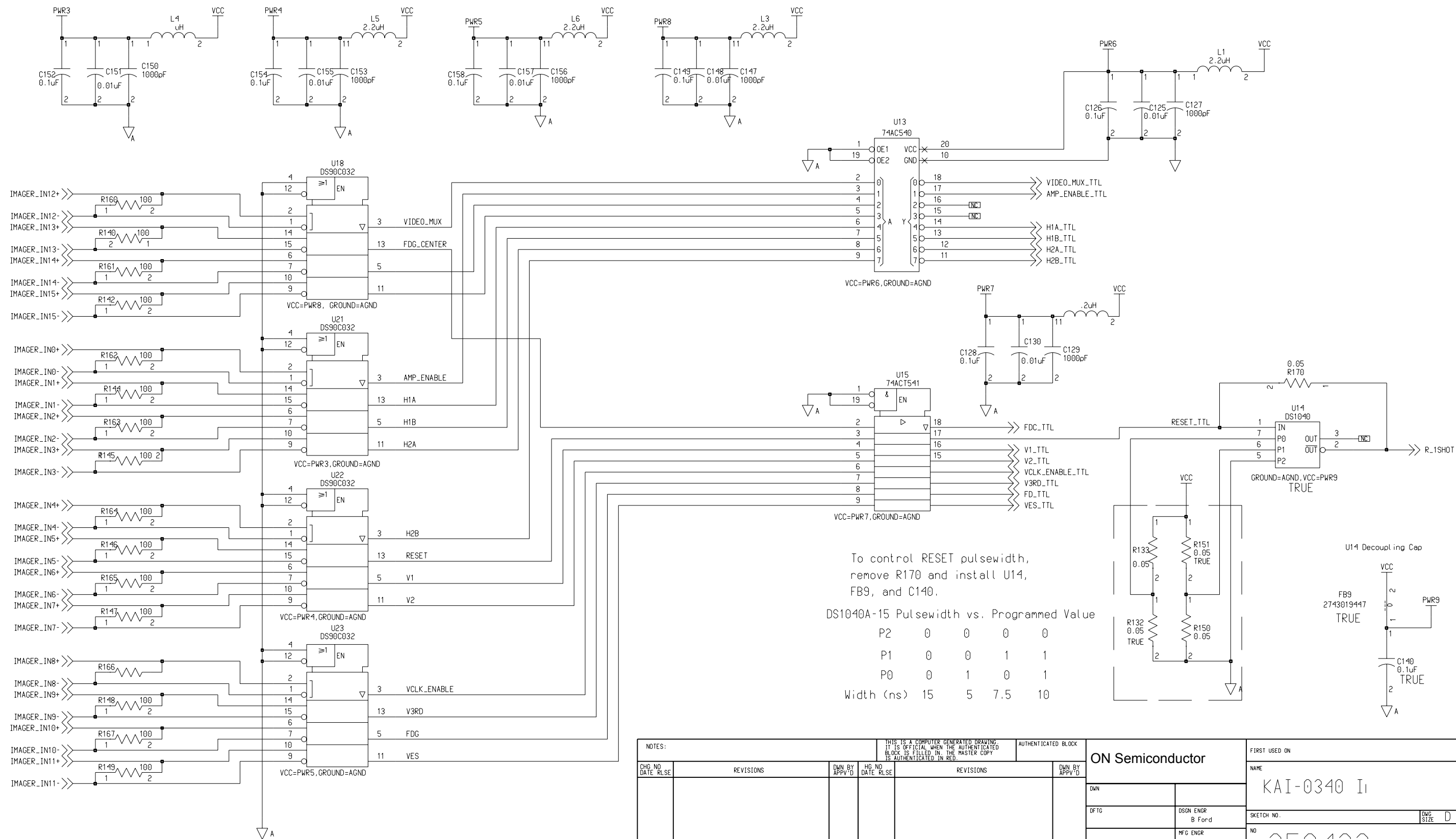


CHG NO				REVISIONS				DWN BY APPV'D		CHG NO DATE RLSE		REVISIONS		DWN BY APPV'D		ON Semiconductor DWN B. Ford DATE DFTG NDN DSGN ENGR B Ford MFG ENGR B. Auerhahn MTD/PS-0028, Rev 2 PS-0119, Rev 1		ED ON KAI-0340 Imager Board SKETCH NO. DWG SIZE NO. 3E8422	
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104549-9

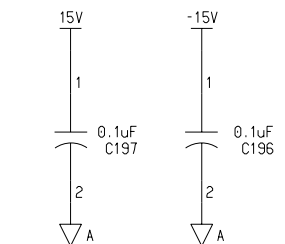
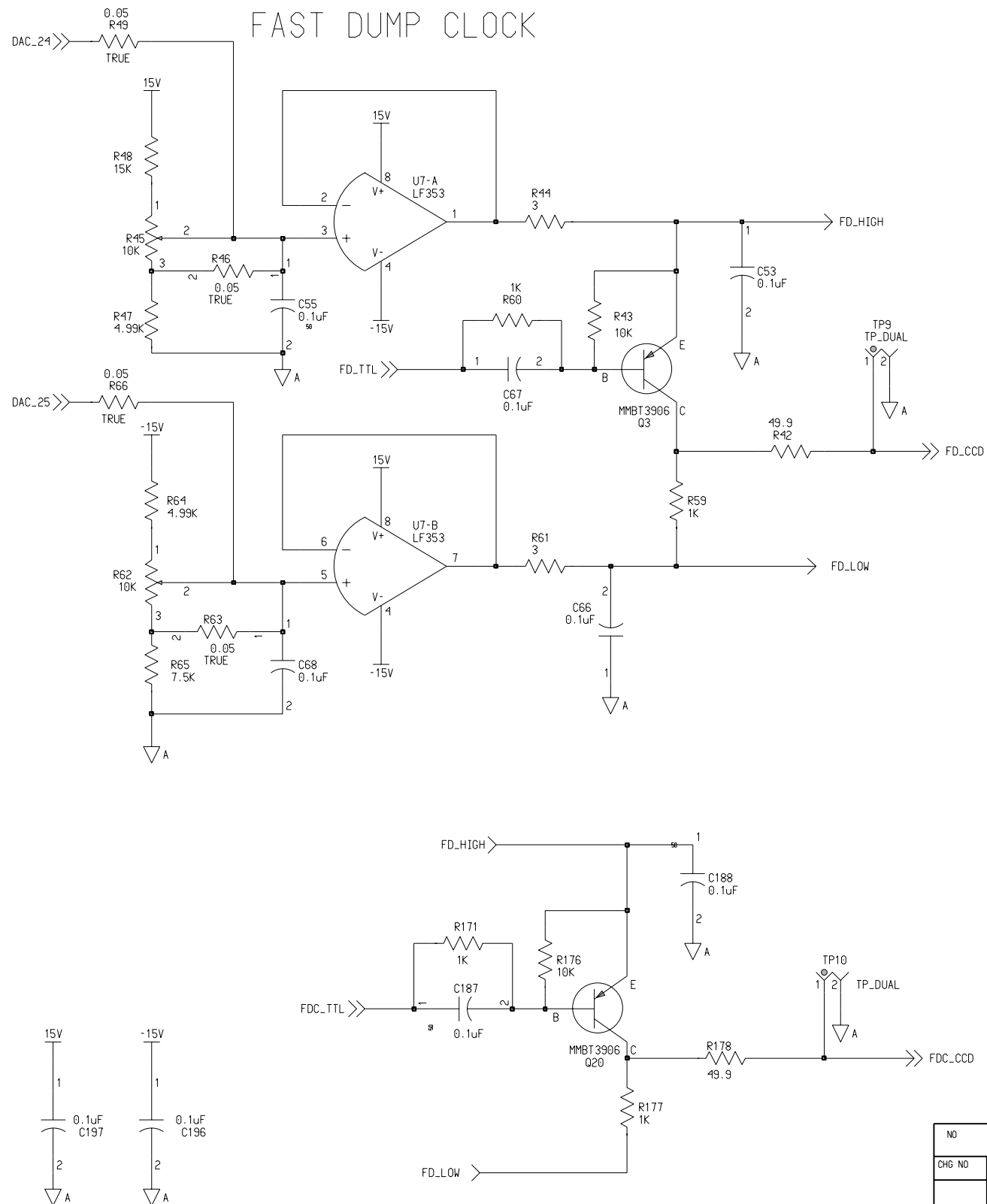


To control RESET pulswidth, remove R170 and install U14, FB9, and C140.

