





ABC Electronics	
Drawing# 342-121-00	Rev. 6
Product - Motor Controller	
ASM# 32147	PCB# 00153
Drawn by: C. Smith 2/8/2007	
Approved by: R. Jones 2/13/2007	

381200-66-4	N/A Ignore	154	THD	
Tolerance: 0,0				
Package: SD				
Description: TESTPOINTS				
Package / Operation: N/A - TESTPOINTS ONLY				
TOP: XC0, XC1, XC149, XC150, XC151, XC152, XC153, XC2, XC3, XC4, XC5, XC6, XC7				
BOTTOM: XC10, XC100, XC101, XC102, XC103, XC104, XC105, XC106, XC107, XC108, XC109, XC11, XC110, XC111, XC112, XC113, XC114, XC115, XC116, XC117, XC118, XC119, XC12, XC120, XC121, XC122, XC123, XC124, XC125, XC126, XC127, XC128, XC129, XC13, XC130, XC131, XC132, XC133, XC134, XC135, XC136, XC137, XC138, XC139, XC14, XC140, XC141, XC142, XC143, XC144, ...				
395383-01-3	HAND INSERT CONNECTOR PRE-WAVE	1	THD	
Tolerance: 0,0				
Package: CONNECTOR_THRU-HOLE				
Description: HEADER_TB_12_POSITION_STRAIGHT				
Package / Operation: HEADER_TB_12_POSITION_STRAIGHT / HAND INSERT CONNECTOR PRE-WAVE				
TOP: TB1				
BOTTOM:				
395382-01-7	HAND INSERT CONNECTOR PRE-WAVE	1	THD	
Tolerance: 0,0				
Package: CONNECTOR_THRU-HOLE				
Description: HEADER_TB_12_POSITION_RIGHT_ANGLE				
Package / Operation: HEADER_TB_12_POSITION_RIGHT_ANGLE / HAND INSERT CONNECTOR PRE-WAV				
TOP: TB2				
BOTTOM:				
385848-05-6	HAND INSERT	32	THD	
Tolerance: 20,20				
Package: 2-PIN THRU-HOLE				
Description: V47ZA7				
Package / Operation: 2-PIN THUR-HOLE / UNIVERSAL VCD AUTO INSERT				
TOP: CR1, CR10, CR11, CR12, CR13, CR14, CR15, CR16, CR17, CR18, CR19, CR2, CR20, CR21, CR22, CR23, CR24, CR25, CR26, CR27, CR28, CR29, CR3, CR30, CR31, CR32, CR4, CR5, CR6, CR7, CR8, CR9				
BOTTOM:				

381200-40-1

HAND INSERT CONNECTOR

1

THD



PRE-WAVE

Tolerance: 0,0

Package: CONNECTOR_THRU-HOLE

Description: CONNECTOR

Package / Operation: CONNECTOR_THRU-HOLE / HAND INSERT CONNECTOR PRE-WAVE

TOP: J1

BOTTOM:

386754-99-4

HAND INSERT CONNECTOR

1

THD



PRE-WAVE

Tolerance: 0,0

Package: CONNECTOR_THRU-HOLE

Description: CONNECTOR

Package / Operation: CONNECTOR_THRU-HOLE / HAND INSERT CONNECTOR PRE-WAVE

TOP: P1

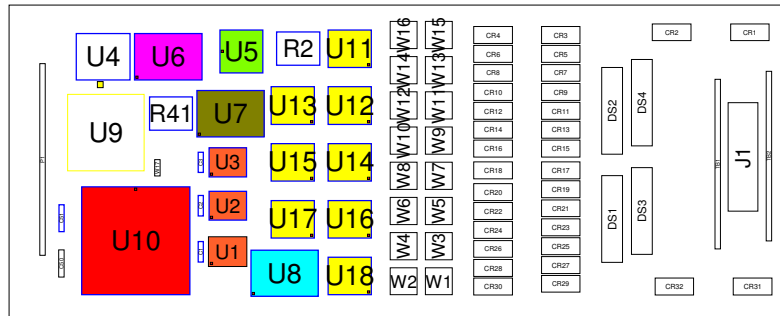
BOTTOM:

R44 R47 R49 R51 R53 R55 R22
R45 R46 R48 R50 R52 R54 R56






R43
R23

R38 R34 R30 R26 R24
R39 R35 R31 R27 R25
C8 R36 R32 R28
R42 R37 R33 R29
R13 R14
C15 C21 C27 R15 R16 R21
R17 R18 C5
C14 C20 C26 R19 R20 C7
C13 C19 C25 R5 R6
R7 R8
C12 C18 C24 R9 R10
R11 R12
C16 C22 C10 R3
C17 C28 R4 C6
R1 R40
C9
C11 C4

Assembly sheet page 2 of 6 - Bill Of Material (BOM) legend				
Part #	Color	Quantity	Description	Ref. Des.
385848-05-6	Orange	32	Diode	CR1-32
391818-06-6	Cyan	1	Power Amp	U1
390607-01-0	Yellow	1	Controller	U9



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391809-01-6	MYDATA AUTO INSERT	1	SMD	
Tolerance: 0,0				
Package: PLCC20				
Description: 16V8Z				
Package / Operation: PLCC20 / MYDATA AUTO INSERT				
TOP: U5				
BOTTOM:				
391822-02-0	MYDATA AUTO INSERT	1	SMD	
Tolerance: 0,0				
Package: SOIC48				
Description: 74ACT16240				
Package / Operation: SOIC48 / MYDATA AUTO INSERT				
TOP: U8				
BOTTOM:				
391822-01-2	MYDATA AUTO INSERT	1	SMD	
Tolerance: 0,0				
Package: SOIC48				
Description: 74ABT16244				
Package / Operation: SOIC48 / MYDATA AUTO INSERT				
TOP: U7				
BOTTOM:				
390579-03-3	MYDATA AUTO INSERT	1	SMD	
Tolerance: 0,0				
Package: PLCC68				
Description: D/I CONTROLLER				
Package / Operation: PLCC68 / MYDATA AUTO INSERT				
TOP: U10				
BOTTOM:				
395422-01-9	MYDATA AUTO INSERT	8	SMD	
Tolerance: 0,0				
Package: SOIC8				
Description: ILD251				
Package / Operation: SOIC8 / MYDATA AUTO INSERT				
TOP: U11, U12, U13, U14, U15, U16, U17, U18				
BOTTOM:				

391818-06-6

MYDATA AUTO INSERT

3

SMD



Tolerance: 0,0

Package: SOIC14

Description: 74HC14

Package / Operation: SOIC48 / MYDATA AUTO INSERT

TOP: U1, U2, U3

BOTTOM:

391822-03-9

MYDATA AUTO INSERT

1

SMD



Tolerance: 0,0

Package: SOIC48

Description: 74ACT16374

Package / Operation: SOIC48 / MYDATA AUTO INSERT

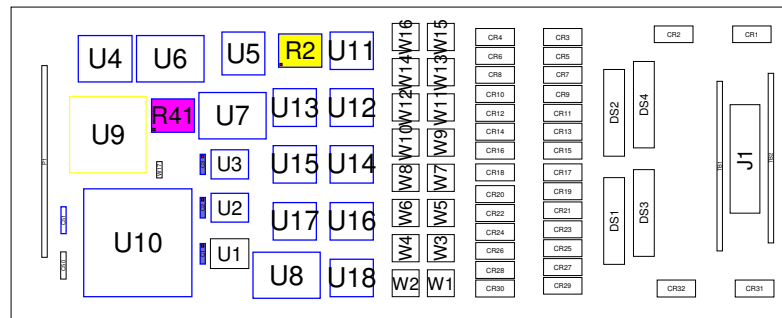
TOP: U6

BOTTOM:






R44 R47 R49 R51 R53 R55 R22
R45 R46 R48 R50 R52 R54 R56





R43
R23

R38 R34 R30 R26 R24
R39 R35 R31 R27 R25
C8 R36 R32 R28
R42 R37 R33 R29
R13 R14
C15 C21 C27 R15 R16 R21
R17 R18 C5
C14 C20 C26 R19 R20 C7
C13 C19 C25 R5 R6
R7 R8
C12 C18 C24 R9 R10
R11 R12
C16 C22 C10 R3
C17 C28 R4 C6
R1 R40
C9
C11 C4



