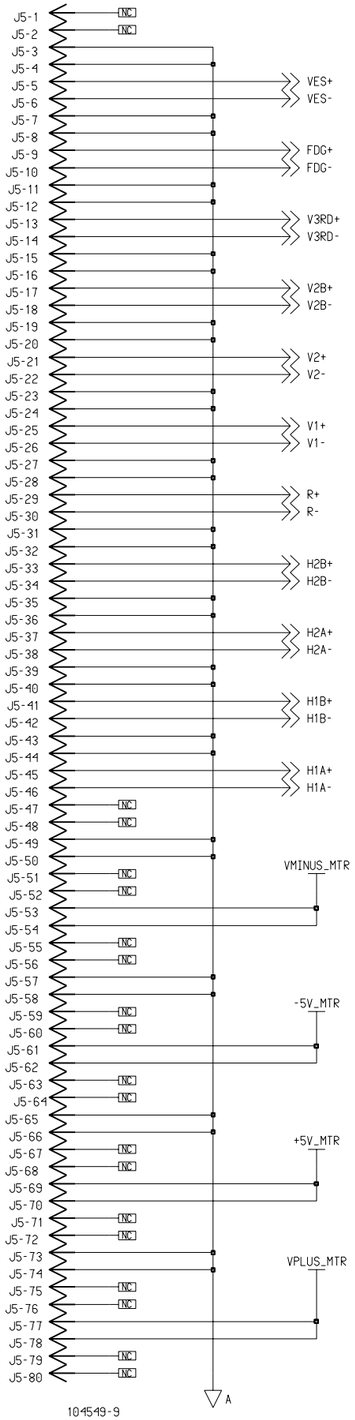
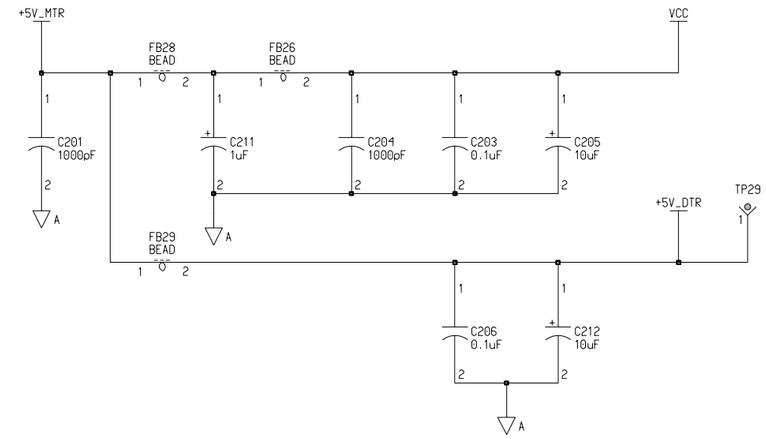
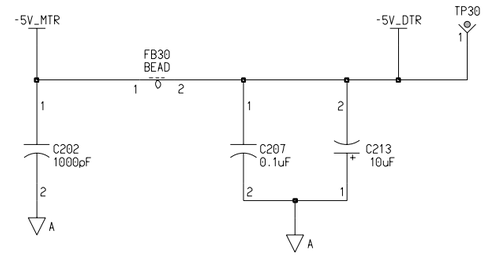
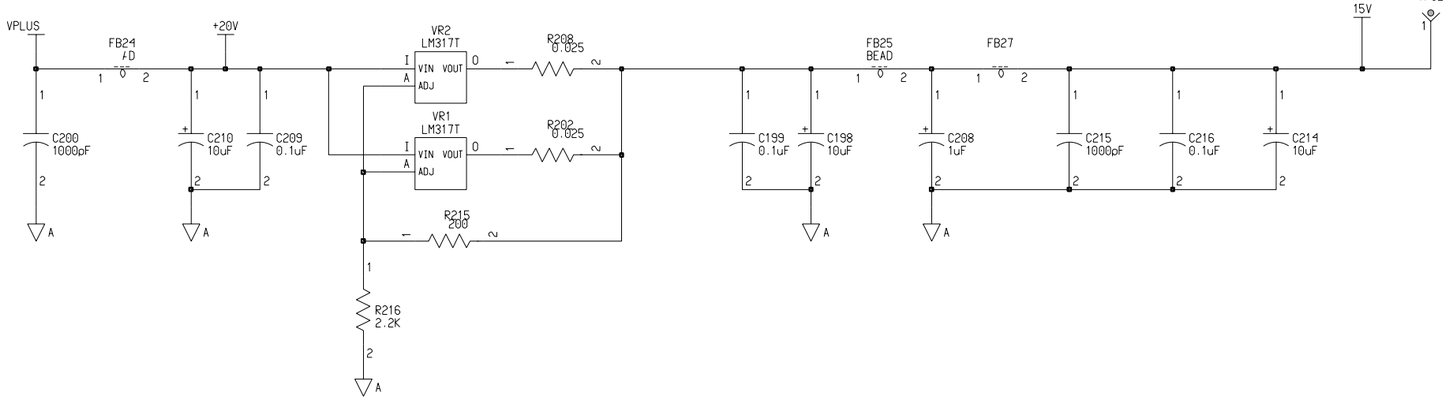
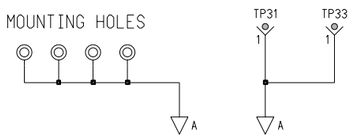






INSTALL 320990 HEATSINKS UND





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
CHG NO DATE RLSE	REVISIONS	DWN BY APPV'D	CHG NO DATE RLSE	REVISIONS	DWN BY APPV'D

On Semiconductor

B. Ford	DATE 01.10
FTG NONE	DSGN ENGR B. Ford
CHK NONE	NONE

ORIG CHG NO
MTD/PS- 0507, Rev 3
PS-0126, Rev 1

RELEASED

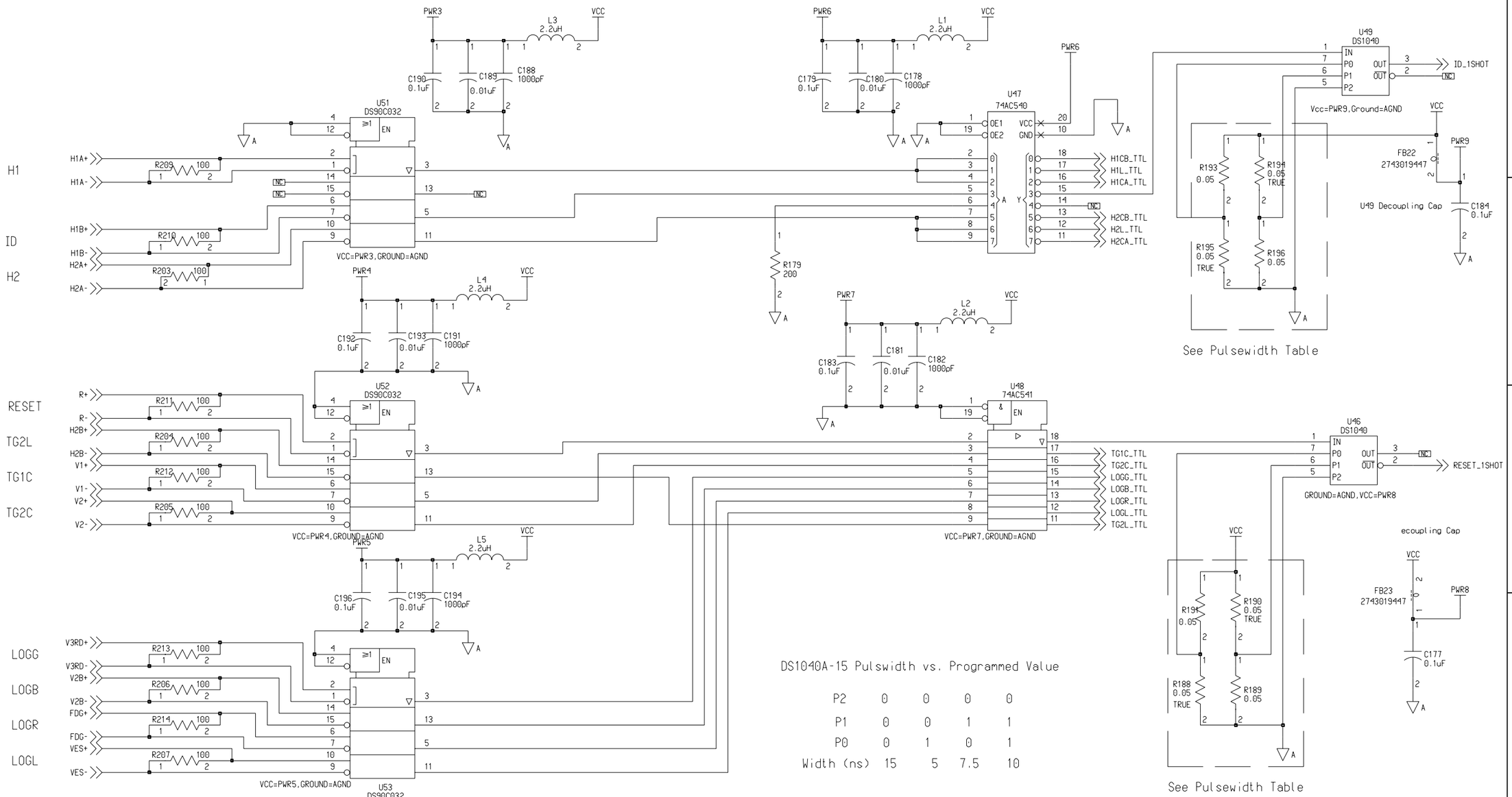
FIRST USED ON

NAME
KLI-4104 Imager Board

SKETCH NO. | DWG. SIZE D

NO.
3E8218

SHEET 1 OF 13



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 AUTHENTICA BLOCK IS FILLED IN. THE MASTER COPY IS AUTHENTICATED IN RED.