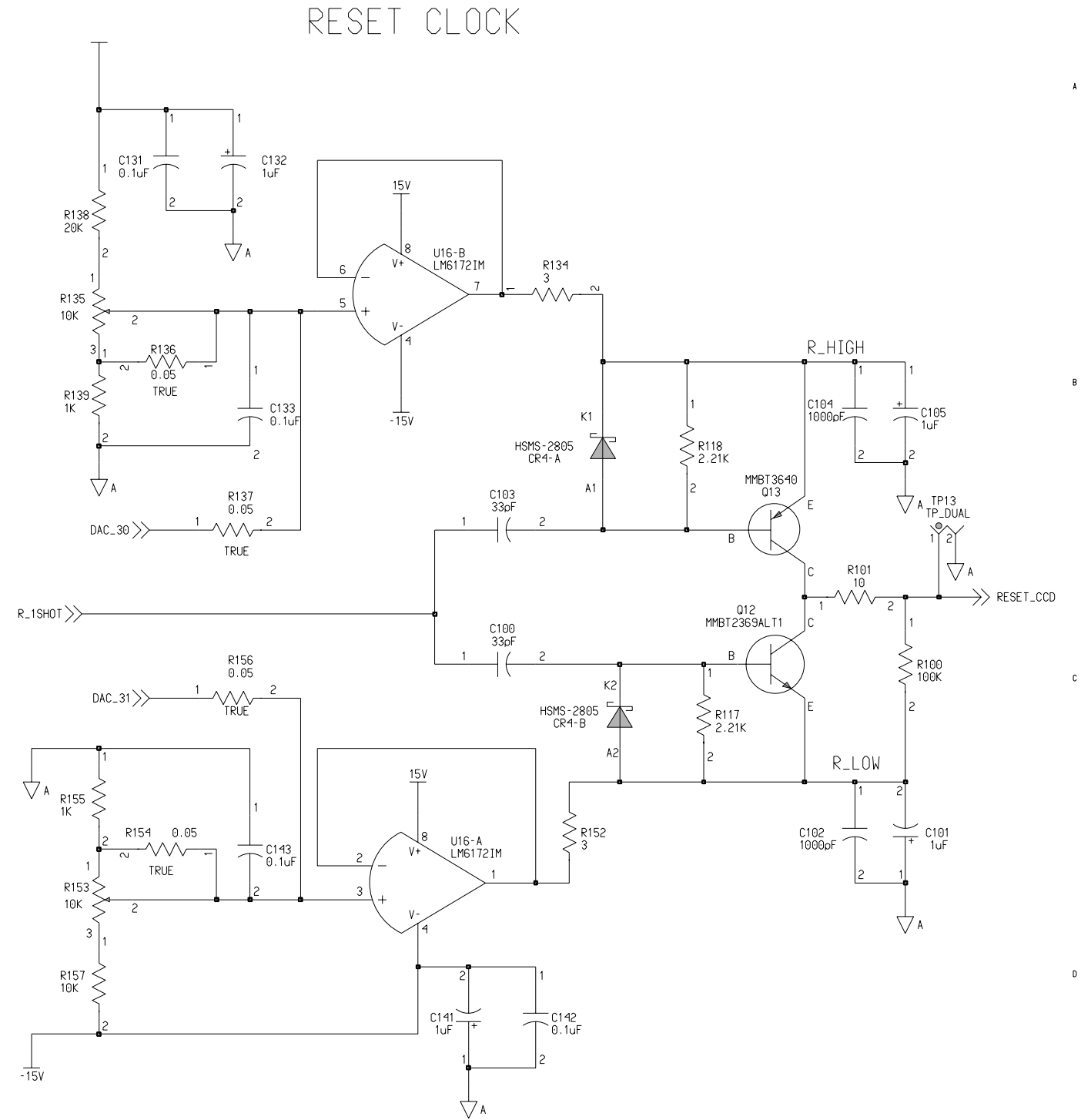
DS1040A-15 Pulswidth vs. Programmed Value

P2	0	0	0	0
P1	0	0	1	1
P0	0	1	0	1
Width (ns)	15	5	7.5	10

NOTES:				THIS IS A COMPUTER GENERATED DRAWING. IT IS OFFICIAL WHEN THE AUTHENTICATED BLOCK IS FILLED IN THE MASTER COPY IS AUTHENTICATED IN RED.		AUTHENTICATED BLOCK		ON Semiconductor		FIRST USED ON	
CHG NO	REVISIONS	DWN BY	HG NO	REVISIONS	DWN BY					NAME	
DATE		APPV'D	DATE		APPV'D					KAI-0340 I1	
										SKETCH NO.	
										NO	
										3E8422	
										SHEET	
										OF	

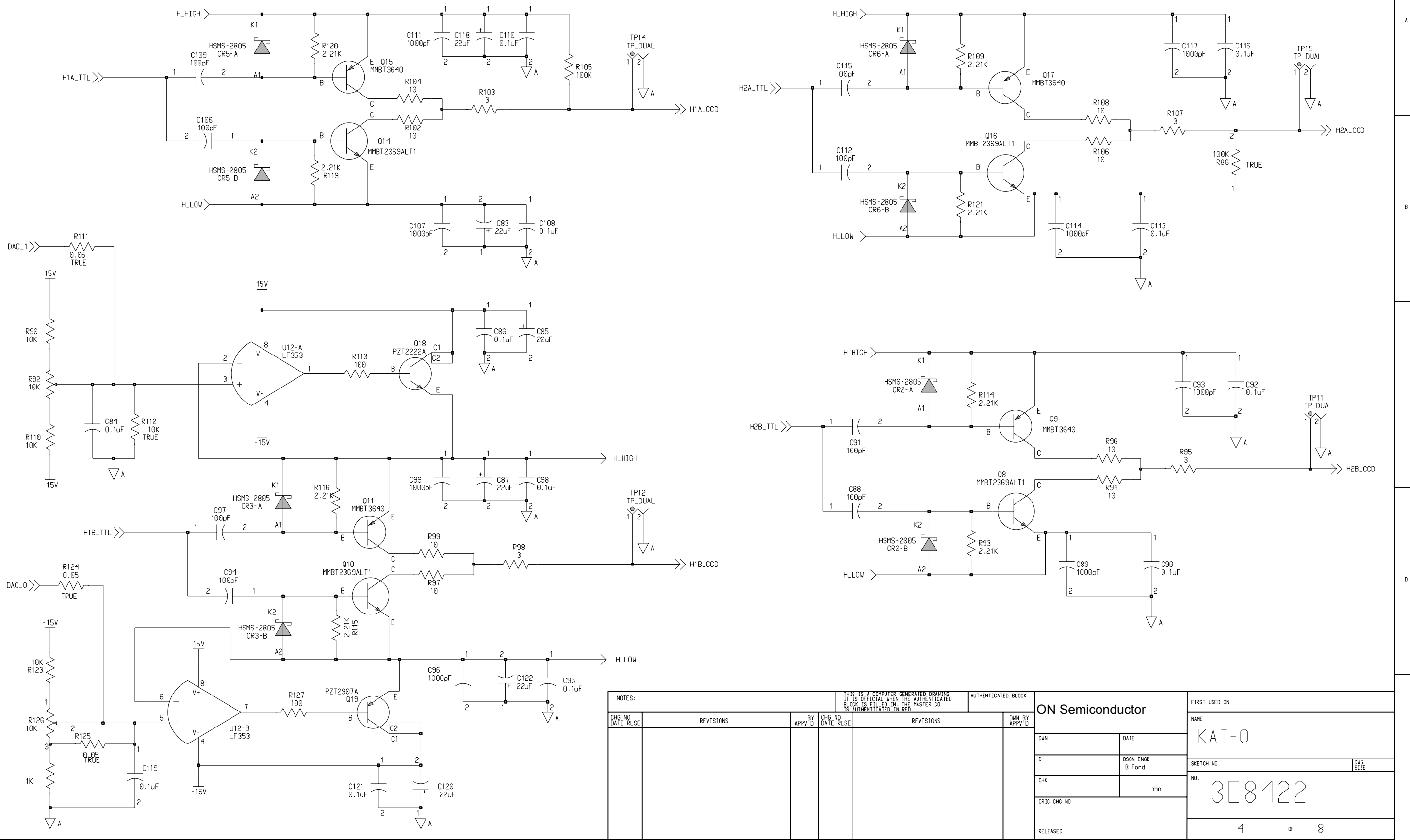


U7 Decoupling Caps



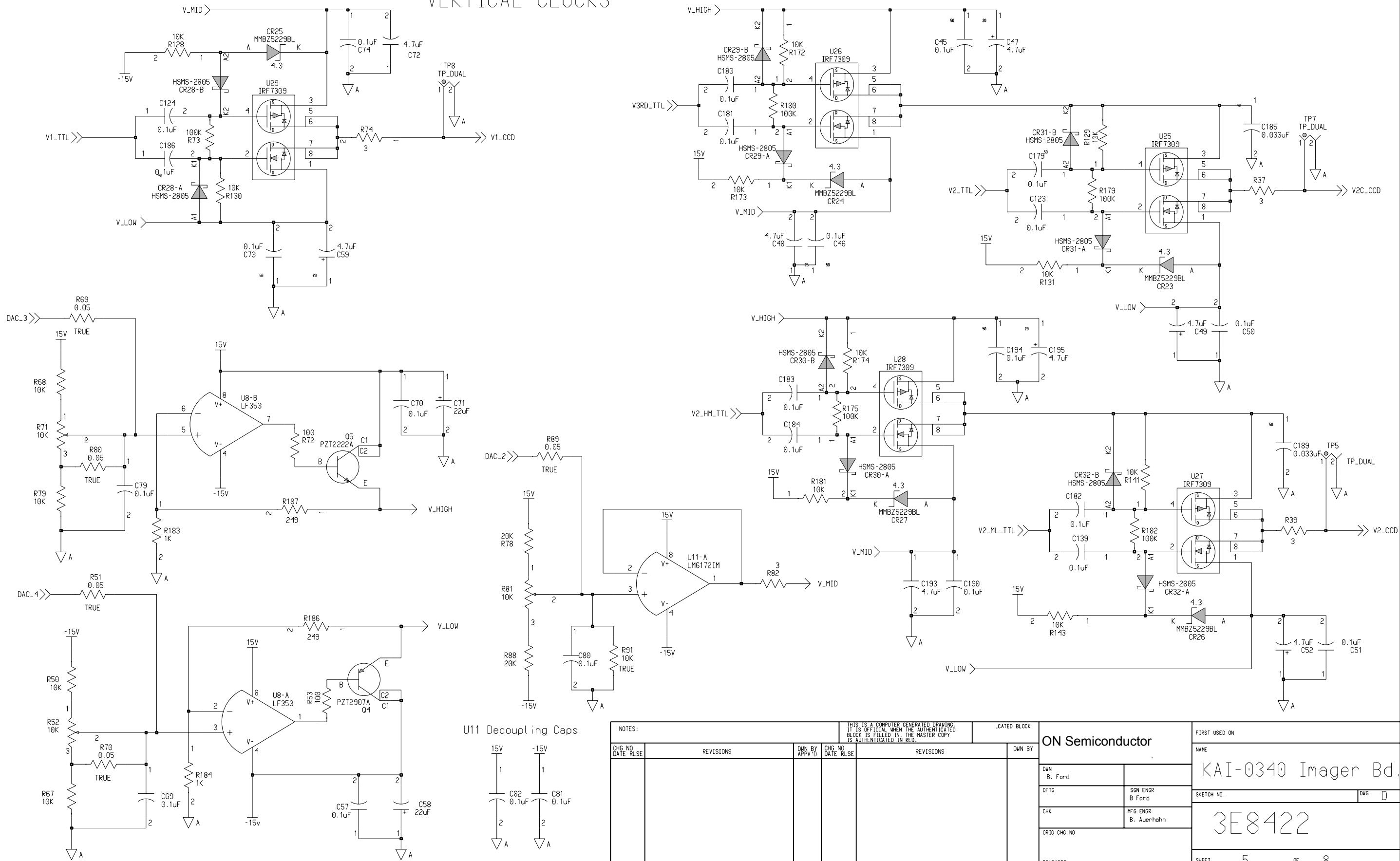
THIS IS A COMPUTER GENERATED DRAWING. IT IS OFFICIAL WHEN THE AUTHENTICATED BLOCK IS FILLED IN. THE MASTER COPY IS AUTHENTICATED IN RED.				AUTHENTICATED BLOCK		ON Semiconductor		FIRST USED ON			
CHG NO	-VISIONS	DWN BY	CHG NO DATE	REVISIONS	DWN BY APPV'D			KAI-0340 Im			
						DWN	DATE				
						DFTG	DSGN ENGR B Ford	DWG SIZE			
						CHK	MFG ENGR rhahn	NO.			
						ORIG CHG NO					
						RELEASED			SHEET	3	OF