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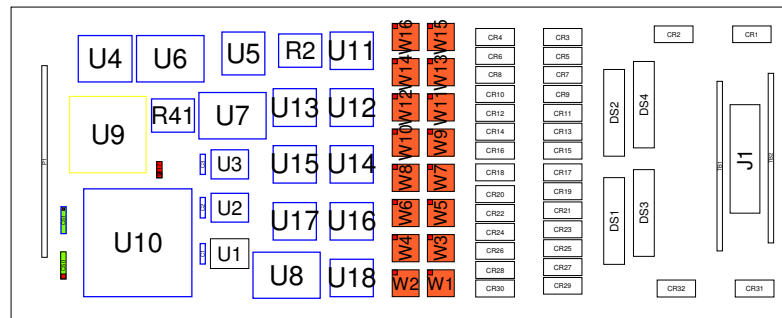
391770-02-0	CHIP SHOOTER AUTO INSERT	1	SMD	
Tolerance: 2,2				
Package: SOM16				
Description: 10K_2%				
Package / Operation: SOM16 / CHIP SHOOTER AUTO INSERT				
TOP: R2				
BOTTOM:				
391770-01-2	CHIP SHOOTER AUTO INSERT	1	SMD	
Tolerance: 2,2				
Package: SOM16				
Description: 6.8K_2%				
Package / Operation: SOM16 / CHIP SHOOTER AUTO INSERT				
TOP: R41				
BOTTOM:				
391777-08-4	CHIP SHOOTER AUTO INSERT	16	SMD	
Tolerance: 10,10				
Package: 1812				
Description: 0.22UF_50V_10%				
Package / Operation: 1812 / CHIP SHOOTER AUTO INSERT				
TOP:				
BOTTOM: C12, C13, C14, C15, C16, C17, C18, C19, C20, C21, C22, C23, C24, C25, C26, C27				
391729-02-0	CHIP SHOOTER AUTO INSERT	16	SMD	
Tolerance: 1,1				
Package: 1210				
Description: 4.75K_1/4W_1%				
Package / Operation: 1210 / CHIP SHOOTER AUTO INSERT				
TOP:				
BOTTOM: R24, R25, R26, R27, R28, R29, R30, R31, R32, R33, R34, R35, R36, R37, R38, R39				
391777-06-8	CHIP SHOOTER AUTO INSERT	11	SMD	
Tolerance: 20,20				
Package: 1206				
Description: 0.01UF_50V_20%				
Package / Operation: 1206 / CHIP SHOOTER AUTO INSERT				
TOP: C1, C2, C3				
BOTTOM: C10, C11, C4, C5, C6, C7, C8, C9				

391727-14-1	CHIP SHOOTER AUTO INSERT	5	SMD	
Tolerance: 1,1				
Package: 1206				
Description: 10K_1/8W_1%				
Package / Operation: 1206 / CHIP SHOOTER AUTO INSERT				
TOP:				
BOTTOM: R1, R3, R4, R40, R42				
391727-13-3	CHIP SHOOTER AUTO INSERT	1	SMD	
Tolerance: 1,1				
Package: 1206				
Description: 6.81K_1/8W_1%				
Package / Operation: 1206 / CHIP SHOOTER AUTO INSERT				
TOP:				
BOTTOM: R21				
391727-12-5	CHIP SHOOTER AUTO INSERT	16	SMD	
Tolerance: 1,1				
Package: 1206				
Description: 2.21K_1/8W_1%				
Package / Operation: 1206 / CHIP SHOOTER AUTO INSERT				
TOP:				
BOTTOM: R22, R23, R43, R44, R45, R46, R47, R48, R49, R50, R51, R52, R53, R54, R55, R56				
391727-10-9	CHIP SHOOTER AUTO INSERT	16	SMD	
Tolerance: 1,1				
Package: 1206				
Description: 150K_1/8W_1%				
Package / Operation: 1206 / CHIP SHOOTER AUTO INSERT				
TOP:				
BOTTOM: R10, R11, R12, R13, R14, R15, R16, R17, R18, R19, R20, R5, R6, R7, R8, R9				

R44 R47 R49 R51 R53 R55 R22
R45 R46 R48 R50 R52 R54 R56

R49
R23a

R38 R34 R30 R26 R24
R39 R35 R31 R27 R25
C8 R R36 R32 R32
R42a R37 R33 R23a
R13 R14
R15 R21 R27 R16 R18 R21 C5
R14 R20 R20 R17 R18
R13 R19 R20 C7
R12 R16 R25 R17 R18
R12 R16 R25 R19 R11
R16 R22 C10 R11 R12
R17 R23a R14 C8
R11 R40
C9
C11 C4