AUTHENTICATED BLOCK

CHG NO DATE RLSE	REVISIONS	DWN BY	CHG NO	REVISIONS	DWN BY APPV'D

On Semiconductor

DWN B. Ford	DATE 10.14.2002 at 14:22
DFTG	DSGN ENGR B. Ford
CHK	MFG ENGR
ORIG CHG NO	

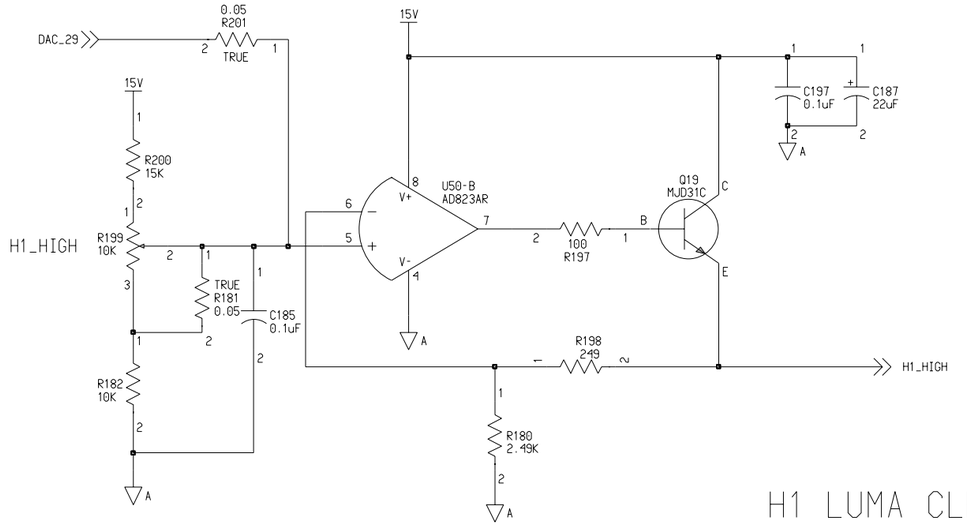
FIRST USED ON

NAME KLI-4104 Imager Board

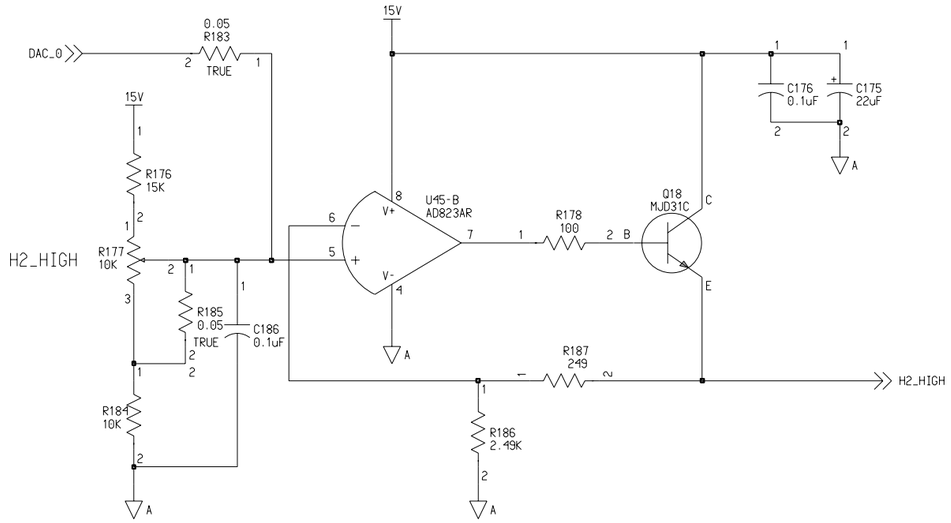
SIZE D

NO. 3E8218

SHEET 2 OF 13



H1 LUMA CLKS



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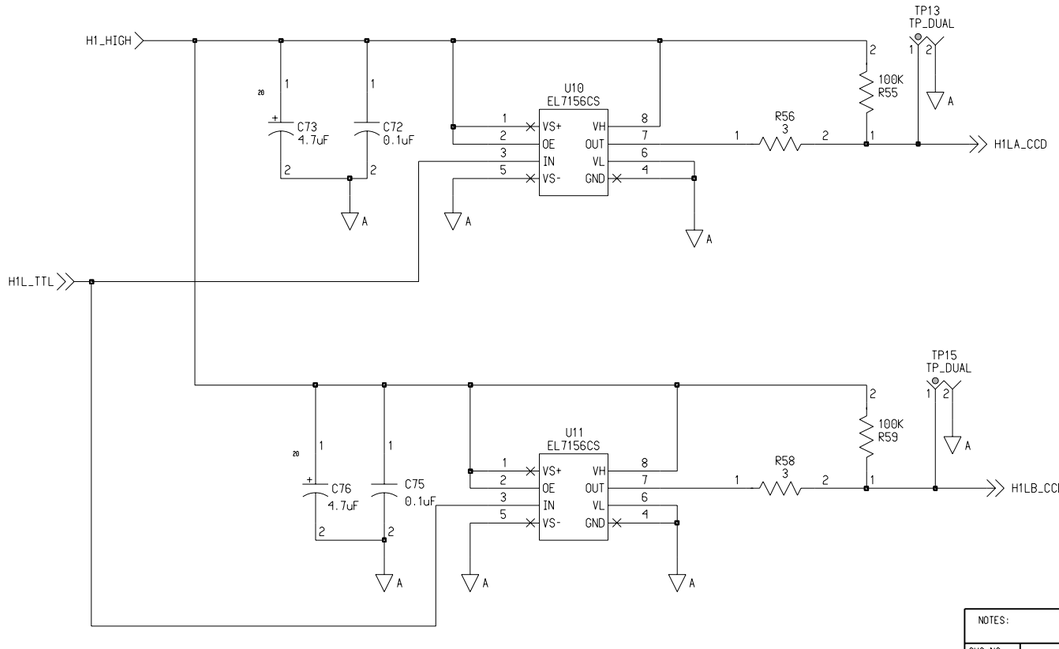
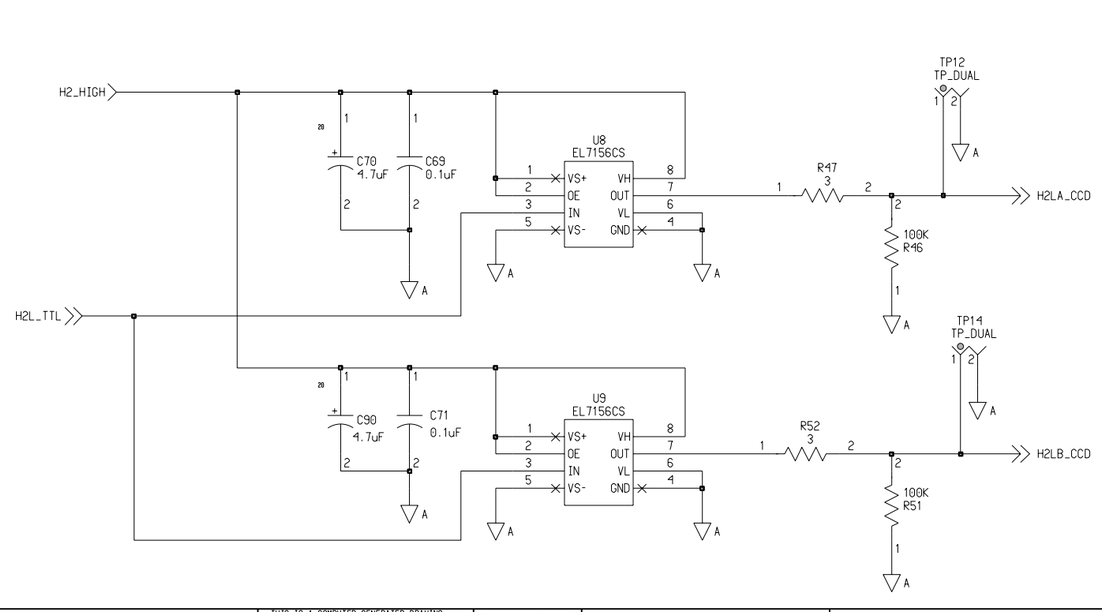




NOTE:

"TRUE" indicates part is not populated for Pot adjust operation
For DAC adjust operation these parts
Are populated and the Pot is removed

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

CHG NO DATE RLSE	REVISIONS	DWN BY APPV'D	CHG NO DATE RLSE	REVISIONS	DWN BY APPV'D

On Semiconductor

DWN B. Ford	DATE 10.14.2002 at 14:22
DFTG	DSGN ENGR B. Ford
CHK	MFG ENGR
ORIG CHG NO	
RELEASED	

FIX

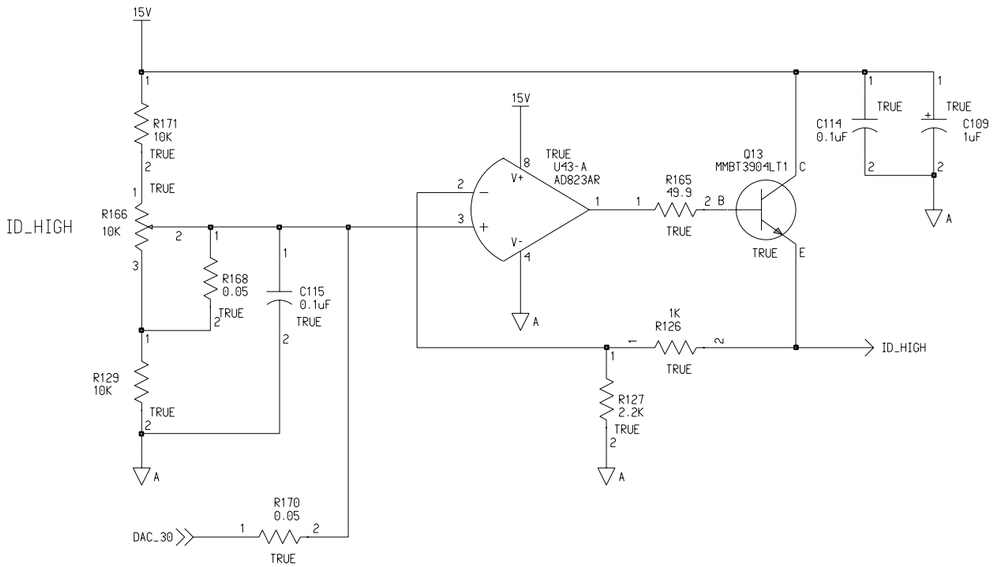
NAME

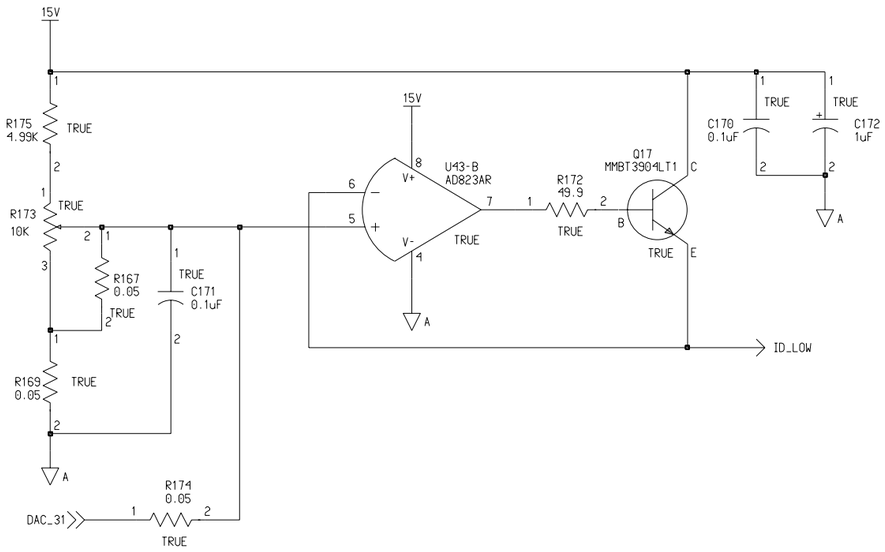
KLI-4104 Imager Board

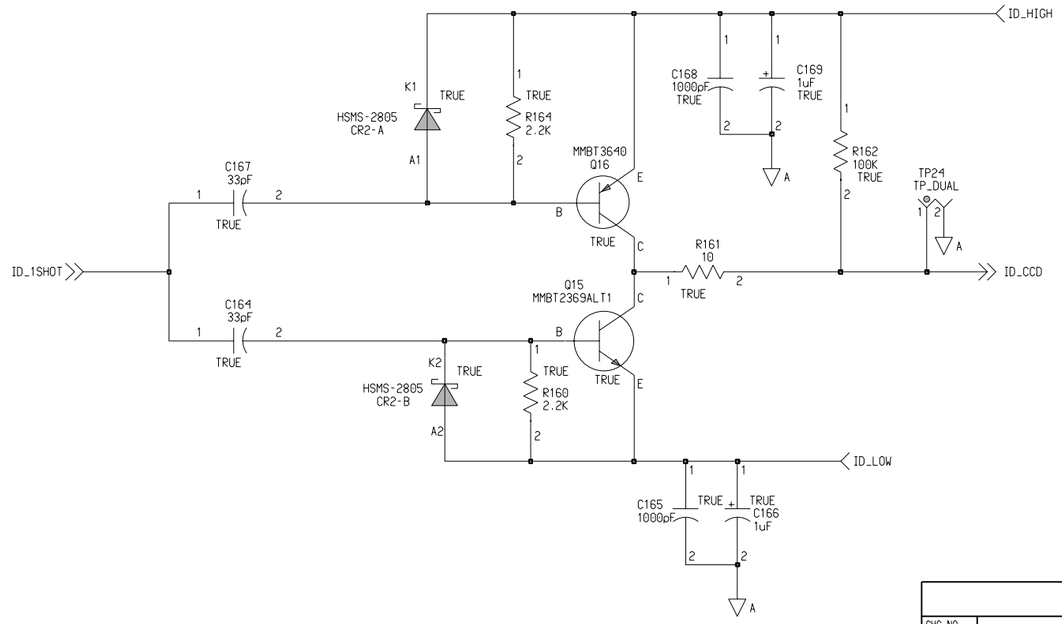
SKETCH NO. 3E8218

DWG SI D

SHEET 3 OF 13







NOTE:

"TRUE" indicates part is no.

This circuitry is provided for Kodak test purposes only.

normal operation, ID_CCD is shorted to VDD; see Sheet 8.

CHG NO DATE RLSE	REVISIONS	DWN BY APPV'D

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

CHG NO DATE RLSE		DWN BY APPV'D

On Semiconductor

DWN B. Ford	DATE 10.14.2002 at 14:23
DFTG	DSGN ENGR B. Ford
CHK	MFG ENGR
ORIG CHG NO	
RELEASED	

FIRST USED ON

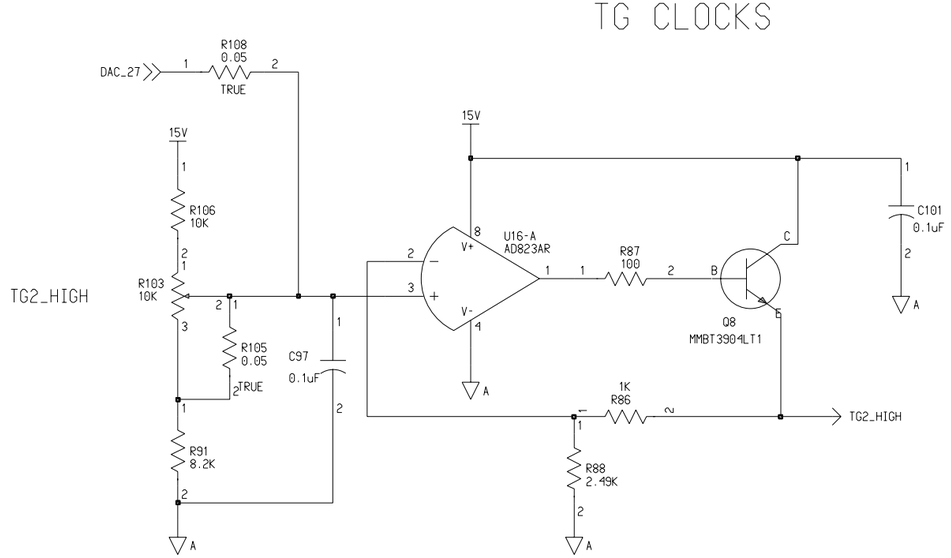
NAME KLI-4104 Imager Board

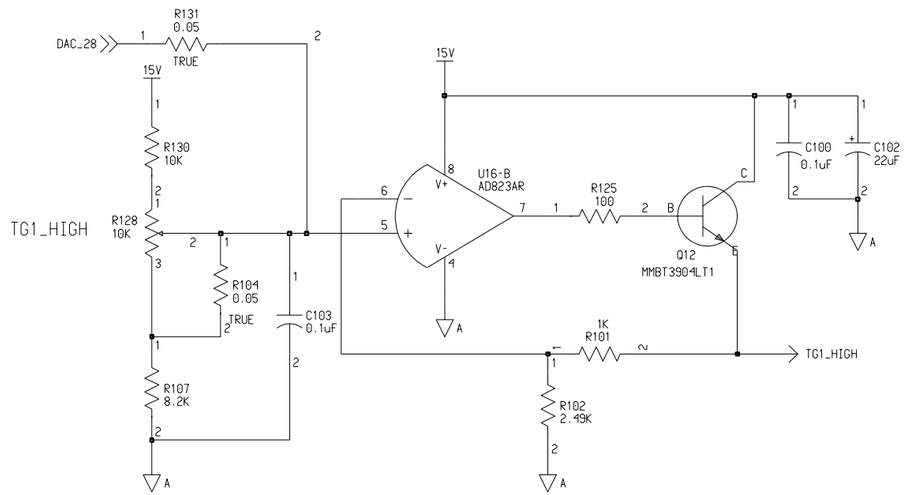
SKET | DWG. SIZE D

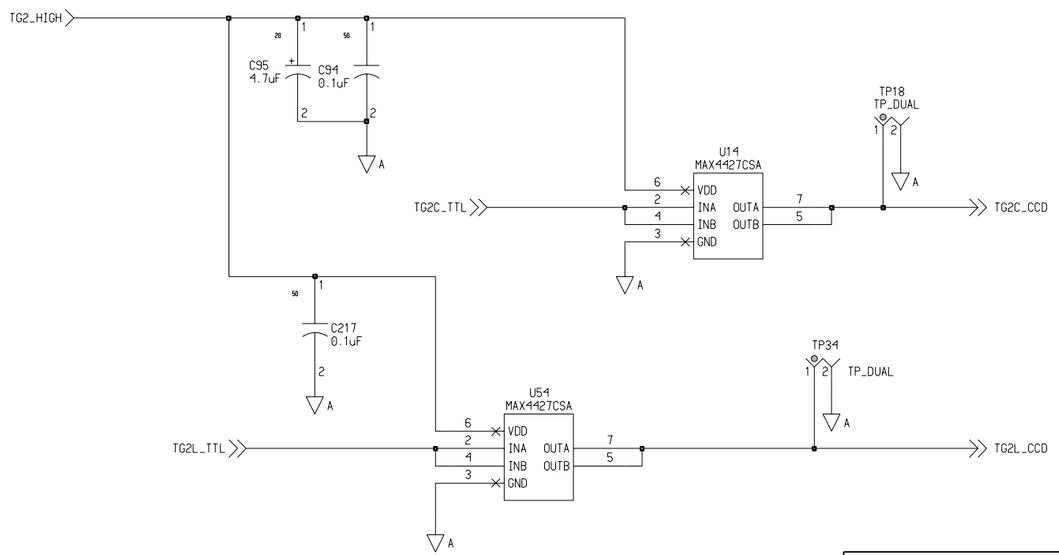
NO. 3E8218

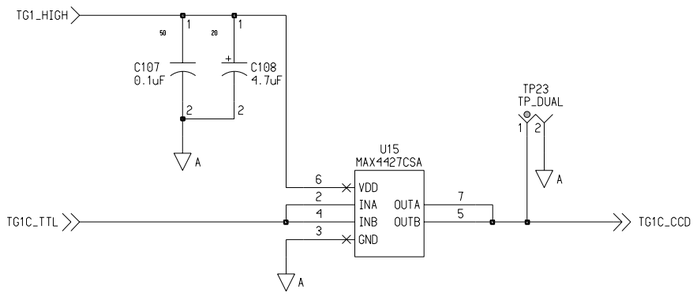
SHEET 4 OF 13

TG CLOCKS









NOTE:

"TRUE" indicates part is not populated for Pot adjust operation
For DAC adjust operation these parts
are populated and the Pot is removed

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

CHG NO DATE RLSE	REVISIONS	APPV'D	CHG NO DATE RLSE	REVISIONS	APPV'D
		Y			

On Semiconductor

DWN B. Ford	DATE 10.14.2002 at 14:23
	DSGN E B. Ford
CHK	MFG ENGR
ORIG CHG NO	
RELEASED	

FIRST USED ON

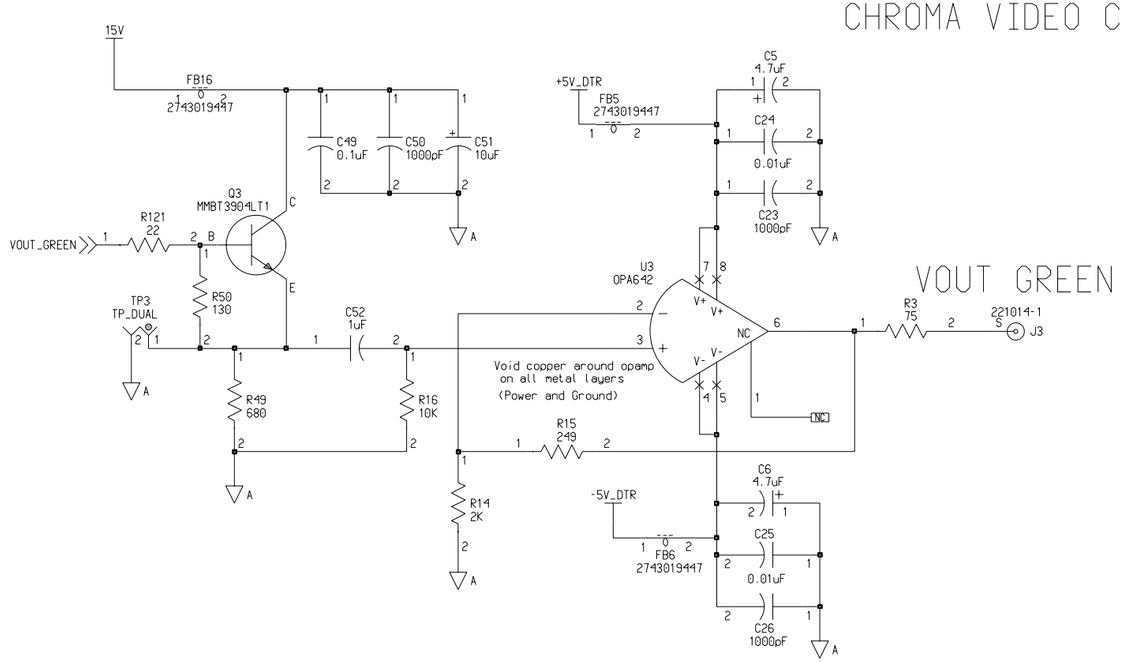
NAME KLI-4104 Imager Board

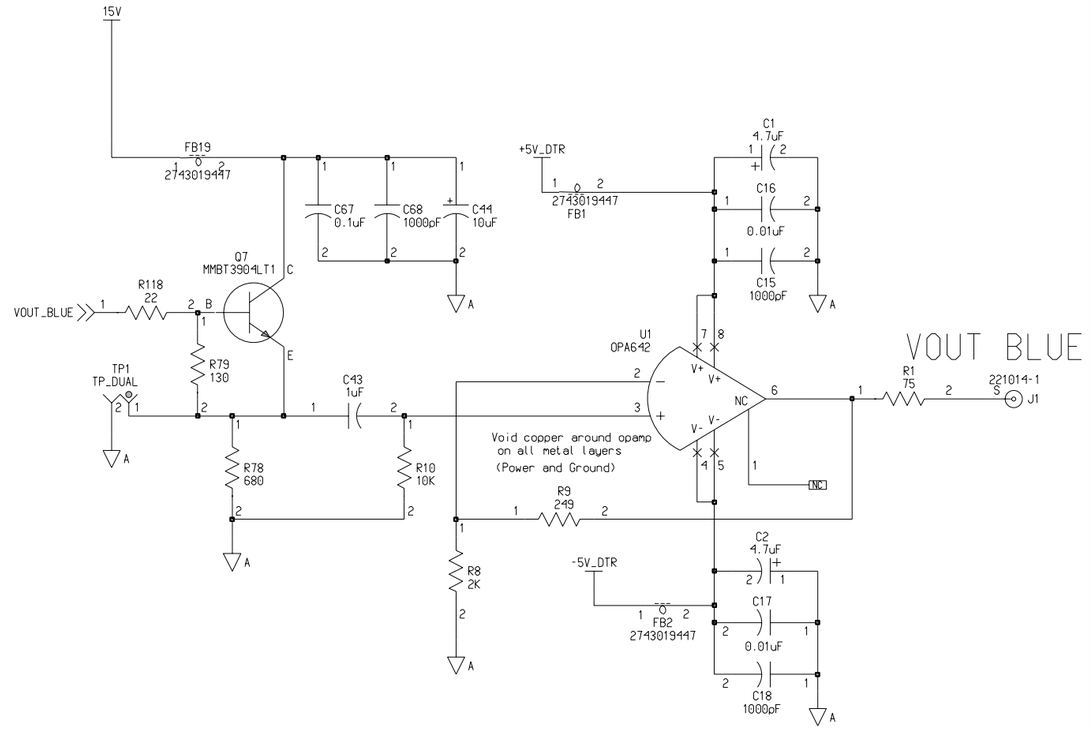
SKETCH NO. | DWG SIZE D

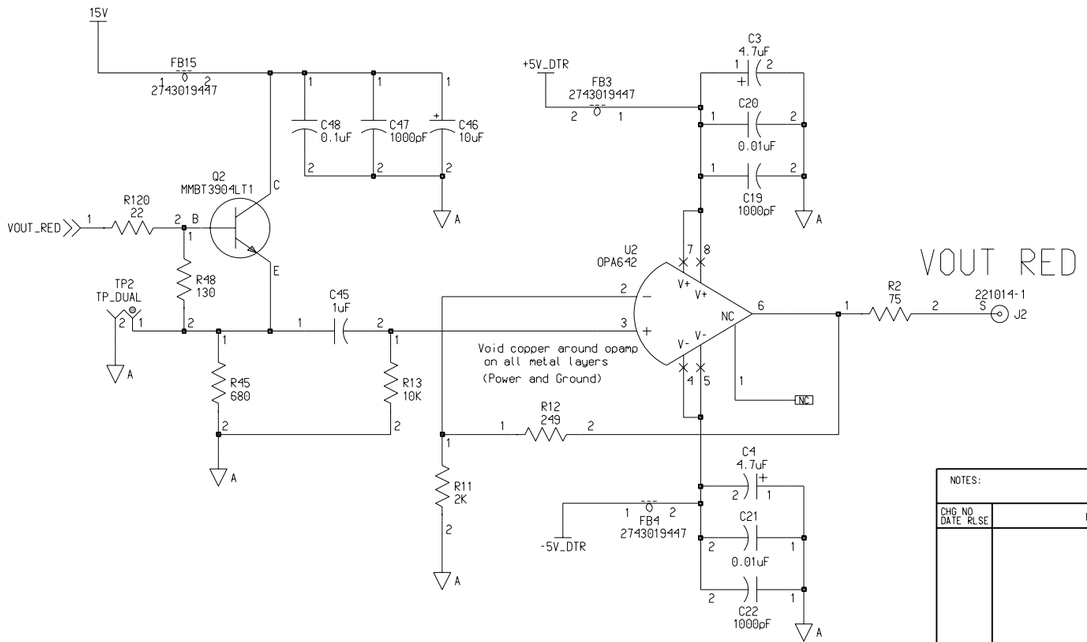
NO. 3E8218

SHEET 5 OF 13

CHROMA VIDEO CHANNELS







NOTES:		IS IS A COMPUTER GENERATED DRAWING. IT IS OFFICIAL WHEN THE AUTHEN BLOCK IS FILLED IN. THE MASTER COPY IS AUTHENTICATED IN RED.	AUTHENTICATED BLOCK

CHG NO DATE RLSE	REVISION		CHG NO DATE RLSE	REVISIONS	DWN BY APPV'D

On Semiconductor

DWN	DATE
B. Ford	10.17.2002 at 08:40
DFTG	DSGN ENGR
	B. Ford
CHK	MFG ENGR
ORIG CHG NO	
RELEASED	

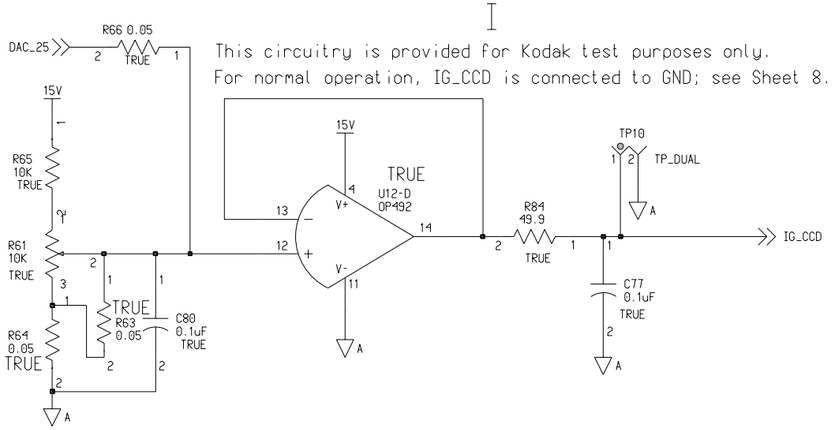
FIRST USED ON

NAME: KLI-4104 Imager Board

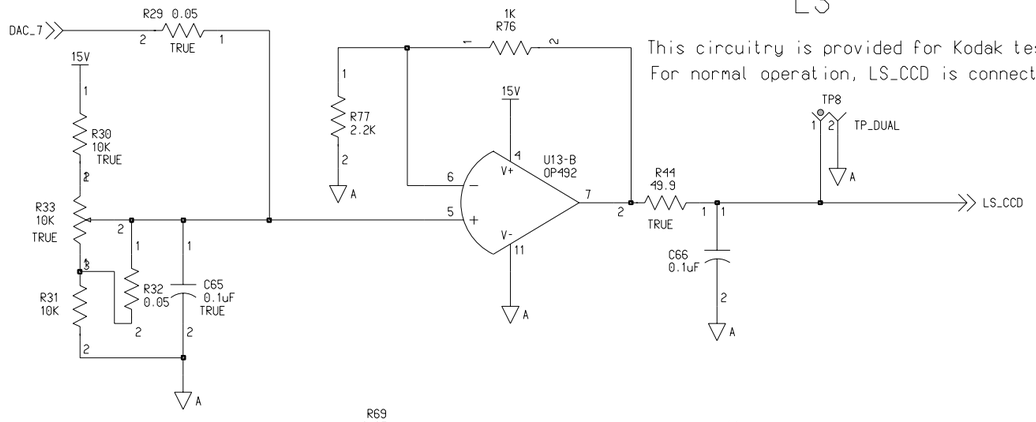
SKETCH NO. | DWG. SIZE: D

NO.: 3E8218

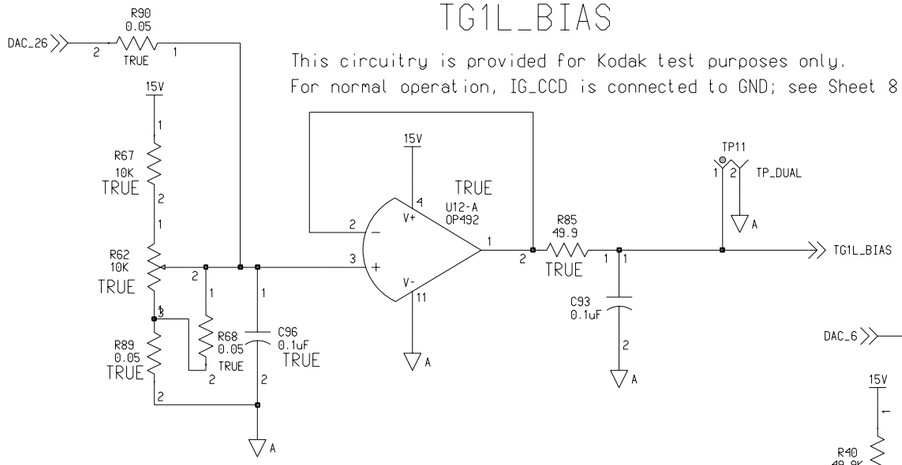
SHEET 6 OF 13



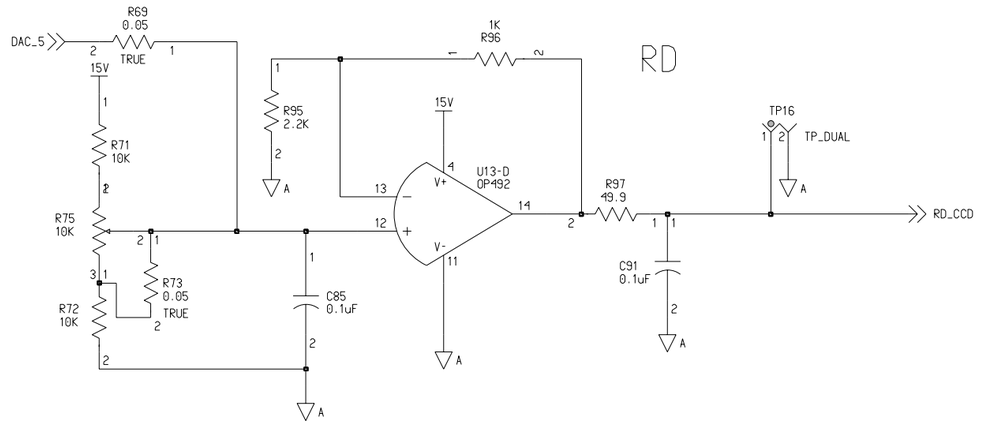
This circuitry is provided for Kodak test purposes only.
For normal operation, IG_CCD is connected to GND; see Sheet 8.