HORIZONTAL CLOCKS

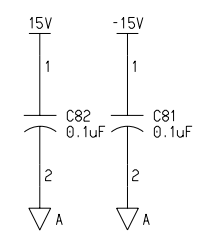


NOTES:				THIS IS A COMPUTER GENERATED DRAWING. IT IS OFFICIAL WHEN THE AUTHENTICATED BLOCK IS FILLED IN. THE MASTER CD IS AUTHENTICATED IN RED.				ON Semiconductor		FIRST USED ON	
CHG NO DATE	REVISIONS	BY APPV'D	CHG NO DATE	REVISIONS	DWN BY APPV'D	DATE		NAME		KAI-0	
						D		DSGN ENGR B Ford		SKETCH NO.	
						CHK		shn		NO. 3E8422	
						ORIG CHG NO		RELEASED		4 of 8	

VERTICAL CLOCKS

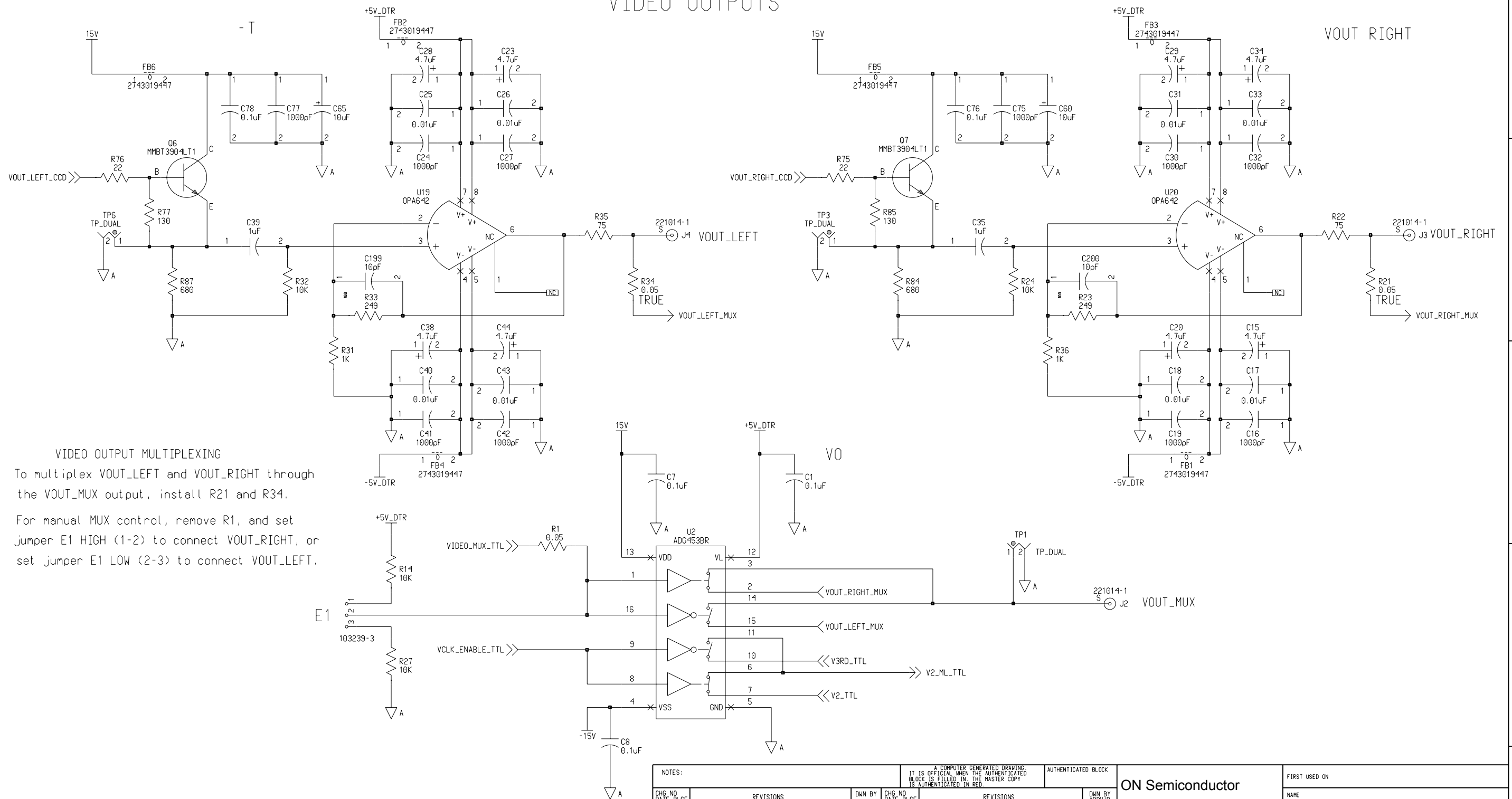


U11 Decoupling Caps



NOTES:		THIS IS A COMPUTER GENERATED DRAWING. IT IS OFFICIAL WHEN THE AUTHENTICATED BLOCK IS FILLED IN. THE MASTER COPY IS AUTHENTICATED IN RED.		.CATED BLOCK		ON Semiconductor		FIRST USED ON	
CHG NO	REVISIONS	DWN BY	CHG NO	REVISIONS	DWN BY			NAME	
DATE			DATE					KAI-0340 Imager Bd.	
								SKETCH NO.	
								DWG D	
								3E8422	
								SHEET 5 OF 8	

VIDEO OUTPUTS



VIDEO OUTPUT MULTIPLEXING

To multiplex VOUT_LEFT and VOUT_RIGHT through the VOUT_MUX output, install R21 and R34.

For manual MUX control, remove R1, and set jumper E1 HIGH (1-2) to connect VOUT_RIGHT, or set jumper E1 LOW (2-3) to connect VOUT_LEFT.