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389148-06-7 THUR-HOLE - UNIVERSAL 1 THD 
VCD AUTO INSERT

Tolerance: 0,0

Package: CONNECTOR_THRU-HOLE

Description: HEADER_2_POSITION

Package / Operation: HEADER_2_POSITION / HAND INSERT CONNECTOR PRE-WAVE

TOP: W17

BOTTOM:

391781-01-4 THUR-HOLE - UNIVERSAL 2 THD 
VCD AUTO INSERT

Tolerance: 20,20

Package: 6363

Description: 10UF_50V_20%

Package / Operation: 6363-THUR-HOLE / UNIVERSAL VCD AUTO INSERT

TOP: C50, C51

BOTTOM:

396051-01-4 THUR-HOLE - UNIVERSAL 16 THD 
VCD AUTO INSERT

Tolerance: 0,0

Package: CONNECTOR_THRU-HOLE

Description: HEADER_3_ROWS_3_PIN/ROW

Package / Operation: HEADER_3_ROWS_3_PIN/ROW / HAND INSERT CONNECTOR PRE-WAVE

TOP: W1, W10, W11, W12, W13, W14, W15, W16, W2, W3, W4, W5, W6, W7, W8, W9

BOTTOM:

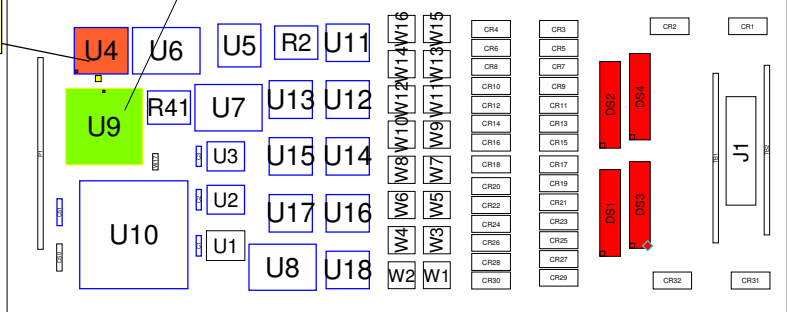
R44 R47 R49 R51 R53 R55 R22
R45 R46 R48 R50 R52 R54 R56

R43
R23


R38 R34 R30 R26 R24
R39 R35 R31 R27 R25
C8 R36 R32 R28
R42 R37 R33 R29
R13 R14
C15 C21 C27 R15 R16 R21
R17 R18 C5
C14 C20 C26 R19 R20 C7
C13 C19 C25 R5 R6
R7 R8
C12 C18 C24 R9 R10
R11 R12
C16 C22 C10 R3
C17 C28 R4 C6
R1 R40
C9
C11 C4

Install U4 in socket. Use only Toshiba parts with date codes Jan. 2007 or later. Part #251273


Install U9 after wave solder. Part # 236131



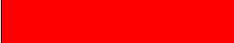
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391829-03-3 HAND INSERT SOCKET 1 SMD 

Tolerance: 0,0
Package: SOIC20W
Description: 74HCT640
Package / Operation: SOIC20W / MYDATA AUTO INSERT
TOP: U4
BOTTOM:

390607-01-0 HAND INSERT POST WAVE 1 SMD 

Tolerance: 0,0
Package: PLCC44
Description: I/O CONTROLLER
Package / Operation: PLCC44 / MYDATA AUTO INSERT
TOP: U9
BOTTOM:

381212-44-1 THUR-HOLE - UNIVERSAL 4 THD 

VCD AUTO INSERT

Tolerance: 0,0
Package: 2-PIN THUR-HOLE
Description: LED
Package / Operation: 2-PIN THUR-HOLE / HAND INSERT LED'S
TOP: DS1, DS2, DS3, DS4
BOTTOM:

R44 R47 R49 R51 R53 R55 R22
R45 R46 R48 R50 R52 R54 R56

R43
R23

R38 R34 R30 R26 R24
R39 R35 R31 R27 R25
C8 R36 R32 R28
R42 R37 R33 R29
R13 R14
C15 C21 C27 R15 R16 R21
R17 R18 C5
C14 C20 C26 R19 R20 C7
C13 C19 C25 R5 R6
R7 R8
C12 C18 C24 R9 R10
R11 R12
C16 C22 C10 R3
C17 C28 R4 C6
R1 R40
C9
C11 C4