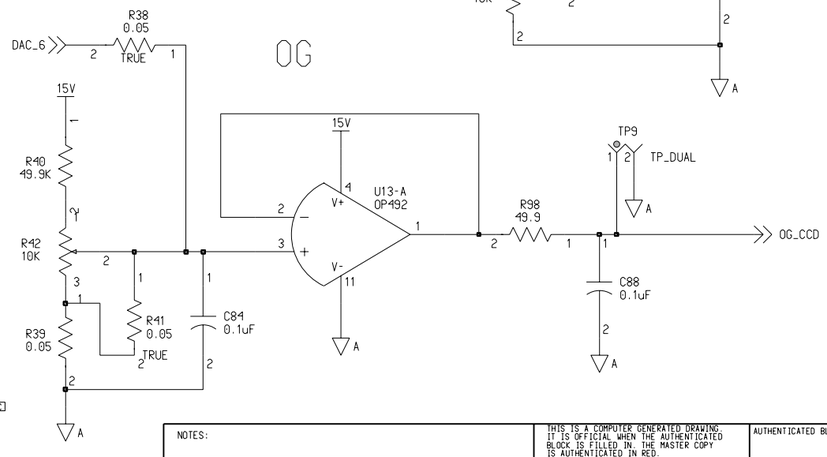


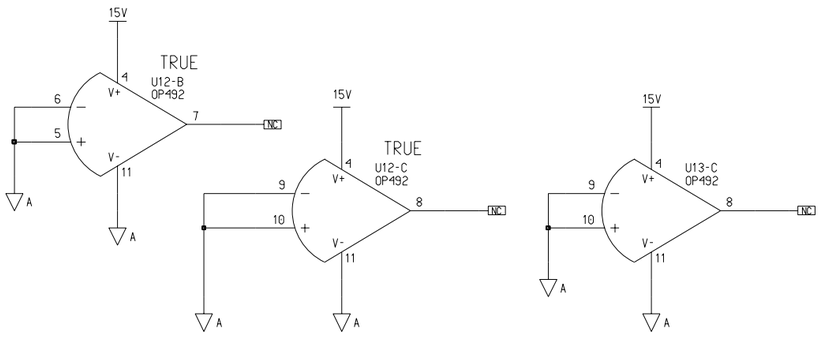
This circuitry is provided for Kodak test purposes only.
For normal operation, LS_CCD is connected to VDD; see Sheet 8

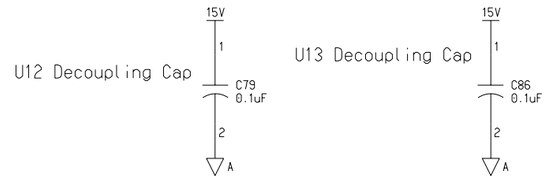


This circuitry is provided for Kodak test purposes only.
For normal operation, IG_CCD is connected to GND; see Sheet 8.









NOTE:
ndicates part is not populated.

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

CHG NO DATE RLSE	EVISIONS	APPV'D	DATE RLSE	DWN BY APPV'D

On Semiconductor

DW B. Ford	DATE 10.14.2002 at 14:24
DFTG	DSGN ENGR B. Ford
CHK	R
ORIG CHG NO	
RELEASED	

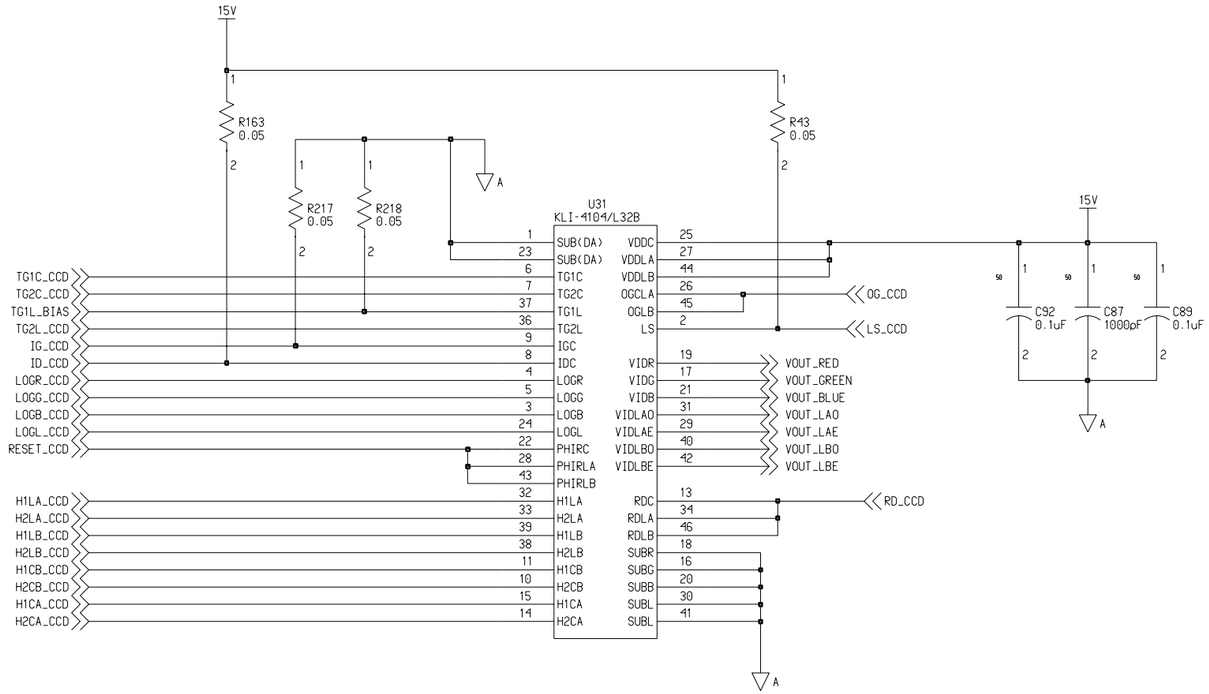
NAME
KLI-4104 Imager Board

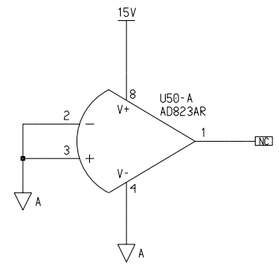
SKETCH NO.
DWG SIZE D

NO.
3E8218

7 OF 13

KLI-4104 CCD





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

CHG NO DATE RLSE	REVISIONS	DWN BY APPV'D	CHG NO DATE RLSE	VISIONS	DWN BY APPV'D

On Semiconductor

DWN	DATE
B. Ford	10.14.2002 at 14:24
DFTG	DS B. Ford
CHK	MFG ENGR
ORIG CHG NO	
RELEASED	

FIRST USED ON

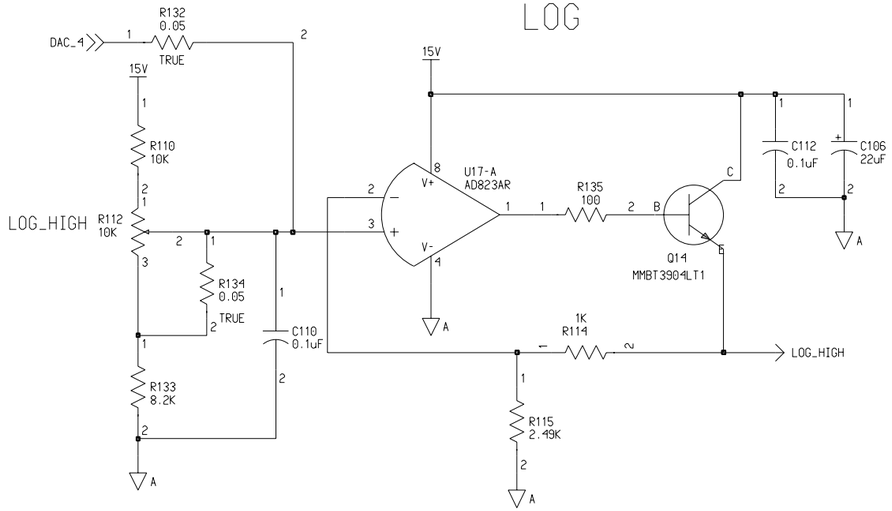
NAME
KLI-4104 Imager Board

SKETCH NO. | DWG SIZE D

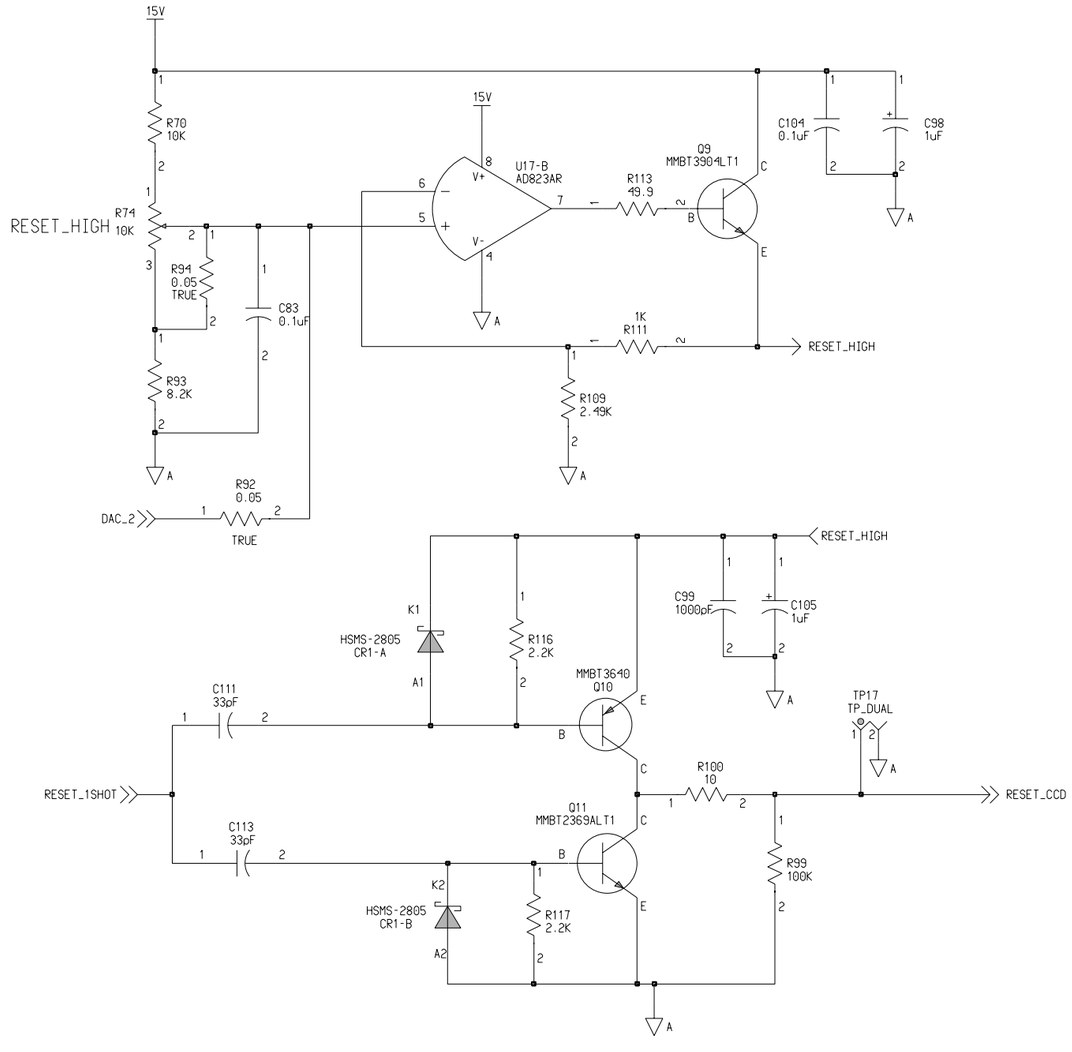
O.
3E8218

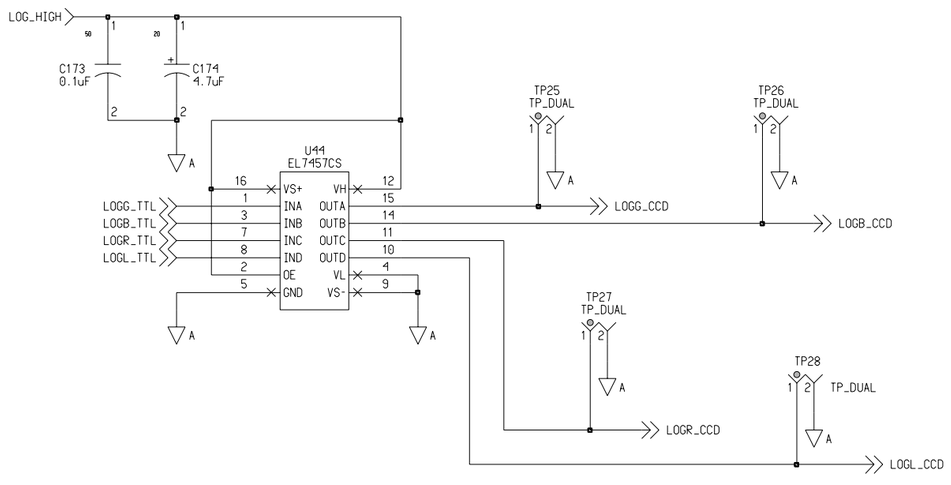
SHEET 8 OF 13

LOG



RESET





NOTE:

"TRUE" indicates part is not populated for Pot adjust operation
For DAC adjust operation these parts
Are populated and the Pot is removed