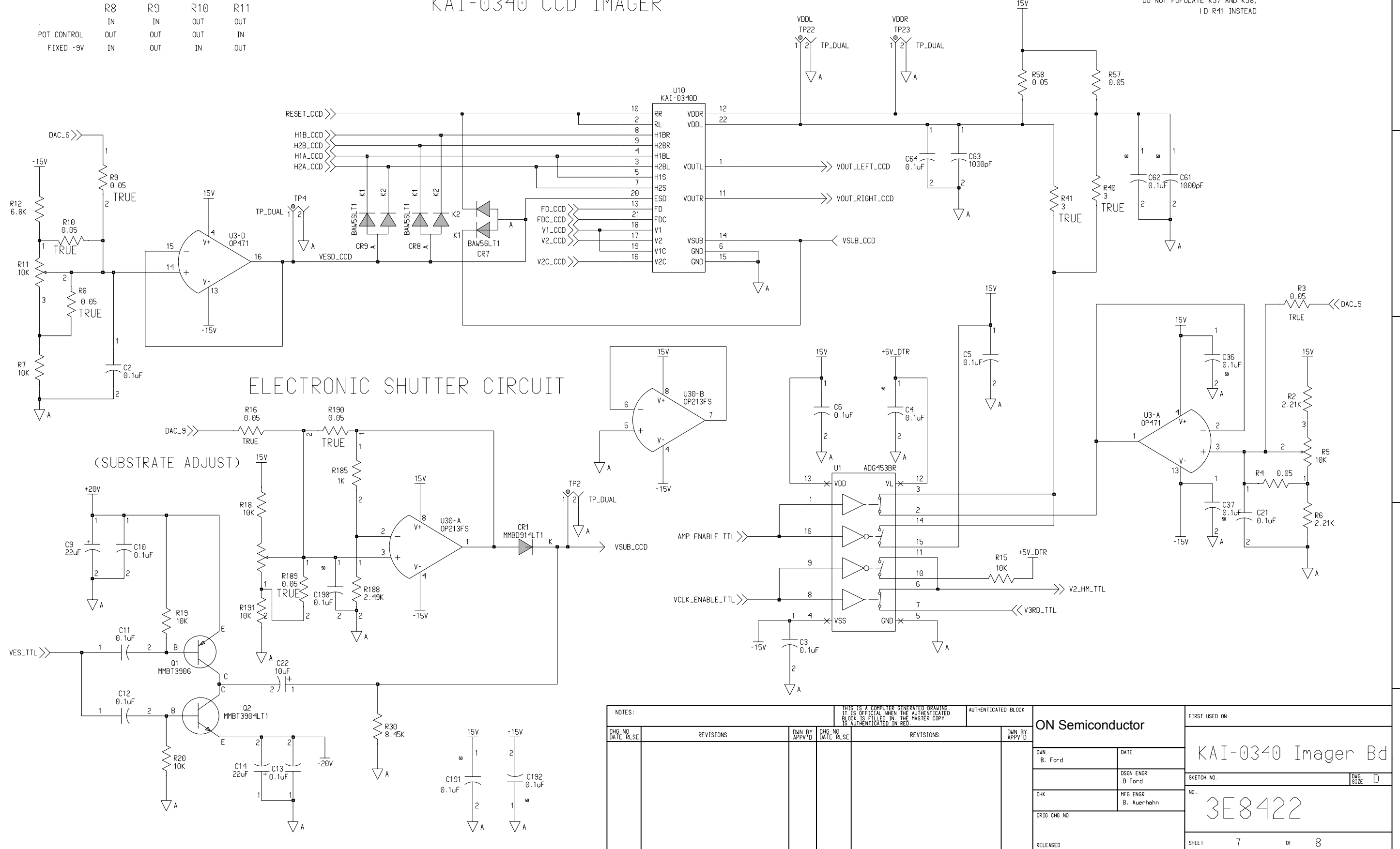
NOTES:				A COMPUTER GENERATED DRAWING. IT IS OFFICIAL WHEN THE AUTHENTICATED BLOCK IS FILLED IN. THE MASTER COPY IS AUTHENTICATED IN RED.				ON Semiconductor		FIRST USED ON	
CHG NO	DATE	REVISIONS	DWN BY	CHG NO	DATE	REVISIONS	DWN BY	DATE	NAME		
									KAI-0340 Imager Bd.		
									SKETCH NO. DWG SIZE D		
									NO. 3E8422		
									SHEET 6 OF 8		

KAI-0340 CCD IMAGER

IF THE AMPLIFIER ENABLE / DISABLE FEATURE IS DESIRED
DO NOT POPULATE R57 AND R58;
I D R41 INSTEAD

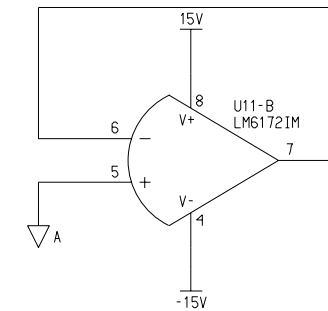
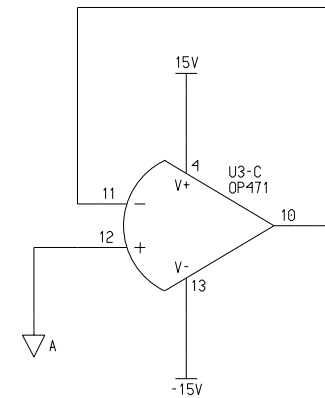
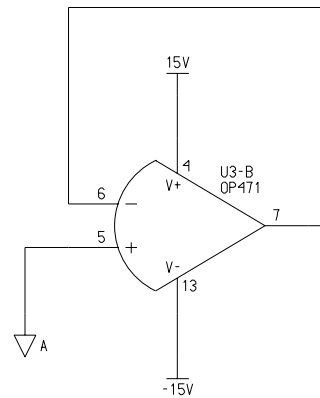
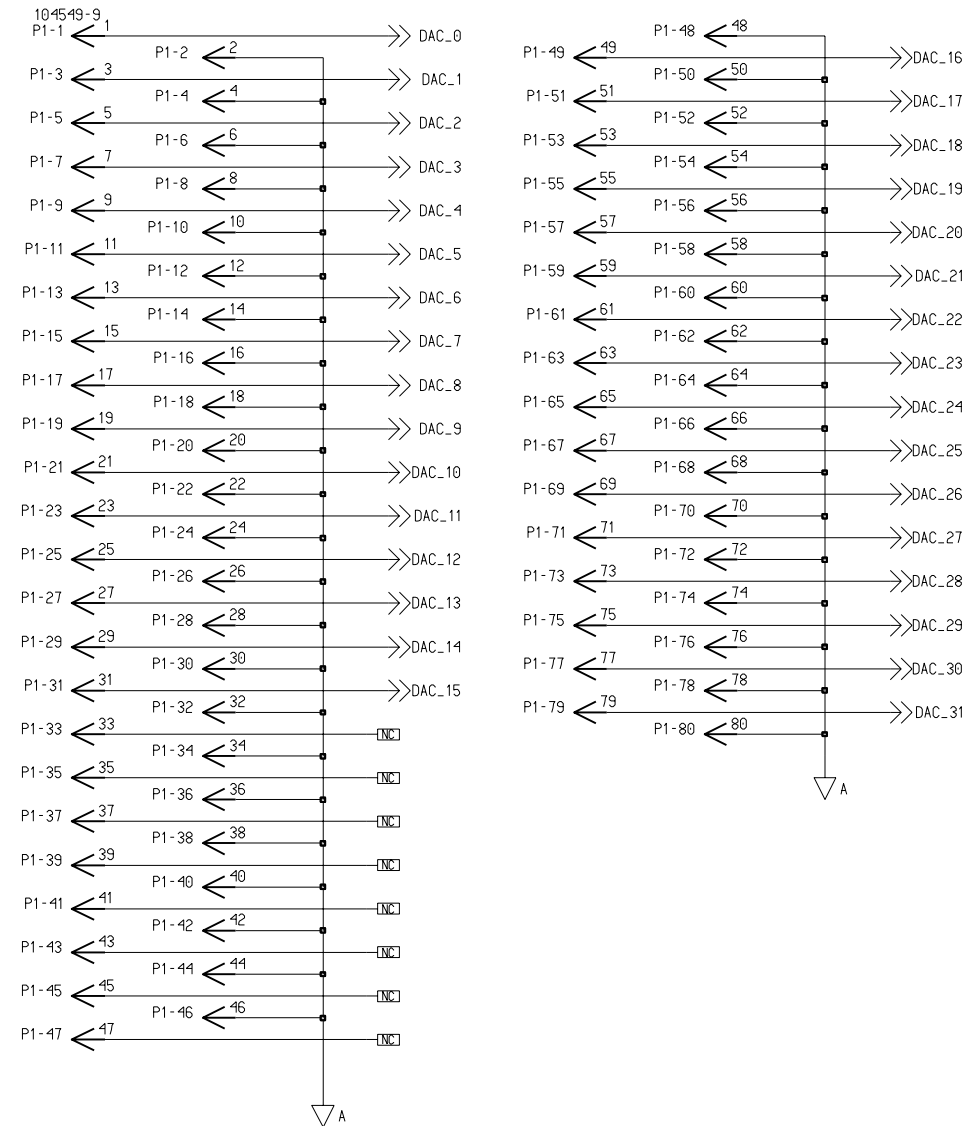
VESD CONTROL CONFIGURATION

	R8	R9	R10	R11
	IN	IN	OUT	OUT
POT CONTROL	OUT	OUT	OUT	IN
FIXED -9V	IN	OUT	IN	OUT



NOTES:				THIS IS A COMPUTER GENERATED DRAWING. IT IS OFFICIAL WHEN THE AUTHENTICATED BLOCK IS FILLED IN. THE MASTER COPY IS AUTHENTICATED IN RED.		AUTHENTICATED BLOCK		ON Semiconductor		FIRST USED ON	
CHG NO DATE	REVISIONS	DWN BY APPR'D	CHG NO DATE	REVISIONS	DWN BY APPR'D					KAI-0340 Imager Bd	
										SKETCH NO. DWG SIZE D	
										NO. 3E8422	
										SHEET 7 OF 8	

DAC CONNECTOR



<small>THIS IS A COMPUTER GENERATED DRAWING. IT IS OFFICIAL WHEN THE AUTHENTICATED BLOCK IS FILLED IN. THE MASTER COPY IS AUTHENTICATED IN RED.</small>				<small>AUTHENTICATED BLOCK</small>		ON Semiconductor		<small>FIRST USED ON</small>	
<small>CHG NO</small>	<small>DATE</small>	<small>REVISIONS</small>	<small>DWN BY</small>	<small>CHG NO</small>	<small>DATE</small>	<small>DWN BY</small>	<small>DATE</small>	NAME KAI-0340 Imager Bd.	
							B. Ford IG CHK ORIG CHG NO RELEASED	DATE DSGN ENGR B. Ford MFG ENGR B. Auerhahn	DWG SIZE D 3E8422
								SHEET	8 OF 8

Components
For Circuit Board Assembly

NO. 3E8422

SHEET 1

NEXT SHEET 2

Item No	Part no	Assy. Side	Item Reference Designators	Qty	Package style	Notes/Comp Description	CHG. NO DATE	REVISIONS	DR. BY APPS.
1	3E8421	HW-T-1	BRD1	1		BARE BOARD REV 2			
2	4B3897	TOP-2	C100 C103	2	0805_h.055	33pF_50V_.05 CAPACITOR-CERAMIC MONOLITHIC CHIP (PF)	REV 1	PRELIMINARY RELEASE	BPF
3	785076	TOP-2 BOT-5	C132 C172 C101 C105 C134 C141 C170	7	case_a_h.075	1uF_25V_.20 ELECTROLYTIC, TANTALUM	REV 2	INITIAL RELEASE	BPF
4	4B4495	TOP-10 BOT-3	C15 C20 C23 C28 C29 C34 C38 C44 C52 C59 C47 C49 C195	13	case_b_h.085	4.7uF_20V_.20 ELECTROLYTIC TANTALUM CHIP			
5	254471	TOP-25 BOT-10	C16 C24 C27 C30 C41 C42 C61 C63 C75 C77 C89 C93 C96 C99 C102 C104 C107 C111 C114 C117 C127 C129 C162 C166 C178 C19 C32 C137 C147 C150 C153 C156 C163 C164 C176	35	0805_h.055	1000pF_50V_.05 MONOLITHIC, CERAMIC CHIP			
6	980646	TOP-4 BOT-10	C18 C33 C125 C130 C17 C25 C26 C31 C40 C43 C148 C151 C155 C157	14	0805_h.055	0.01uF_50V_.10 MONOLITHIC, CERAMIC CHIP			
7	695915	TOP-1 BOT-1	C189 C185	2	0805_h.055	0.033uF_50V_.10 MONOLITHIC, CERAMIC CHIP			
8	253924	TOP-2	C199 C200	2	0805_h.055	10pF_100V_.50pF MONOLITHIC, CERAMIC CHIP			
9	770251	TOP-3	C22 C146 C171	3	case_d_h.130	10uF_35V_.10 ELECTROLYTIC, TANTALUM			
10	7B9716	TOP-51	C3 C4 C11 C12 C21 C36 C37 C51 C53 C57 C62 C64 C66 C67 C69 C73 C74 C76 C78 C79 C80	87	0805_h.055	0.1uF_50V_.10 Ceramic Monolithic Chip			

SEE SHEET

REVISIONS

ON Semiconductor

FIRST USED ON

NAME CIRCUIT BOARD ASSEMBLY

B. FORD

4/5/04

KAI-0340 IMAGER BOARD

DC ENG.
B. FORD

PKG. MATL.

SKETCH NO.

DWG. SIZE B

CK. DFTG.
B. NOEL

MFG. ENG.
B. FORD

3E8422

ORIG. CHG. NO.
RELEASED

SHEET 1

NEXT SHEET 2

Components
For Circuit Board Assembly

NO. 3E8422

SHEET 2

NEXT SHEET 3

Item No	Part no	Assy. Side	Item Reference Designators	Qty	Package style	Notes/Comp Description	CHG. NO DATE	REVISIONS	DR. BY APPS.	
		BOT-36	C81 C82 C84 C119 C123 C124 C126 C128 C131 C133 C139 C143 C145 C161 C165 C168 C169 C179 C180 C181 C182 C183 C184 C186 C187 C188 C190 C191 C192 C198 C1 C2 C5 C6 C7 C8 C10 C13 C45 C46 C50 C55 C68 C70 C86 C90 C92 C95 C98 C108 C110 C113 C116 C121 C135 C136 C142 C149 C152 C154 C158 C160 C177 C194 C196 C197					REV 1 REV 2	PRELIMINARY RELEASE INITIAL RELEASE	BPF BPF
11	7B9655	TOP-2	C35 C39	2	1206_h.060	1uF_16V_.20 MONOLITHIC, CERAMIC CHIP				
12	258541	TOP-5 BOT-4	C60 C65 C167 C173 C174 C138 C144 C159 C175	9	case_c_h.110	10uF_20V_.20 ELECTROLYTIC TANTALUM CHIP				
13	7E7251	TOP-2 BOT-1	C72 C193 C48	3	1210_h.100	4.7uF_25V_.10 SMT CERAMIC CHIP				
14	8B0987	TOP-3 BOT-5	C83 C118 C122 C58 C71 C85 C87 C120	8	case_c_h.110	22uF_20V_.20 ELECTROLYTIC TANTALUM CHIP				
15	2B1595	TOP-8	C88 C91 C94 C97 C106 C109 C112 C115	8	0805_h.055	100pF_100V_.10 CAPACITOR-CERAMIC MONOLITHIC CHIP (PF)				
16	7B9280	TOP-2	C9 C14	2	case_d_h.130	22uF_25V_.10 ELECTROLYTIC TANTALUM CHIP				
17	616293	TOP-1	CR1	1	sot23_akn_sp	MMBD914LT1 DIODE, SWITCHING, 100V, 200mA				
18	902510	TOP-5 BOT-5	CR2 CR3 CR4 CR5 CR6 CR28 CR29 CR30 CR31	10	sot143_kkaa_	HSMS-2805 DIODE, SCHOTTKY BARRIER, V, 15mA				

SEE SHEET		ADD'L REVISIONS	
ON Semiconductor		FIRST USED ON	
		NAME CIRCUIT BOARD ASSEMBLY	
D B.FORD	DATE 4/5/04	KAI-0340 IMAGER BOARD	
DES. ENG. B.FORD	PKG. MATL.	SKETCH NO.	DWG. SIZE B
CK. DFTG. B.NOEL	MFG. ENG. B.FORD	3E8422	
ORIG. CHG. NO. RELEASED		SHEET 2	NEXT SHEET 3

Components
For Circuit Board Assembly

NO. 3E8422

SHEET 3

NEXT SHEET 4

Item No	Part no	Assy. Side	Item Reference Designators	Qty	Package style	Notes/Comp Description	CHG.NO DATE	REVISIONS	DR. BY APPS.
19	717944	B0T-5	CR23 CR24 CR25 CR26 CR27	5	zener_sot23_	MMBZ5229BL DIODE, ZENER, 4.3V, 225mW			
20	237522	TOP-3	CR7 CR8 CR9	3	sot323_kak_h	BAW56LT1 DIODE, SWITCHING, DUAL, COM ANODE, 70V, 100mA	REV 1	PRELIMINARY RELEASE	BPF
21	323043	TOP-1	E1	1	p03s_103239-	103239-3 3 3-PIN CONNECTOR USED AS A JUMPER	REV 2	INITIAL RELEASE	BPF
22	233152	TOP-12 B0T-4	FB1 FB2 FB3 FB4 FB5 FB6 FB10 FB11 FB13 FB15 FB16 FB17 FB7 FB8 FB12 FB14	16	fb_274301944	2743019447 - FERRITE, SMT BEADS			
23	999979	TOP-1	J1	1	p80s_104549-	104549-9 SMT, AMPMODU, SHROUDED HEADER CONNECTOR			
24	911244	TOP-3	J2 J3 J4	3	j01ra_221014	221014-1 SMB, R/A RF COAXIAL JACK, 75 OHM			
25	1E1112	TOP-2 B0T-4	L1 L2 L3 L4 L5 L6	6	ind_1008cs_h	2.2uH SMT WIREWOUND ENCAPSULATED			
26	233838	TOP-3	Q1 Q3 Q20	3	sot23_bce_sp	MMBT3906 TRANSISTOR, PNP, 40V, GENERAL PURPOSE			
27	616292	TOP-3	Q2 Q6 Q7	3	sot23_bce_sp	MMBT3904LT1 TRANSISTOR, NPN, 40V, GENERAL PURPOSE			
28	960471	TOP-2	Q4 Q19	2	sot223_bce_s	PZT2907A TRANSISTOR, PNP, 60V, GENERAL PURPOSE			
29	960472	TOP-2	Q5 Q18	2	sot223_bce_s	PZT2222A TRANSISTOR, NPN, 40V, GENERAL PURPOSE			
30	4B4317	TOP-5	Q8 Q10 Q12 Q14 Q16	5	sot23_bce_sp	MMBT2369ALT1 TRANSISTOR, NPN, 15V, SWITCHING			
31	236307	TOP-5	Q9 Q11 Q13 Q15 Q17	5	sot23_bce_sp	MMBT3640 TRANSISTOR, PNP, 12V, SWITCHING			
32	954557	TOP-1	R12	1	0805_h.030	1ms_ .100W_ .05 SMT			

SEE SHEET		D'L REVISIONS	
ON Semiconductor		FIRST USED ON	
		NAME CIRCUIT BOARD ASSEMBLY	
DR. B.FORD	DATE 4/5/04	KAI-0340 IMAGER BOARD	
DES. ENG. B.FORD	PKG. MATL.	SKETCH NO.	DWG. SIZE B
CK. DFTG. B.NOEL	MFG. ENG. B.FORD	3E8422	
ORIG. CHG. NO. RELEASED		SHEET 3 NEXT SHEET 4	

Components
For Circuit Board Assembly

NO. 3E8422

SHEET 4

NEXT SHEET 5

Item No	Part no	Assy. Side	Item Reference Designators	Qty	Package style	Notes/Comp Description	CHG.NO DATE	REVISIONS	DR. BY APPS.
33	783957	B0T-2	R159 R169	2	0805_h.030	FLAT THICK METAL FILM 200 Ohms .100W .01 FLAT, THICK METAL FILM, CHTP	REV 1	PRELIMINARY RELEASE	BPF
34	902942	B0T-1	R188	1	0805_h.030	2.49K Ohms .100W .01 SMT CHIP FLAT THICK METAL FILM	REV 2	INITIAL RELEASE	BPF
35	901770	TOP-2 B0T-12	R2 R6 R93 R109 R114 R115 R116 R117 R118 R119 R120 R121 R158 R168	14	0805_h.030	2.21K Ohms .100W .01 FLAT, THICK METAL FILM, CHIP			
36	954554	TOP-2	R22 R35	2	0805_h.030	75 Ohms .100W .01 SMT CHIP FLAT THICK METAL FILM			
37	902504	B0T-4	R23 R33 R186 R187	4	0805_h.030	249 Ohms .100W .01 SMT CHIP FLAT THICK METAL FILM			
38	954565	TOP-1	R30	1	0805_h.030	8.45K Ohms .100W .01 SMT CHIP FLAT THICK METAL FILM			
39	902564	B0T-5	R31 R36 R183 R184 R185	5	0805_h.025	1K Ohms .100W .01 FLAT, THICK METAL FILM CHTP			
40	903960	TOP-12	R37 R39 R44 R61 R74 R82 R95 R98 R103 R107 R134 R152	12	0805_h.030	3 Ohms .100W .05 FLAT, THICK METAL FILM, CHIP			
41	901801	TOP-2	R42 R178	2	0805_h.030	49.9 Ohms .100W .01 SMT CHIP FLAT THICK METAL FILM			
42	992875	TOP-2	R47 R64	2	0805_h.030	4.99K Ohms .100W .001 SMT CHIP FLAT THIN METAL FILM			
43	954562	TOP-1	R48	1	0805_h.030	15K Ohms .100W .05 SMT CHIP FLAT THICK METAL FILM			
44	770026	TOP-12	R5 R11 R17 R45 R52 2 R71 R81 R92 R126	12	pot_3266w_h.	10K POT, MULTI-TURN			

SEE SHEET

R ADD'L REVISIONS

ON Semiconductor

FIRST USED ON

NAME CIRCUIT BOARD ASSEMBLY

DR. B.FORD

DATE 4/5/04

KAI-0340 IMAGER BOARD

DES. ENG. B.FORD

PKG. MATL.