ES:			UTER GENERATED DRAWING. IT IS OFFICIAL WHEN THE AUTHENTICATED BLOCK IS FILLED IN. THE MASTER IS AUTHENTICATED IN RED.		AUTHENTICATED BLOCK
CHG NO DATE RLSE	REVISIONS	DWN BY APPV'D	CHG NO DATE RLSE	REVISIONS	DWN BY APPV'D

On Semiconductor

DWN B. Ford	DATE 10.14.2002 at 14:24
DFTG	DSGN ENGR B. Ford
CHK	MFG ENGR
ORIG CHG NO	

FIRST USED ON

NAME KLI-4104 Imager Board

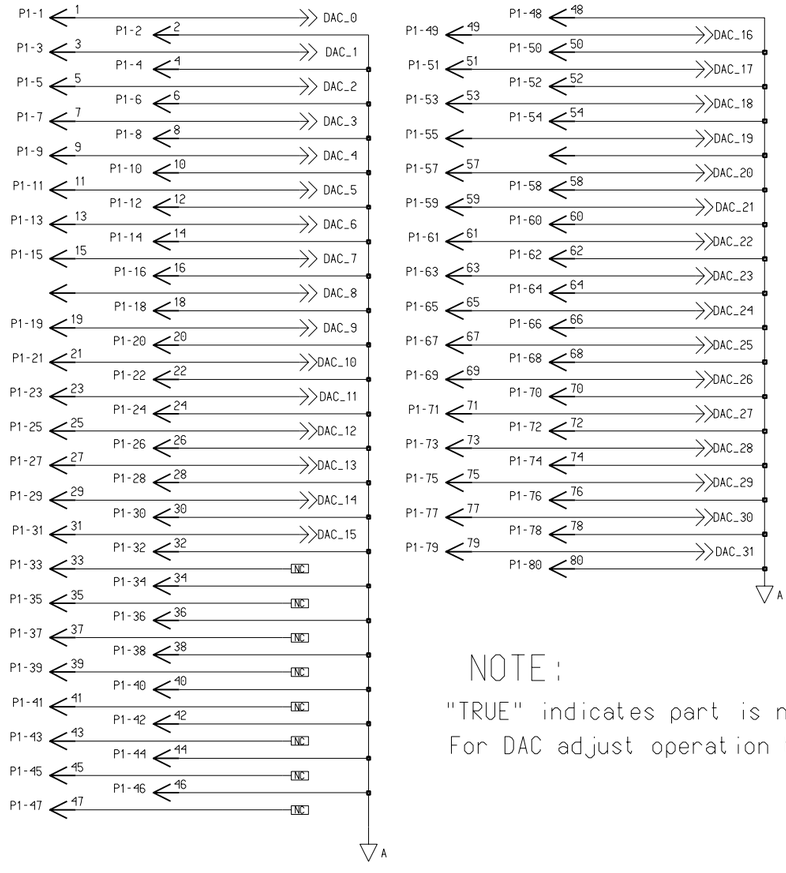
SKETCH NO. | DWG SIZE D

NO. 3E8218

SHEET 9 OF 13

DAC CONNECTOR

104549-9 TRUE



NOTE:

"TRUE" indicates part is not populated for Pot adjust operation
For DAC adjust operation this connector is populated.

NOTES:						AUTHENTICATED BLOCK
						THIS IS A COMPUTER GENERATED DRAWING. IT IS OFFICIAL WHEN THE AUTHENTICATED BLOCK IS FILLED IN. THE MASTER COPY IS AUTHENTICATED IN RED.
CHG NO DATE RLSE	REVISIONS	DWN BY APPV'D	CHG NO DATE RLSE	REVISIONS	DWN BY APPV'D	

On Semiconductor

DWN B. Ford	DATE 10.14.2002 at 14:25
DFTG	DSGN ENGR B. Ford
CHK	MFG ENGR
ORIG CHG NO	
RELEASED	

FIRST USED ON

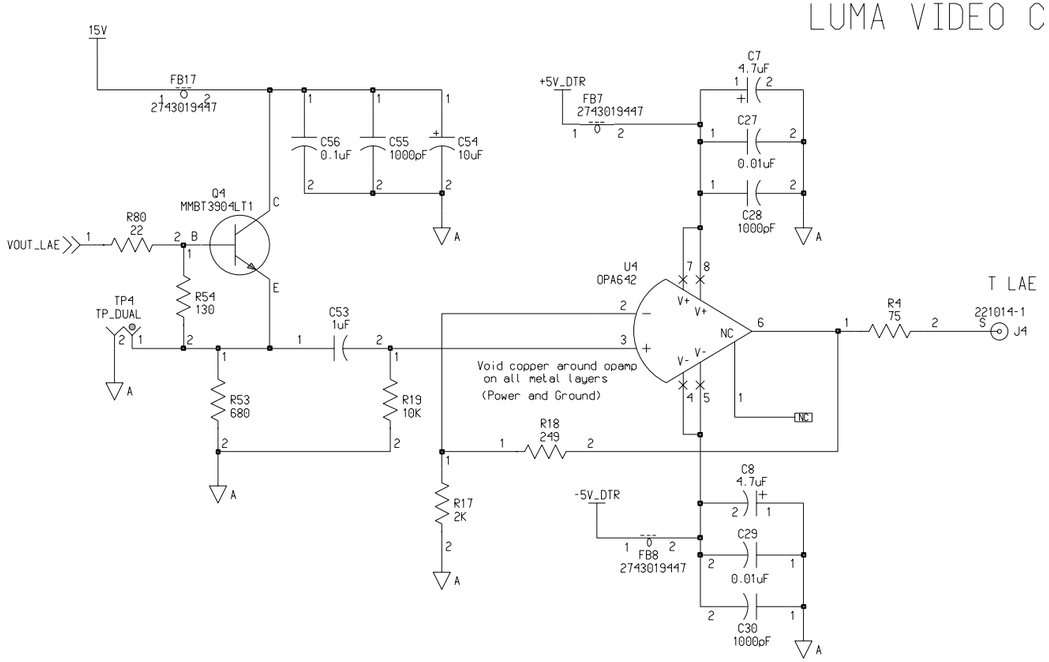
NAME KLI-4104 Imager Board

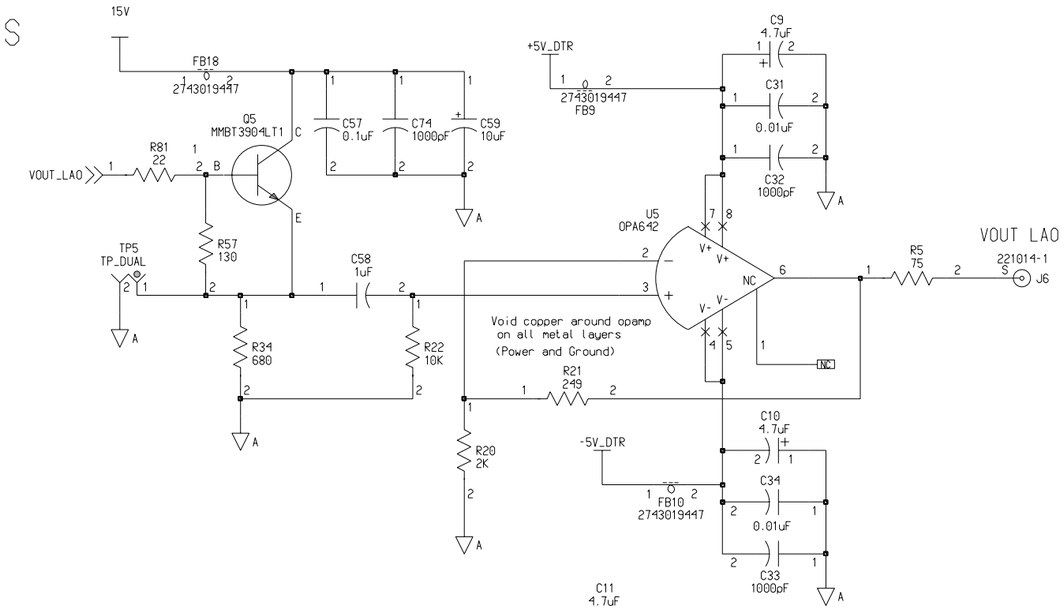
SKETCH NO. | DWG SIZE D

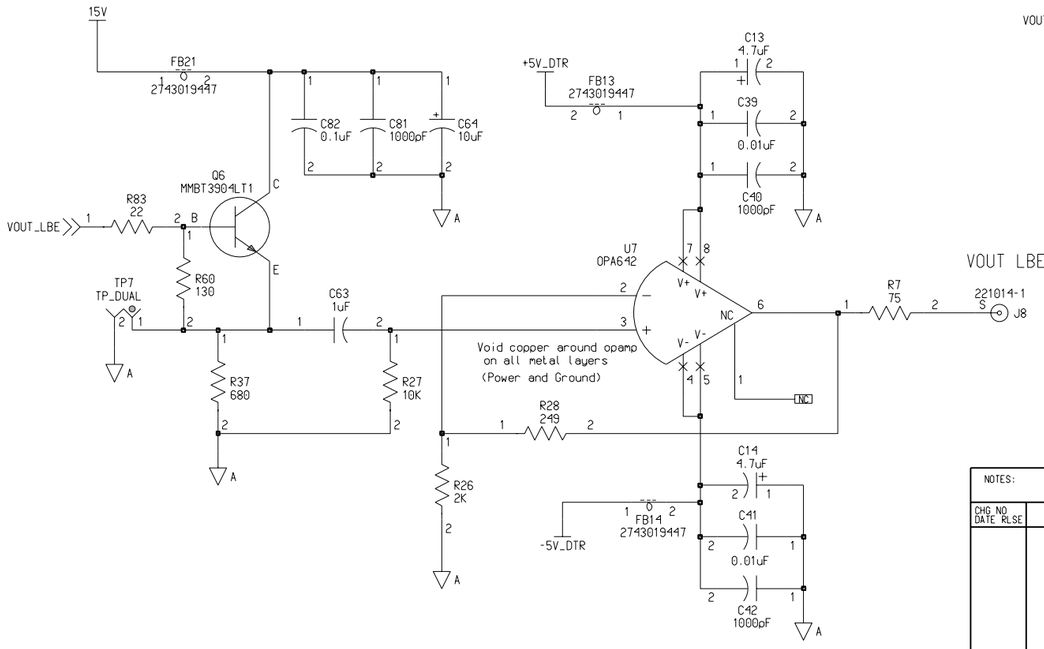
NO. 3E8218

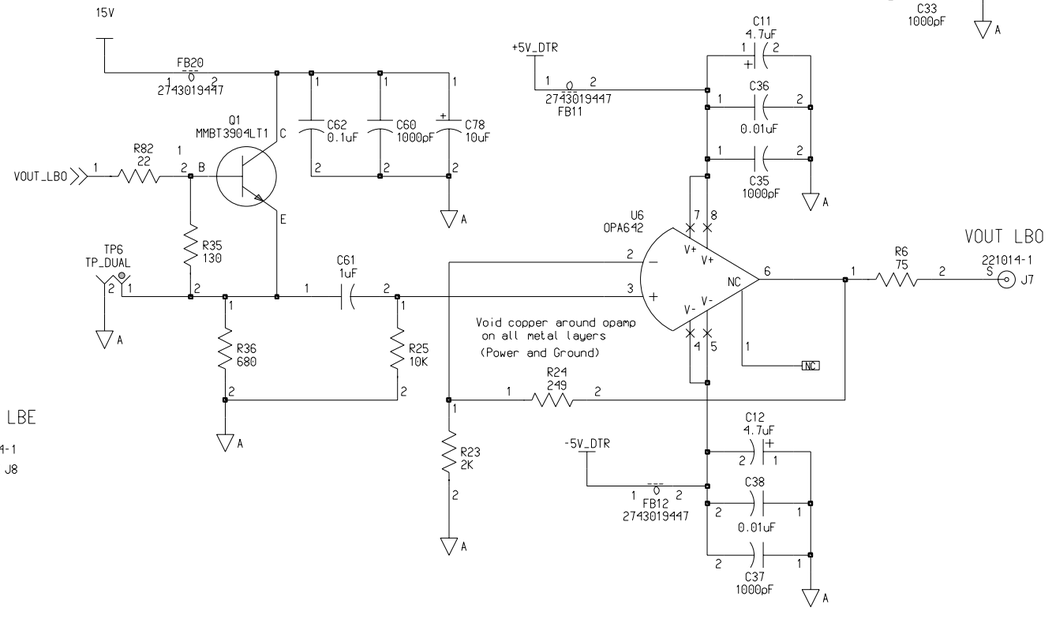
SHEET 10 OF 13

LUMA VIDEO CHANNELS









NOTES:			COMPUTER GENERATED DRAWING. IT IS OFFICIAL WHEN THE AUTHENTICATED BLOCK IS FILLED IN. THE MASTER COPY IS AUTHENTICATED IN RED		AUTHENTICATED BLOCK
CHG NO DATE RLSE	REVISIONS	DWN BY	CHG NO DATE RLSE	REVISIONS	DWN BY APPV'D