SKETCH NO.

DWG. SIZE B

CK. DFTG. B.NOEL

MFG. ENG. B.FORD

3E8422

ORIG. CHG. NO. RELEASED

SHEET 4

NEXT SHEET 5

Components
For Circuit Board Assembly

NO. 3E8422

SHEET 5

NEXT SHEET 6

Item No	Part no	Assy. Side	Item Reference Designators	Qty	Package style	Notes/Comp Description	CHG.NO DATE	REVISIONS	DR. BY APPS.
45	980690	TOP-20	R53 R72 R113 R127 R140 R142 R144 R145 R146 R147 R148 R149 R160 R161 R162 R163 R164 R165 R166 R167	20	0805_h.030	100 Ohms .100W .005 SMT CHIP FLAT THIN METAL FILM	REV 1	PRELIMINARY RELEASE	BPF
46	257516	TOP-2 BOT-5	R57 R58 R1 R4 R133 R150 R170	7	0805_h.030	0.05 Ohms .100W_- ZERO OHM CHIP JUMPER	REV 2	INITIAL RELEASE	BPF
47	250796	TOP-7	R59 R60 R122 R139 R155 R171 R177	7	0805_h.030	1K Ohms .100W .05 FLAT, THICK METAL FILM, CHIP			
48	901764	TOP-1	R65	1	0805_h.030	7.5K Ohms .100W .05 SMT CHIP FLAT THICK METAL FILM			
49	233981	TOP-20 BOT-10	R7 R14 R15 R18 R24 R27 R32 R50 R67 R68 R79 R90 R110 R123 R130 R141 R157 R174 R176 R191 R19 R20 R43 R128 R129 R131 R143 R172 R173 R181	30	0805_h.025	10K Ohms .100W .01 FLAT, THICK METAL FILM CHIP			
50	254478	TOP-6 BOT-1	R73 R100 R105 R175 R179 R180 R182	7	0805_h.030	100K Ohms .100W .05 FLAT, THICK METAL FILM, CHIP			
51	255345	TOP-2	R75 R76	2	0805_h.030	22 Ohms .100W .05 FLAT, THICK METAL FILM, CHIP			
52	941226	TOP-2	R77 R85	2	0805_h.030	130 Ohms .100W .01 SMT CHIP FLAT THICK METAL FILM			
53	253955	TOP-3	R78 R88 R138	3	0805_h.030	20K Ohms .100W .05 FLAT, THICK METAL FILM, CHIP			
54	739757	TOP-2	R84 R87	2	1210_h.025	680 Ohms .250W .05 FLAT, THICK METAL FILM, CHIP			
55	232841	TOP-9	R94 R96 R97 R99 R101 2 R104 R106 R108	9	0805_h.030	10 Ohms .100W .05 FLAT, THICK			

SEE SHEET FOR ADD'L REVISIONS

ON Semiconductor		FIRST USED ON	
		NAME CIRCUIT BOARD ASSEMBLY	
D B.FORD	DATE 4/5/04	KAI-0340 IMAGER BOARD	
DES. ENG. B.FORD	PKG. MATL.	SKETCH NO.	DWG. SIZE B
CK. DFTG. B.NOEL	MFG. ENG. B.FORD	3E8422	
ORIG. CHG. NO. RELEASED		SHEET 5	NEXT SHEET 6

Components
For Circuit Board Assembly

NO. 3E8422

SHEET 6

NEXT SHEET 7

Item No	Part no	Assy. Side	Item Reference Designators	Qty	Package style	Notes/Comp Description	CHG. NO DATE	REVISIONS	DR. BY APPS.
56	TPDUAL	TOP-17	TP1 TP2 TP3 TP4 TP5 TP6 TP7 TP8 TP9 TP10 TP11 TP12 TP13 TP14 TP15 TP22 TP23	17	tpdual_.1_p4	TP_DUAL DUAL TEST PADS (THRU HOLE)	REV 1	PRELIMINARY RELEASE	BPF
57	901614	TOP-4	TP16 TP17 TP18 TP20	4	tp_tp104_h.2	TP-104-01-02 PRESS MOUNT TERMINAL - RED	REV 2	INITIAL RELEASE	BPF
58	901613	TOP-2	TP19 TP21	2	tp_tp104_h.2	TP-104-01-00 PRESS MOUNT TERMINAL - BLACK			
59	7E7954	TOP-1 BOT-1	U1 U2	2	so16_.200_h.	ADG453BR ANALOG SWITCH, QUAD, SPST, 2 NC, 2 NO			
60	7E8545	TOP-2	U11 U16	2	so08_.200_h.	LM6172IM DUAL VOLTAGE FEEDBACK AMPLIFIER		See MTD/PS-0028	
61	5E6841	TOP-1	U13	1	so120_.375_h	74AC540 BUFFER/DRIVER, OCTAL, W/ 3-STATE OUTPUT, INVERTING			
62	903888	TOP-1	U15	1	so120_.370_h	74ACT541 BUFFER/DRIVER, OCTAL, W/ 3-STATE OUTPUT			
63	241054	TOP-1	U17	1	to220_aio_pd	LM337T 1.5A -40V -1.2 to -37V VOLTAGE REGULATOR, NEG ADJ, 1.5A,			
64	691935	TOP-4	U18 U21 U22 U23	4	so16_.210_h.	DS90C032 DIFFERENTIAL LINE RECEIVER, QUAD			
65	5C2040	TOP-2	U19 U20	2	so08_.210_h.	OPA642 WIDEBAND LOW DISTORTION OP AMP			
66	498310	TOP-1	U24	1	to220_aoi_pd	LM317T 1.5A 4.2-40V 1.2-37V VOLTAGE REGULATOR, ADJ, 1.5A, 3-TE			
67	5F1246	TOP-5	U25 U26 U27 U28 U29	5	so08_.200_h.	IRF7309 TRANSISTOR, DUAL N & P CHANNEL, 30V, MOSFET			
68	992863	TOP-1	U3	1	so116_.370_h	OP471 ANALOG IC, LINEAR AMPLIFIER,			
69	7B8486	TOP-1	U30	1	_h.	OP213FS DUAL, LOW NOISE, LOW			

SEE SHEET		REVISIONS	
ON Semiconductor		FIRST USED ON	
		NAME CIRCUIT BOARD ASSEMBLY	
B.FORD	4/5/04	KAI-0340 IMAGER BOARD	
ENG B.FORD	PKG. MATL.	SKETCH NO.	DWG. SIZE B
CK. DFTG. B.NOEL	MFG. ENG. B.FORD	3E8422	
ORIG. CHG. NO. RELEASED		SHEET 6	NEXT SHEET 7

Components
For Circuit Board Assembly

NO. 3E8422

SHEET 7

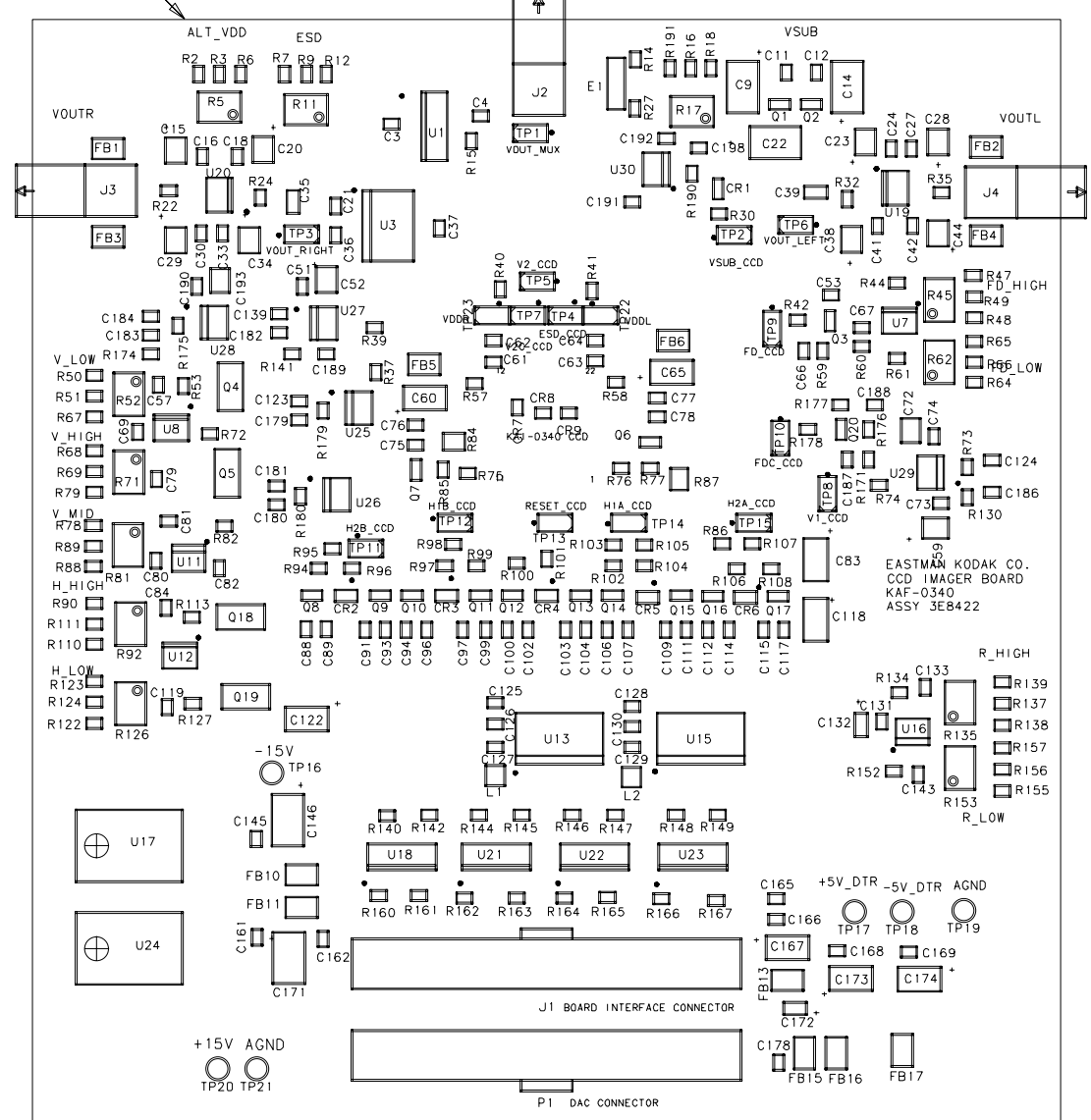
NEXT SHEET 8

Item No	Part no	Assy. Side	Item Reference Designators	Qty	Package style	Notes/Comp Description	CHG. NO DATE	REVISIONS	DR. BY APPS.
70	734408	TOP-3	U7 U8 U12	3	so08_.210_h.	DRIFT, OP AMP LF353 ANALOG IC, LINEAR AMPLIFIER,	REV 1	PRELIMINARY RELEASE	BPF
71	7B9716	BOT-1	C140	1NL	0805_h.055	NO LOAD 0.1uF_50V_.10 Ceramic Monolithic Chip	REV 2	INITIAL RELEASE	BPF
72	233152	BOT-1	FB9	1NL	fb_274301944	NO LOAD 2743019447 - FERRITE, SMT BEADS			
73	999979	TOP-1	P1	1NL	p80s_104549-	NO LOAD 104549-9 SMT, AMPMODU, SHROUDED HEADER CONNECTOR			
74	903960	TOP-2	R40 R41	2NL	0805_h.030	NO LOAD 3 0hms_.100W_.05 FLAT, THICK METAL FILM, CHIP		See MTD/PS-0028	
75	257516	TOP-13 BOT-14	R3 R9 R16 R49 R51 R66 R69 R89 R111 R124 R137 R156 R190 R8 R10 R21 R34 R46 R63 R70 R80 R125 R132 R136 R151 R154 R189	27NL	0805_h.030	NO LOAD 0.05 0hms_.100W_- ZERO OHM CHIP JUMPER			
76	233981	BOT-2	R91 R112	2NL	0805_h.025	NO LOAD 10K 0hms_.100W_.01 FLAT, THICK METAL FILM CHIP			
77	254478	TOP-1	R86	1NL	0805_h.030	NO LOAD 100K 0hms_.100W_.05 FLAT, THICK METAL FILM, CHIP			
78	3E8335	BOT-1	U10	1NL	sensor_kai03	NO LOAD KAI-0340D INTERLINE CCD IMAGE SENSOR			
79	5C2045	BOT-1	U14		_0_h.	NO LOAD DS1040 PULSE GENERATOR,			

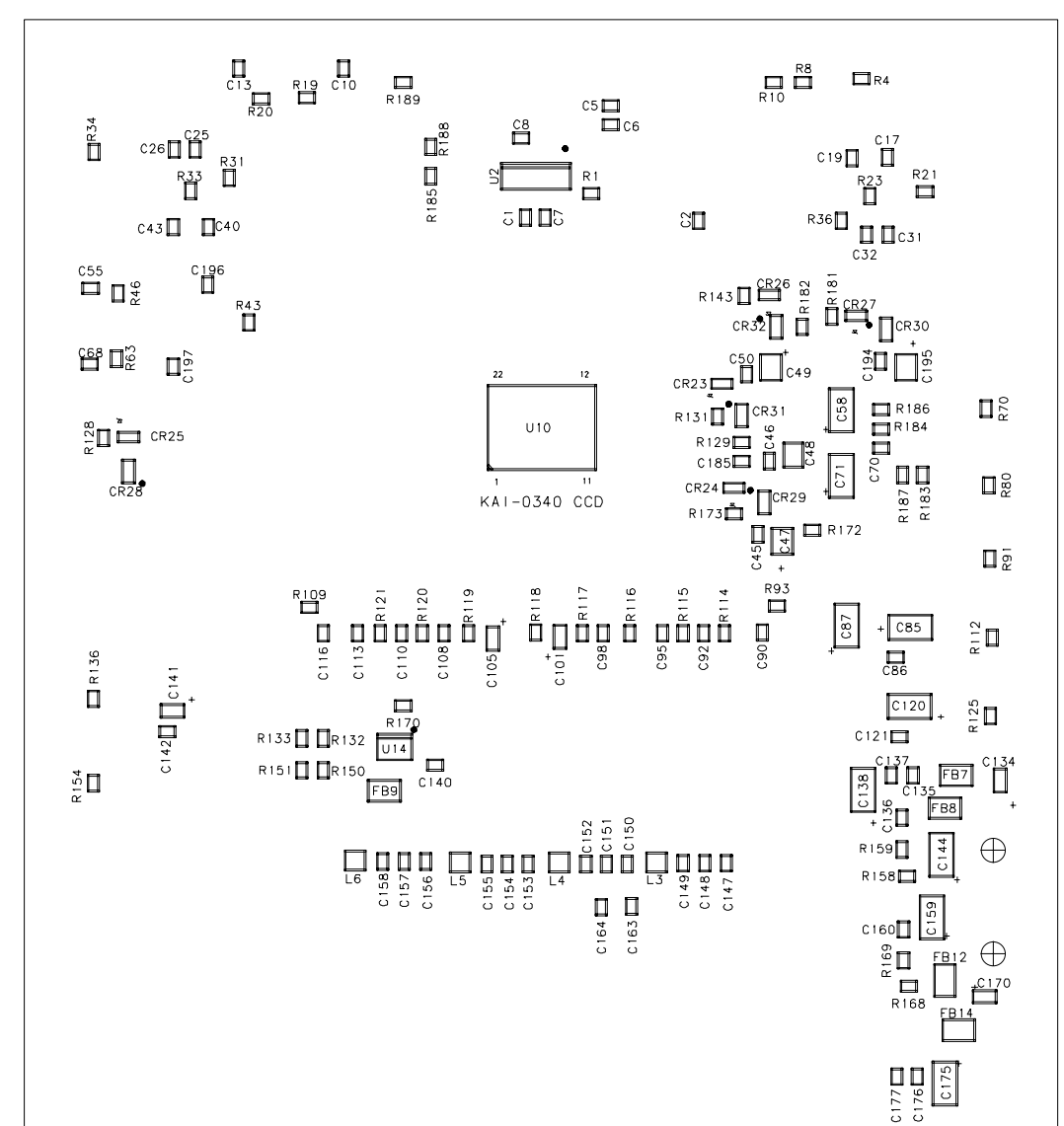
SEE SHEET		ADD'L REVISIONS	
ON Semiconductor		FIRST USED ON	
		NAME CIRCUIT BOARD ASSEMBLY	
DR. B.FORD	DATE 4/5/04	KAI-0340 IMAGER BOARD	
DES. ENG. B.FORD	PKG. MATL.	SKETCH NO.	DWG. SIZE B
CK. DFTG. B.NOEL	MFG. ENG. B.FORD	3E8422	
ORIG. CHG. NO. RELEASED		SHEET 7	NEXT SHEET 8