On Semiconductor

DWN B. Ford	DATE 10.16.2002 at 12:17
D	DSGN ENGR B. Ford
CHK	MFG ENGR
ORIG CHG NO	
RELEASED	

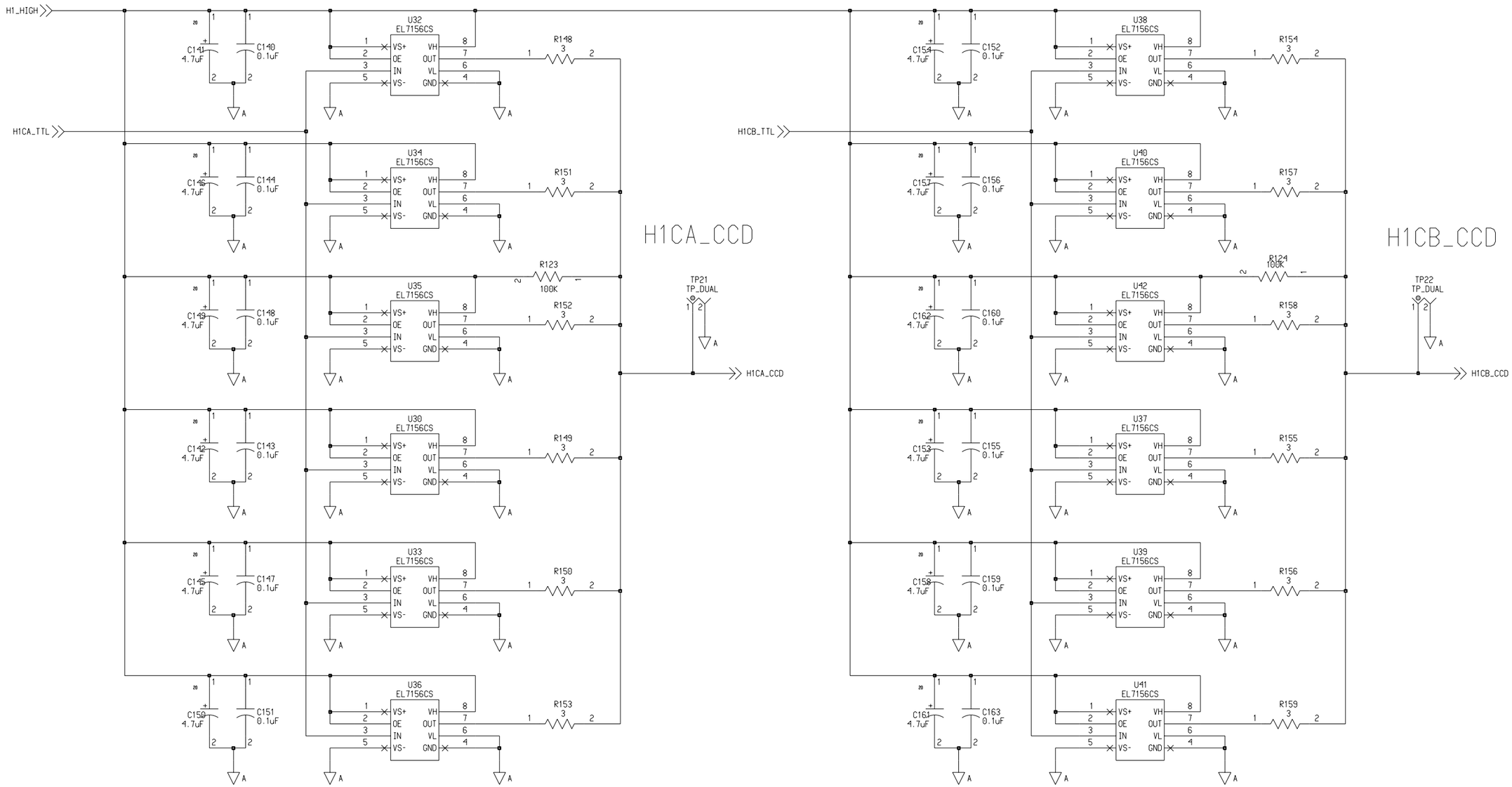
FIRST USED ON

NAME KLI-4104 Imager Board

SKETCH NO. | SIZE D

NO. 3E8218

SHEET 11 13



NOTES:	COMPUTER GENERATED DRAWING. IT IS OFFICIAL WHEN THE AUTHENTICATED BLOCK IS FILLED IN. THE MASTER CO IS AUTHENTICATED IN RED.	AUTHENTICATED BLOCK

CHG NO DATE RLSE	REVISIONS	DWN BY APPV'D	CHG NO DATE RLSE	REVISIONS	DWN BY APPV'D

On Semiconductor

DWN	DATE
B. Ford	10.23.2002 at 11:06
DFTG	DSGN ENGR: B. Ford
CHK	MFG ENG
ORIG CHG NO	
RELEASED	

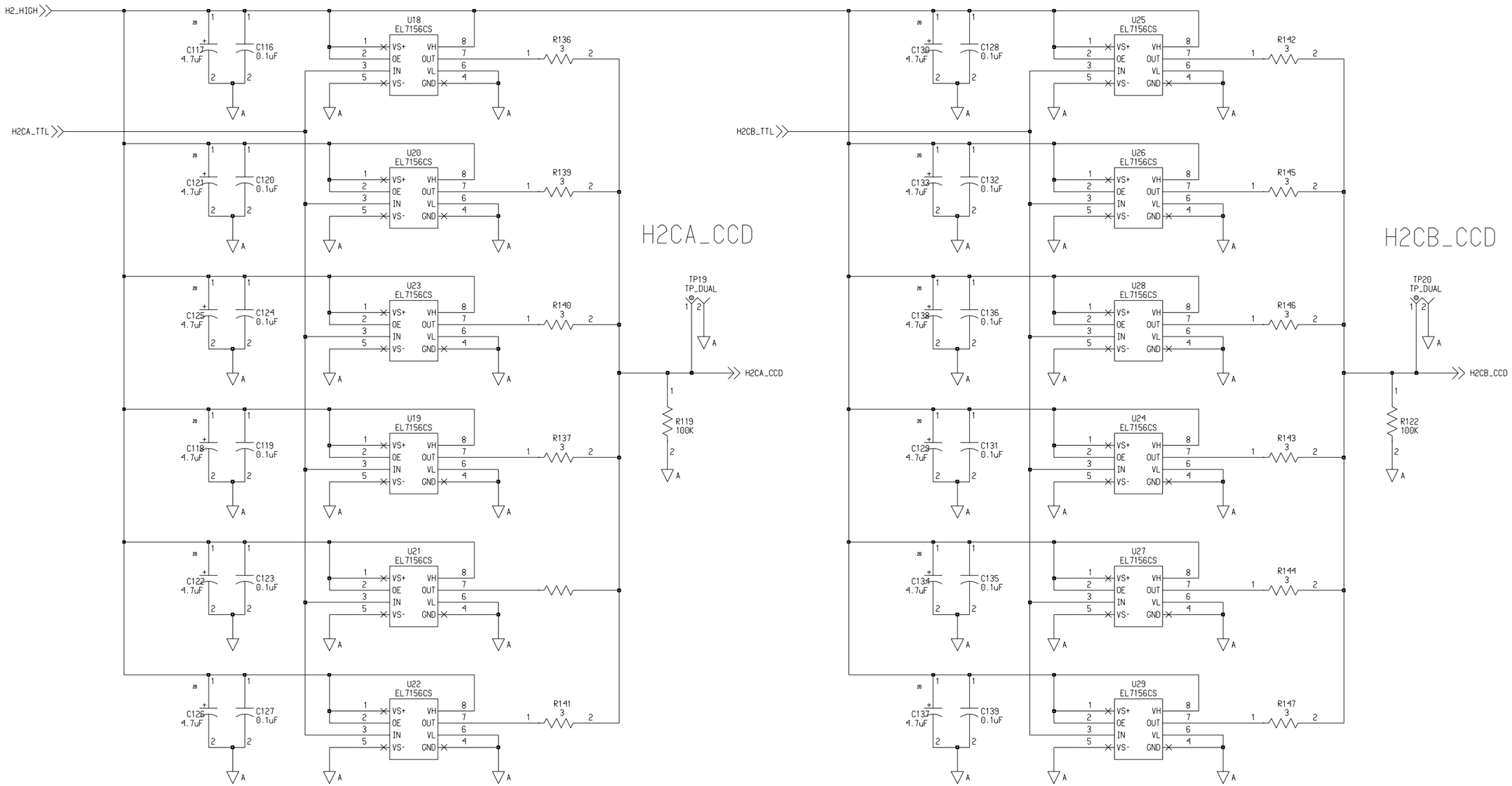
N

NAME: KLI-4104 Imager Board

DWG SIZE: D

NO.: 3E8218

SHEET: 12 13



NOTES:

GENERATED DRAWING. IT IS OFFICIAL WHEN THE AUTHENTICATED BLOCK IS FILLED IN. THE MASTER COPY IS AUTHENTICATED IN RED.

AUTHENTICATED BLOCK

CHG NO DATE RLSE	REVISIONS	DWN BY	CHG NO DATE RLSE	REVISIONS	DWN BY APPV'D

On Semiconductor

DWN B. Ford	DATE 10.23.2002 at 10:32
DFTG	DSGN ENGR B. Ford
CHK	MFG ENGR
ORIG CHG NO	
RELEASED	

FIRST USED ON

NAME KLI-4104 Imager Board

SKETCH NO. | DWG SIZE D

NO. 3E8218

SHEET 13 13

Components For Circuit Board Assembly

NO. 3E8218

SHEET 1 NEXT SHEET 2

Item No	Part no	Assy. Side	Item Reference Designators	Qty	Package style	Notes/Comp Description
1	3E8144	HW-T-1	BRD1	1		BARE BOARD REV 3
2	4B4495	TOP-30	C1 C2 C3 C4 C5 C6 C7 C8 C9 C10 C11 C12 C13 C14 C70 C73 C76 C90 C117 C121 C125 C130 C133 C138 C141 C146 C149 C154 C157 C162	45	case_b_h.085	4.7uF_20V_.20 ELECTROLYTIC TANTALUM CHIP
		BOT-15	C95 C108 C118 C122 C126 C129 C134 C137 C142 C145 C150 C153 C158 C161 C174			
3	8B0987	TOP-3 BOT-1	C106 C175 C187 C102	4	case_c_h.110	22uF_20V_.20 ELECTROLYTIC TANTALUM CHIP
4	4B3897	BOT-2	C111 C113	2	0805_h.055	33pF_50V_.05 CAPACITOR-CERAMIC MONOLITHIC CHIP (PF)
5	254471	TOP-20	C15 C18 C19 C22 C23 C26 C28 C30 C32 C33 C35 C37 C40 C42 C87 C178 C182 C200 C201 C204	33	0805_h.055	1000pF_50V_.05 MONOLITHIC, CERAMIC CHIP
		BOT-13	C47 C50 C55 C60 C68 C74 C81 C99 C188 C191 C194 C202 C215			
6	980646	TOP-16	C16 C17 C20 C21 C24 C25 C27 C29 C31 C34 C36 C38 C39 C41 C180 C181	19	0805_h.055	0.01uF_50V_.10 MONOLITHIC, CERAMIC CHIP
		BOT-3	C189 C193 C195			
7	258541	TOP-3 BOT-9	C205 C212 C213 C44 C46 C51 C54 C59 C64 C78 C198 C214	12	case_c_h.110	10uF_20V_.20 ELECTROLYTIC TANTALUM CHIP
8	770251	TOP-1	C210	1	case_d_h.130	10uF_35V_.10 ELECTROLYTIC, TANTALUM

CHG.NO DATE	REVISIONS	DR. BY APPS.
REV 1	PRELIMINARY RELEASE	BN
REV 2	CHANGES PER ENG	BF
REV 3	CHANGES PER ENG	AJ

SEE SHEET FOR ADD'L REVISIONS

Notes: 1. REFER TO CIRCUIT DIAGRAM 3E8218

On Semiconductor

DR. B.FORD	DATE
DES. ENG. B.FORD	PKG. MATL.
CK. DFTG. B.NOEL	MFG. ENG.
ORIG. CHG. NO. RELEASED	

FIRST USED ON

NAME CIRCUIT BOARD ASSEMBLY

KLI-4104 IMAGER

SKETCH NO. DWG. SIZE B

3E8218

SHEET 1 NEXT SHEET 2

Components
For Circuit Board Assembly

NO. 3E8218
SHEET 2 NEXT SHEET 3

Item No	Part no	Assy. Side	Item Reference Designators	Qty	Package style	Notes/Comp Description
9	785076	TOP-1 BOT-3	C211 C98 C105 C208	4	case_a_h.075	1uF_25V_.20 ELECTROLYTIC, TANTALUM
10	7B9655	TOP-7	C43 C45 C52 C53 C58 C61 C63	7	1206_h.060	1uF_16V_.20 MONOLITHIC, CERAMIC CHIP
11	7B9716	TOP-33	C69 C71 C72 C75 C88 C89 C91 C92 C100 C101 C112 C116 C120 C124 C128 C132 C136 C140 C144 C148 C152 C156 C160 C176 C179 C183 C185 C186 C197 C203 C206 C207 C209	74	0805_h.055	0.1uF_50V_.10 Ceramic Monolithic Chip
		BOT-41	C48 C49 C56 C57 C62 C66 C67 C79 C82 C83 C84 C85 C86 C93 C94 C97 C103 C104 C107 C110 C119 C123 C127 C131 C135 C139 C143 C147 C151 C155 C159 C163 C173 C177 C184 C190 C192 C196 C199 C216 C217			
12	902510	BOT-1	CR1	1	sot143_kkaa_	HSMS-2805 DIODE, SCHOTTKY BARRIER, DUAL, 70V, 15mA
13	233152	TOP-19	FB1 FB2 FB3 FB4 FB5 FB6 FB7 FB8 FB9 FB10 FB11 FB12 FB13 FB14 FB24 FB26 FB28 FB29 FB30	30	fb_274301944	2743019447 - FERRITE, SMT BEADS
		BOT-11	FB15 FB16 FB17 FB18 FB19 FB20 FB21 FB22 FB23 FB25 FB27			
14	911244	TOP-7	J1 J2 J3 J4 J6 J7 J8	7	j01ra_221014	221014-1 SMB, R/A RF COAXIAL JACK, 75 OHM
15	999979	TOP-1	J5	1	p80s_104549-	104549-9 SMT, AMPMODU, SHROUDED HEADER CONNECTOR

CHG.NO DATE	REVISIONS	DR. BY APPS.
REV 1	PRELIMINARY RELEASE	BN
REV 2	CHANGES PER ENG	BF
REV 3	CHANGES PER ENG	AJ

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KLI-4104 IMAGER
SKETCH NO. DWG. SIZE B
3E8218
SHEET 2 NEXT SHEET 3

Components
For Circuit Board Assembly

NO. 3E8218
SHEET 3 NEXT SHEET 4

Item No	Part no	Assy. Side	Item Reference Designators	Qty	Package style	Notes/Comp Description
16	1E1112	TOP-2 BOT-3	L1 L2 L3 L4 L5	5	ind_1008cs_h	2.2uH SMT WIREWOUND ENCAPSULATED
17	236307	BOT-1	Q10	1	sot23_bce_sp	MMBT3640 TRANSISTOR, PNP, 12V, SWITCHING
18	4B4317	BOT-1	Q11	1	sot23_bce_sp	MMBT2369ALT1 TRANSISTOR, NPN, 15V, SWITCHING
19	691769	TOP-2	Q18 Q19	2	dpak_bce_bpu	MJD31C TRANSISTOR, NPN, 100V, 3A, POWER
20	616292	TOP-4 BOT-7	Q8 Q9 Q12 Q14 Q1 Q2 Q3 Q4 Q5 Q6 Q7	11	sot23_bce_sp	MMBT3904LT1 TRANSISTOR, NPN, 40V, GENERAL PURPOSE
21	954554	TOP-7	R1 R2 R3 R4 R5 R6 R7	7	0805_h.030	75 Ohms_.100W_.01 SMT CHIP FLAT THICK METAL FILM
22	253951	TOP-12 BOT-4	R10 R13 R16 R31 R70 R71 R72 R106 R110 R130 R182 R184 R19 R22 R25 R27	16	0805_h.030	10K Ohms_.100W_.05 FLAT, THICK METAL FILM, CHIP
23	232841	BOT-1	R100	1	0805_h.030	10 Ohms_.100W_.05 FLAT, THICK METAL FILM, CHIP
24	255345	TOP-1 BOT-6	R120 R80 R81 R82 R83 R118 R121	7	0805_h.030	22 Ohms_.100W_.05 FLAT, THICK METAL FILM, CHIP
25	954562	TOP-2	R176 R200	2	0805_h.030	15K Ohms_.100W_.05 SMT CHIP FLAT THICK METAL FILM
26	783957	BOT-2	R179 R215	2	0805_h.030	200 Ohms_.100W_.01 FLAT, THICK METAL FILM, CHIP
27	902504	TOP-2 BOT-7	R187 R198 R9 R12 R15 R18 R21 R24 R28	9	0805_h.030	249 Ohms_.100W_.01 SMT CHIP FLAT THICK METAL FILM
28	2E4695	TOP-2	R202 R208	2	2512_h.035	0.025 Ohms_1W_.01 POWER METAL STRIP RESISTOR, LOW VALUE SMD