REVISION BLOCK

ZONE REV. DESCRIPTION ESC/



PRIMARY SIDE



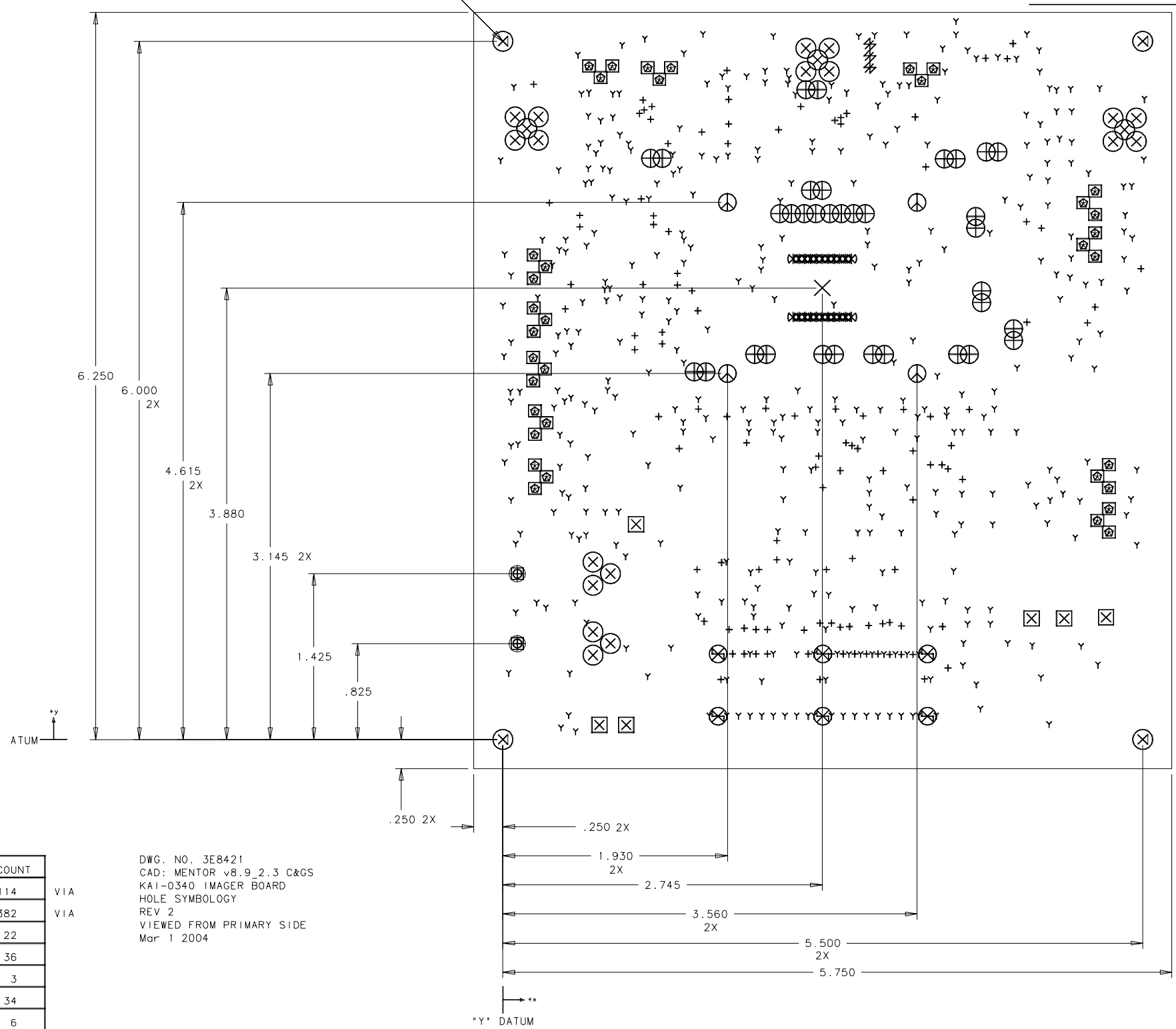
SECONDARY SIDE

REF: DIMENSIONING AND TOLERANCING PER ANSI Y14.5M-1982.	MATERIAL:				DWN DFTC ENGR ENGR	ON Semiconductor
	UNLESS OTHERWISE SPECIFIED					
DIMENSIONS APPLY AFTER FINISH WHERE TOTAL TOLERANCE IS .001 INCHES OR LESS AND ON ALL THREADS. IN ALL OTHER PLACES DIMENSIONS APPLY BEFORE FINISH.	DATUM PRECEDENCE PRI A SEC B TER C				CHK APVD APVD	ASSY, KAI-0340 IMAGER BOARD
	DIMENSIONS ARE IN INCHES					
DEVIATIONS FROM INTENDED SHAPE (FLATNESS, ROUNDNESS, SQUARENESS ETC.) MUST BE WITHIN STATED DIMENSIONAL TOLERANCES	TOLERANCES				APVD APVD CONTRACT #	ITEM NO 3E8422
	NEXT ASSY	USED ON	NEXT ASSY	FINAL ASSY		
APPLICATION		QUANTITY REQD		ANGLES ± 5° 1 PL N/A THIRD ANGLE PROJECTION	CODE	WT SCALE 2 SH 8 OF 8

NOTES:

1. PERFORMANCE CLASS
 - 1.1 MANUFACTURE BOARD IN ACCORDANCE WITH IPC-6011 & 6012, CLASS 2.
2. MATERIAL SPECIFICATIONS:
 - 2.1 CORE MATERIAL: FR-4, SIZE AND CONSTRUCTION PER DETAIL A.
 - 2.2 PRE-PREG MATERIAL: FR-4 B STAGE, SIZE AND CONSTRUCTION PER DETAIL A.
 - 2.3 MODIFICATIONS TO THE LAYER STACKUP AS SHOWN IN DETAIL A ARE PERMISSIBLE WITH THE FOLLOWING CONSTRAINTS:
 - 2.3.1 CONDUCTIVE LAYERS SHALL BE EVENLY SPACED THROUGHOUT.
 - 2.3.2 OVERALL THICKNESS SHALL BE UNCHANGED.
3. COPPER PLATE:
 - 3.1 HOLES: COPPER PLATING ON WALL OF HOLES SHALL BE 0.0015 MIN. UNLESS OTHERWISE SPECIFIED
4. FINISH PLATE:
 - 4.1 SURFACE AND HOLES: EXPOSED LANDS AND LINES, EXCLUDING CONTACT FINGERS, SHALL BE TIN-LEAD COATED IN ACCORDANCE WITH THE SOLDERABILITY REQUIREMENTS OF J-STD-003.
5. CONDUCTOR WIDTH AND SPACING:
 - 5.1 WIDTH: 0.005 MIN
 - 5.2 SPACING: 0.005 MIN
 - 5.3 DESIGN FABRICATION PATTERN ALIGNMENT ALLOWANCE IS 0.015.
6. HOLE REQUIREMENTS:
 - 6.1 ANNULAR RING: 0.002 MIN
 - 6.2 HOLE LOCATIONS TO BE 0.003 (DTP - DIAMETRICAL TRUE POSITION)
 - 6.3 HOLE SIZES APPLY AFTER SOLDER PLATING, REFLOW OR DEPOSITION
7. SOLDERMASK:
 - 7.1 SOLDERMASKING OF PRIMARY AND SECONDARY SIDES OF THE BOARD SHALL BE PER MASKING ARTWORK OVER BARE COPPER (SMOBC) USING LIQUID PHOTOIMAGEABLE SOLDER MASK MATERIAL PER IPC-SM-840.
 - 7.2 RESIZING FOR MINIMAL LAND TO MASK CLEARANCE PERMISSIBLE.
8. MARKING:
 - 8.1 MARKING OF PRIMARY AND SECONDARY SIDES SHALL BE PER MARKING ARTWORK USING WHITE NON-CONDUCTIVE EPOXY INK.
9. BOARD WARPAGE:
 - 9.1 BOARD WARPAGE 0.75% MAX.
10. TESTING:
 - 10.1 BOARDS SHALL BE TESTED USING CAD SUPPLIED IPC-D-356 FORMAT NET LIST. ELECTRICAL TESTING SHALL FOLLOW GUIDELINES ESTABLISHED BY IPC-9252.
11. SIGNAL INTEGRITY / IMPEDANCE REQUIREMENTS
 - 11.1 NONE REQUIRED
12. MISCELLANEOUS NOTES:
 - 12.1 X,Y DATUMS INDICATE DRILL ORIGIN
 - 12.2 TEST COUPONS TO BE MADE AVAILABLE UPON REQUEST

4 MOUNTING HOLES
DIA = 0.125



BOARD'S DRILL SCHEDULE

DRILL SIZE	DRILL SYMBOL	PLATED	COUNT
.013	+	YES	114
.015	Y	YES	382
.032	⊗	YES	22
.034	⊠	YES	36
.038	⊚	YES	3
.042	⊕	YES	34
.050	⊗	YES	6
.054	⊗	YES	21
.065	⊠	YES	6
.100	⊕	YES	4
.125	⊗	YES	4
.144	⊠	NO	2

TOTAL DRILL COUNT ON BOARD: 634

DWG. NO. 3E8421
CAD: MENTOR v8.9.2.3 C&GS
KAI-0340 IMAGER BOARD
HOLE SYMBOLOLOGY
REV 2
VIEWED FROM PRIMARY SIDE
Mar 1 2004

REF: DIMENSIONING AND TOLERANCING PER ANSI Y14.5M-1982.	MATERIAL:	DWN B.FORD 08-15-03	ON Semiconductor
DIMENSIONS APPLY AFTER FINISH WHERE TOTAL TOLERANCE IS .001 INCHES OR LESS AND ON ALL THREADS. IN ALL OTHER PLACES DIMENSIONS APPLY BEFORE FINISH.	UNLESS OTHERWISE SPECIFIED	DFTG B.NOEL 08-15-03	
DEVIATIONS FROM INTENDED SHAPE (FLATNESS, ROUNDNESS, SQUARENESS ETC.) MUST BE WITHIN STATED DIMENSIONAL TOLERANCES	DATUM PRECEDENCE PRI A SEC B TER C	ENGR B.FORD 08-15-03	PCB, KAI-0340 IMAGER
	DIMENSIONS ARE IN INCHES	ENGR X.XXXXXX XX-XX-XX	
	TOLERANCES	CHK	3E8421
	ANGLES ± 5° 1 PL N/A	APVD X.XXXXXX XX-XX-XX	
	2 PL .010 3 PL .005	APVD X.XXXXXX XX-XX-XX	2
	THIRD ANGLE PROJECTION	CONTRACT #	
	APPLICATION	QUANTITY REQD	SCALE 2X SH 1 OF 4