CHG.NO DATE	REVISIONS	DR. BY APPS.
REV 1	PRELIMINARY RELEASE	BN
REV 2	CHANGES PER ENG	BF
REV 3	CHANGES PER ENG	AJ

SEE SHEET FOR ADD'L REVISIONS

Notes: 1. REFER TO CIRCUIT DIAGRAM 3E8218

On Semiconductor

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CK. DFTG. B.NOEL	MFG. ENG.
ORIG. CHG. NO. RELEASED	

FIRST USED ON
NAME CIRCUIT BOARD ASSEMBLY
KLI-4104 IMAGER
SKETCH NO. DWG. SIZE B
3E8218
SHEET 3 NEXT SHEET 4

Components
For Circuit Board Assembly

NO. 3E8218
SHEET 4 NEXT SHEET 5

Item No	Part no	Assy. Side	Item Reference Designators	Qty	Package style	Notes/Comp Description
29	739757	BOT-7	R34 R36 R37 R45 R49 R53 R78	7	1210_h.025	680 Ohms_.250W_.05 FLAT, THICK METAL FILM, CHIP
30	941226	BOT-7	R35 R48 R50 R54 R57 R60 R79	7	0805_h.030	130 Ohms_.100W_.01 SMT CHIP FLAT THICK METAL FILM
31	257516	TOP-9	R39 R43 R163 R189 R191 R193 R196 R217 R218	10	0805_h.030	0.05 Ohms_.100W_- ZERO OHM CHIP JUMPER
		BOT-1	R32			
32	992877	TOP-1	R40	1	0805_h.030	49.9K Ohms_.100W_.01 FLAT, THICK METAL FILM, CHIP
33	770026	TOP-8	R42 R74 R75 R103 R112 R128 R177 R199	8	pot_3266w_h.	10K POT, MULTI-TURN
34	254478	TOP-6	R46 R51 R55 R59 R119 R122	9	0805_h.030	100K Ohms_.100W_.05 FLAT, THICK METAL FILM, CHIP
		BOT-3	R99 R123 R124			
35	903960	TOP-16	R47 R52 R56 R58 R136 R139 R140 R142 R145 R146 R148 R151 R152 R154 R157 R158	28	0805_h.030	3 Ohms_.100W_.05 FLAT, THICK METAL FILM, CHIP
		BOT-12	R137 R138 R141 R143 R144 R147 R149 R150 R153 R155 R156 R159			
36	783961	BOT-7	R8 R11 R14 R17 R20 R23 R26	7	0805_h.030	2K Ohms_.100W_.01 FLAT, THICK METAL FILM, CHIP
37	250796	TOP-3	R86 R96 R101	6	0805_h.030	1K Ohms_.100W_.05 FLAT, THICK METAL FILM, CHIP
		BOT-3	R76 R111 R114			
38	980690	TOP-16	R87 R125 R135 R178 R197 R203 R204 R205 R206 R207 R209 R210 R211 R212 R213 R214	16	0805_h.030	100 Ohms_.100W_.005 SMT CHIP FLAT THIN METAL FILM
39	902942	TOP-3	R88 R102 R186	6	0805_h.030	2.49K Ohms_.100W_.01 SMT CHIP FLAT THICK METAL FILM
		BOT-3	R109 R115 R180			

CHG.NO DATE	REVISIONS	DR. BY APPS.
REV 1	PRELIMINARY RELEASE	BN
REV 2	CHANGES PER ENG	BF
REV 3	CHANGES PER ENG	AJ

SEE SHEET FOR ADD'L REVISIONS

Notes: 1. REFER TO CIRCUIT DIAGRAM 3E8218

On Semiconductor

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DES. ENG. B.FORD	PKG. MATL.
CK. DFTG. B.NOEL	MFG. ENG.
ORIG. CHG. NO. RELEASED	

FIRST USED ON
NAME CIRCUIT BOARD ASSEMBLY
KLI-4104 IMAGER
SKETCH NO. DWG. SIZE B
3E8218
SHEET 4 NEXT SHEET 5

Components
For Circuit Board Assembly

NO. 3E8218
SHEET 5 NEXT SHEET 6

Item No	Part no	Assy. Side	Item Reference Designators	Qty	Package style	Notes/Comp Description
40	232839	TOP-4	R91 R93 R107 R133	4	0805_h.030	8.2K Ohms_.100W_.05 SMT CHIP FLAT THICK METAL FILM
41	257083	TOP-1 BOT-4	R95 R77 R116 R117 R216	5	0805_h.030	2.2K Ohms_.100W_.01 FLAT, THICK METAL FILM, CHIP
42	901801	TOP-2 BOT-1	R98 R113 R97	3	0805_h.030	49.9 Ohms_.100W_.01 SMT CHIP FLAT THICK METAL FILM
43	TPDUAL	TOP-29	TP1 TP2 TP3 TP4 TP5 TP6 TP7 TP8 TP9 TP10 TP11 TP12 TP13 TP14 TP15 TP16 TP17 TP18 TP19 TP20 TP21 TP22 TP23 TP24 TP25 TP26 TP27 TP28 TP34	29	tpdual_.1_p4	TP_DUAL DUAL TEST PADS (THRU HOLE)
44	901614	TOP-3	TP29 TP30 TP32	3	tp_tp104_h.2	TP-104-01-02 PRESS MOUNT TERMINAL - RED
45	901613	TOP-2	TP31 TP33	2	tp_tp104_h.2	TP-104-01-00 PRESS MOUNT TERMINAL - BLACK
46	5C2040	TOP-7	U1 U2 U3 U4 U5 U6 U7	7	so08_.210_h.	OPA642 WIDEBAND LOW DISTORTION OP AMP
47	7B9126	TOP-1	U13	1	so14_.210_h.	OP492 4MHz QUAD OP AMP
48	4B4249	TOP-3	U14 U15 U54	3	so08_.210_h.	MAX4427CSA DRIVER, DUAL, NON-INVERTING, 1.5A, MOSFET
49	3C3143	TOP-4	U16 U17 U45 U50	4	so08_.200_h.	AD823AR DUAL, 16MHZ, RAIL-TO-RAIL FET INPUT AMP
50	7E8726	TOP-1	U44	1	so16_.210_h.	EL7457CS DRIVER, QUAD, NON-INVERTING, CMOS
51	5C2045	TOP-2	U46 U49	2	so08_.210_h.	DS1040 PULSE GENERATOR, PROGRAMMABLE ONE-SHOT
52	5E6841	TOP-1	U47	1	so120_.375_h	74AC540 BUFFER/DRIVER, OCTAL, W/ 3-STATE OUTPUT, INVERTING

CHG.NO DATE	REVISIONS	DR. BY APPS.
REV 1	PRELIMINARY RELEASE	BN
REV 2	CHANGES PER ENG	BF
REV 3	CHANGES PER ENG	AJ

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Notes: 1. REFER TO CIRCUIT DIAGRAM 3E8218

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FIRST USED ON
NAME CIRCUIT BOARD ASSEMBLY
KLI-4104 IMAGER
SKETCH NO. DWG. SIZE B
3E8218
SHEET 5 NEXT SHEET 6

Components For Circuit Board Assembly

NO. 3E8218

SHEET 6 NEXT SHEET 7

Item No	Part no	Assy. Side	Item Reference Designators	Qty	Package style	Notes/Comp Description
53	770525	TOP-1	U48	1	sol20_.370_h	74AC541 BUFFER/DRIVER, OCTAL, W/ 3-STATE OUTPUT
54	691935	TOP-3	U51 U52 U53	3	so16_.210_h.	DS90C032 DIFFERENTIAL LINE RECEIVER, QUAD
55	7E8727	TOP-16 BOT-12	U8 U9 U10 U11 U18 U20 U23 U25 U26 U28 U32 U34 U35 U38 U40 U42 U19 U21 U22 U24 U27 U29 U30 U33 U36 U37 U39 U41	28	so08_.210_h.	EL7156CS PIN DRIVER, 40MHz
56	498310	TOP-2	VR1 VR2	2	to220_aoi_pd	LM317T 1.5A 4.2-40V 1.2-37V VOLTAGE REGULATOR, ADJ, 1.5A, 3-TE
57	320990	HW-T-2	HSK1 HSK2	2	HDWR	HEATSINK, 6271B THERMALLOY For VR1, VR2
58	6C4441	HW-T-2	XBRD1 XBRD1	2	HDWR	7149312031018 SOCKET For BRD1
59	4B3897	TOP-2	C164 C167	2NL	0805_h.055	NO LOAD 33pF_50V_.05 CAPACITOR-CERAMIC MONOLITHIC CHIP
60	254471	TOP-2	C165 C168	2NL	0805_h.055	NO LOAD 1000pF_50V_.05 MONOLITHIC, CERAMIC CHIP
61	785076	BOT-4	C109 C166 C169 C172	4NL	case_a_h.075	NO LOAD 1uF_25V_.20 ELECTROLYTIC, TANTALUM
62	7B9716	TOP-4 BOT-4	C77 C80 C96 C170 C65 C114 C115 C171	8NL	0805_h.055	NO LOAD 0.1uF_50V_.10 Ceramic Monolithic Chip
63	902510	TOP-1	CR2	1NL	sot143_kkaa_	NO LOAD HSMS-2805 DIODE, SCHOTTKY BARRIER, DUAL, 70V, 15mA
64	999979	TOP-1	P1	1NL	p80s_104549-	NO LOAD 104549-9 SMT, AMPMODU, SHROUDED HEADER CONNECTOR
65	236307	TOP-1	Q16	1NL	sot23_bce_sp	NO LOAD MMBT3640 TRANSISTOR, PNP, 12V, SWITCHING

CHG.NO DATE	REVISIONS	DR. BY APPS.
REV 1	PRELIMINARY RELEASE	BN
REV 2	CHANGES PER ENG	BF
REV 3	CHANGES PER ENG	AJ

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FIRST USED ON

NAME CIRCUIT BOARD ASSEMBLY

KLI-4104 IMAGER

SKETCH NO. DWG. SIZE B

3E8218

SHEET 6 NEXT SHEET 7

Components For Circuit Board Assembly

NO. 3E8218

SHEET 7 NEXT SHEET 8

Item No	Part no	Assy. Side	Item Reference Designators	Qty	Package style	Notes/Comp Description
66	4B4317	TOP-1	Q15	1NL	sot23_bce_sp	NO LOAD MMBT2369ALT1 TRANSISTOR, NPN, 15V, SWITCHING
67	616292	TOP-2	Q13 Q17	2NL	sot23_bce_sp	NO LOAD MMBT3904LT1 TRANSISTOR, NPN, 40V, GENERAL PURPOSE
68	253951	TOP-5	R30 R65 R67 R129 R171	5NL	0805_h.030	NO LOAD 10K Ohms_.100W_.05 FLAT, THICK METAL FILM, CHIP
69	232841	TOP-1	R161	1NL	0805_h.030	NO LOAD 10 Ohms_.100W_.05 FLAT, THICK METAL FILM, CHIP
70	992875	TOP-1	R175	1NL	0805_h.030	NO LOAD 4.99K Ohms_.100W_.001 SMT CHIP FLAT THIN METAL FILM
71	257516	TOP-12 BOT-20	R64 R89 R108 R131 R169 R170 R174 R188 R190 R194 R195 R201 R29 R38 R41 R63 R66 R68 R69 R73 R90 R92 R94 R104 R105 R132 R134 R167 R168 R181 R183 R185	32NL	0805_h.030	NO LOAD 0.05 Ohms_.100W_- ZERO OHM CHIP JUMPER
72	770026	TOP-5	R33 R61 R62 R166 R173	5NL	pot_3266w_h.	NO LOAD 10K POT, MULTI-TURN
73	254478	BOT-1	R162	1NL	0805_h.030	NO LOAD 100K Ohms_.100W_.05 FLAT, THICK METAL FILM, CHIP
74	250796	TOP-1	R126	1NL	0805_h.030	NO LOAD 1K Ohms_.100W_.05 FLAT, THICK METAL FILM, CHIP
75	257083	TOP-1 BOT-2	R127 R160 R164	3NL	0805_h.030	NO LOAD 2.2K Ohms_.100W_.01 FLAT, THICK METAL FILM, CHIP
76	901801	TOP-4 BOT-1	R44 R84 R165 R172 R85	5NL	0805_h.030	NO LOAD 49.9 Ohms_.100W_.01 SMT CHIP FLAT THICK METAL FILM
77	7B9126	TOP-1	U12	1NL	so14_.210_h.	NO LOAD OP492 4MHz QUAD OP AMP
78	3C3143	TOP-1	U43	1NL	so08_.200_h.	NO LOAD AD823AR DUAL, 16MHZ, RAIL-TO-RAIL FET INPUT AMP

CHG.NO DATE	REVISIONS	DR. BY APPS.
REV 1	PRELIMINARY RELEASE	BN
REV 2	CHANGES PER ENG	BF
REV 3	CHANGES PER ENG	AJ

SEE SHEET FOR ADD'L REVISIONS

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FIRST USED ON

NAME CIRCUIT BOARD ASSEMBLY

KLI-4104 IMAGER

SKETCH NO. | DWG. SIZE B

3E8218

SHEET 7 NEXT SHEET 8

Components
For Circuit Board Assembly

NO. 3E8218

SHEET 8 NEXT SHEET 9

Item No	Part no	Assy. Side	Item Reference Designators	Qty	Package style	Notes/Comp Description
79	3E8047	BOT-1	U31	1NL	sensor_kli41	NO LOAD KLI-4104/L32B CCD LINEAR

CHG.NO DATE	REVISIONS	DR. BY APPS.
REV 1	PRELIMINARY RELEASE	BN
REV 2	CHANGES PER ENG	BF
REV 3	CHANGES PER ENG	AJ

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NAME CIRCUIT BOARD ASSEMBLY

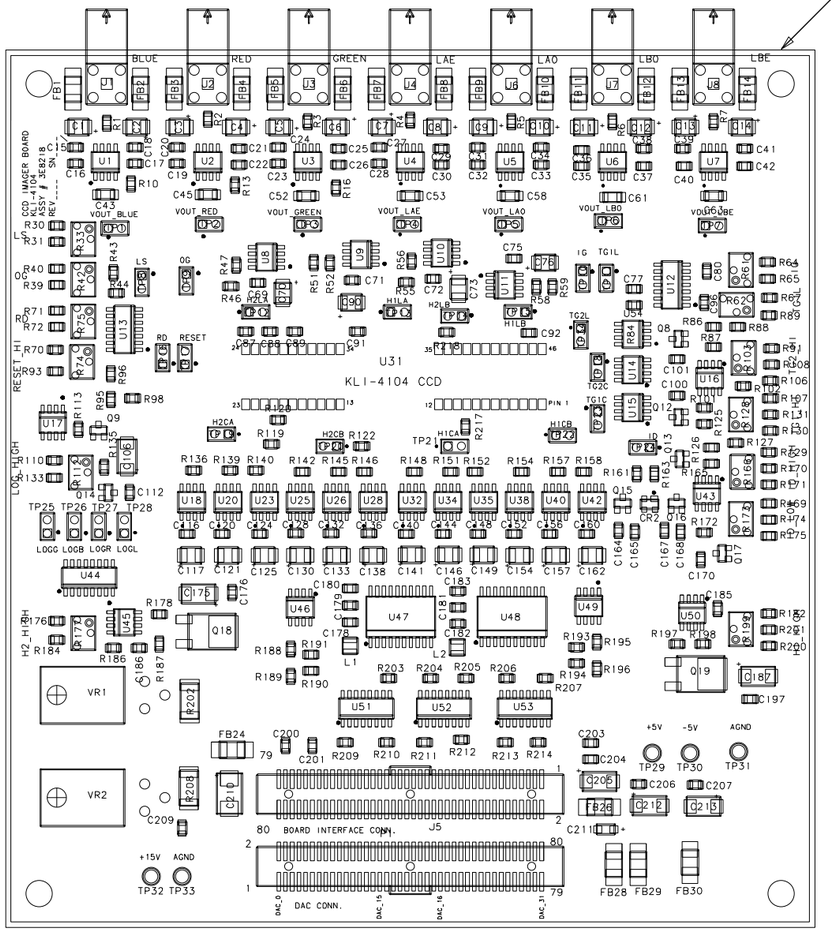
KLI-4104 IMAGER

SKETCH NO. | DWG. SIZE B

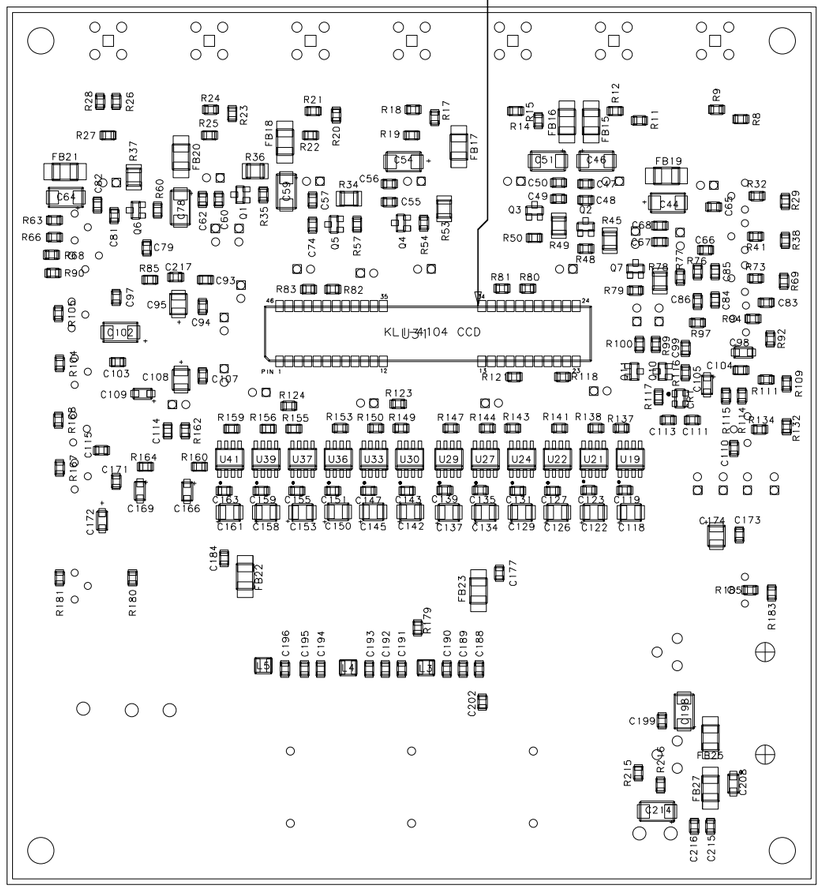
3E8218

SHEET 8 NEXT SHEET 9

REVISION BLOCK				
ZONE	REV.	DESCRIPTION	ESG#/DATE	APVD/DRN



PRIMARY SIDE



SECONDARY SIDE

REF: DIMENSIONING AND TOLERANCING PER ANSI Y14.5M-1982.

DIMENSIONS APPLY AFTER FINISH WHERE TOTAL TOLERANCE IS .001 INCHES OR LESS AND ON ALL THREADS. IN ALL OTHER PLACES DIMENSIONS APPLY BEFORE FINISH.

DEVIATIONS FROM INTENDED SHAPE (FLATNESS, ROUNDNESS, SQUARENESS ETC); MUST BE WITHIN STATED DIMENSIONAL TOLERANCES

NEXT ASSY	USED ON
APPLICATION	

NEXT ASSY	FINAL ASSY
QUANTITY REQD	

MATERIAL:

UNLESS OTHERWISE SPECIFIED
DATUM PRECEDENCE PRI A SEC B TER C
DIMENSIONS ARE IN INCHES
TOLERANCES
ANGLES ± 5° | 1 PL ± N/A
2 PL ± .010 | 3 PL ± .005

THIRD ANGLE PROJECTION

DWN	
DFTG	
ENGR	
ENGR	
CHK	
APVD	
APVD	
APVD	
APVD	
CONTRACT #	

On Semiconductor

TITLE: ASSY, KLI-4104 IMAGER

SIZE	ITEM NO	
D	3E8218	

CODE	WT	SCALE	SH 9 OF 9
		2X	

NOTES:

1. MANUFACTURE BOARD IN ACCORDANCE WITH IPC-6011 & 6012, CLASS 2.

2. MATERIAL SPECIFICATIONS:
   2.1 CORE MATERIAL: POLYIMIDE LAMINATE, TYPE GIN, PER IPC-4101, HTE COPPER CLAD, SIZE AND CONSTRUCTION PER DETAIL A.
   2.2 PRE-PREG MATERIAL: POLYIMIDE, TYPE GIN, B STAGE PER IPC-4101, SIZE 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. SOLDER 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: 0.006 MIN
   5.2 SPACING: 0.007 MIN
   5.3 DESIGN FABRICATION 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.

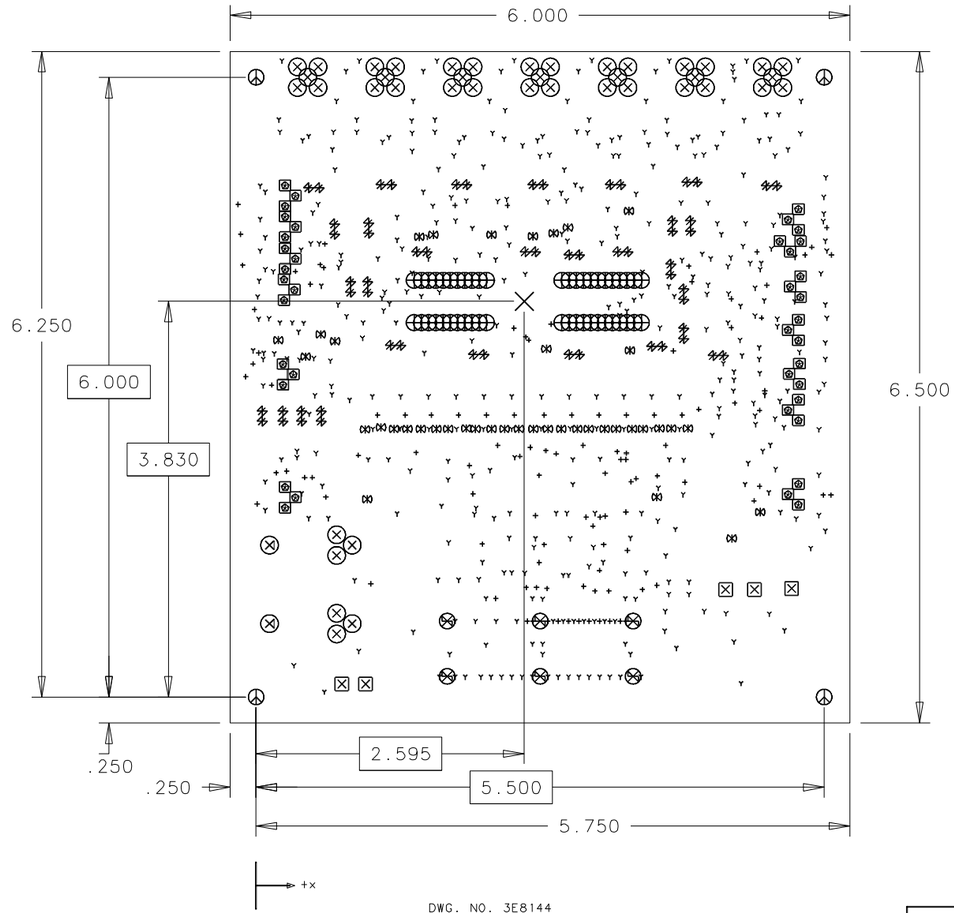
8. MARKING:
   8.1 MARKING OF PRIMARY AND SECONDARY SIDES SHALL BE PER MARKING ARTWORK USING WHITE NON-CONDUCTIVE EPOXY INK.

9. BOARD WARPAGE:
   9.1 BOARD WARPAGE 0.75% MAX.

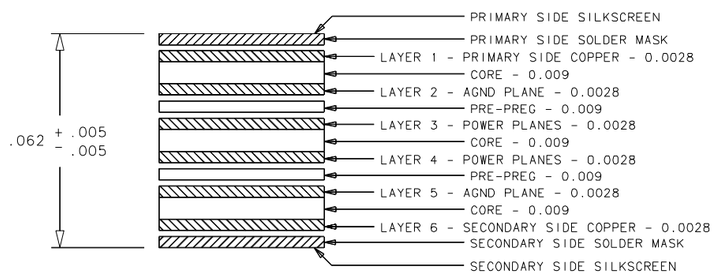
10. TESTING:
   10.1 BOARDS SHALL BE TESTED USING CAD SUPPLIED IPC-D-356 FORMAT NET LIST. ELECTRICAL TESTING SHALL FOLLOW GUIDELINES ESTABLISHED BY IPC-ET-652.

11. MISCELLANEOUS NOTES:
   11.1 X,Y DATUMS INDICATE DRILL ORIGIN
   11.2 TEST COUPONS TO BE MADE AVAILABLE UPON REQUEST

REVISION BLOCK				
ZONE	REV.	DESCRIPTION	ESC#/DATE	APVD/DWN
	1	PRELIMINARY RELEASE	11/19/02	B.FORD
	2	CHANGES PER ENGINEERING	1/27/03	B.FORD
	3	CHANGES PER ENGINEERING	5/31/03	B.FORD



DWG. NO. 3E8144
CAD: MENTOR v8.6_4.16 C&GS
KLI-4104 IMAGER BOARD
HOLE SYMBOLOGY
REV 3
VIEWED FROM PRIMARY SIDE
Jun 2 2003



DETAIL A

LAYER STACKING CONFIGURATION
SCALE = NONE

BOARD's DRILL SCHEDULE

DRILL SIZE	DRILL SYMBOL	PLATED	COUNT	
.013	+	YES	111	VIA
.015	Y	YES	405	VIA
.020	⊗	YES	41	VIA
.034	◎	YES	39	
.042	⊕	YES	58	
.047	⊕	YES	46	
.050	⊗	YES	6	
.054	⊗	YES	41	
.065	☒	YES	5	
.125	☮	YES	4	
.144	⊗	NO	2	

TOTAL DRILL COUNT ON BOARD: 758

REF: DIMENSIONING AND TOLERANCING PER ANSI Y14.5M-1982.

DIMENSIONS APPLY AFTER FINISH WHERE TOTAL TOLERANCE IS .001 INCHES OR LESS AND ON ALL THREADS. IN ALL OTHER PLACES DIMENSIONS APPLY BEFORE FINISH.

DEVIATIONS FROM INTENDED SHAPE (FLATNESS, ROUNDNESS, SQUARENESS ETC), MUST BE WITHIN STATED DIMENSIONAL TOLERANCES

3E8218 — NEXT ASSY | USED ON — APPLICATION
1 — NEXT ASSY | FINAL ASSY — QUANTITY REQD

MATERIAL:

UNLESS OTHERWISE SPECIFIED
DATUM PRECEDENCE PRI A SEC B TER C
DIMENSIONS ARE IN INCHES
TOLERANCES
ANGLES ± 5° | 1 PL ± N/A | 2 PL ± .010 | 3 PL ± .005
THIRD ANGLE PROJECTION

DWN	B.NOEL	11/19/02
DFTG		
ENGR	B.FORD	11/19/02
ENGR		
CHK		
APVD		
APVD		
APVD		
APVD		
CONTRACT #		

On Semiconductor

TITLE: PCB, KAI-4104 IMAGER

SIZE D | ITEM NO 3E8144 | REV 3
CODE | WT | SCALE 1.5X | SH 1 OF 3