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	AVC LIQUID CRYSTAL DISPLAY GROUP SHARP CORPORATION **SPECIFICATION**	DOMESTIC LCD MODULE DEVELOPMENT CENTER AVC LIQUID CRYSTAL DISPLAY GROUP

DEVICE SPECIFICATION FOR

TFT-LCD module

Model No. LK520D3LA17

CUSTOMER'S APPROVAL

DATE _____

PRESENTED

BY _____

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RECORDS OF REVISION

MODEL No. : LK520D3LA17

SPEC No. : LD- K20801

SPEC No.	DATE	REVISED No.	PAGE	SUMMARY	NOTE
LD- K20801	2008/09/02				1st ISSUE

1. Application

This specification applies to the color 52.0" TFT-LCD module LK520D3LA17.

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* Do not use the device for equipment that requires an extreme level of reliability, such as aerospace applications, telecommunication equipment (trunk lines), nuclear power control equipment and medical or other equipment for life support.

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* Contact and consult with a SHARP sales representative for any questions about this device.

2. Overview

This module is a color active matrix LCD module incorporating amorphous silicon TFT (Thin Film Transistor). It is composed of a color TFT-LCD panel, driver ICs, control circuit, power supply circuit, inverter circuit and back light system etc. Graphics and texts can be displayed on a 1920×RGB×1080 dots panel with about one billion colors by using LVDS (Low Voltage Differential Signaling) to interface, +12V of DC supply voltages.

This module also includes the DC/AC inverter to drive the CCFT. (+24V of DC supply voltage)

And in order to improve the response time of LCD, this module applies the Over Shoot driving (O/S driving) technology for the control circuit .In the O/S driving technology, signals are being applied to the Liquid Crystal according to a pre-fixed process as an image signal of the present frame when a difference is found between image signal of the previous frame and that of the current frame after comparing them.

With this technology, image signals can be set so that liquid crystal response completes within one frame. As a result, motion blur reduces and clearer display performance can be realized.

3. Mechanical Specifications

Parameter	Specifications	Unit
Display size	132.174 (Diagonal)	cm
	52.0 (Diagonal)	inch
Active area	1152.0(H) x 648.0 (V)	mm
Pixel Format	1920(H) x 1080(V) (1pixel = R + G + B dot)	pixel
Pixel pitch	0.600(H) x 0.600 (V)	mm
Pixel configuration	R, G, B vertical stripe	
Display mode	Normally black	
Unit Outline Dimensions (*1)	1219.0(W) x 706.7(H) x 64.6(D)	mm
Mass	15.5 ±1.0	kg
Surface treatment	Anti glare Hard coating: 2H and more	

(*1) Outline dimensions are shown in Fig.1 (excluding protruding portion)

4. Input Terminals

4.1. TFT panel driving

CN1 (Interface signals and +12V DC power supply) (Shown in Fig.1)

Using connector : FI-RE51S-HF (Japan Aviation Electronics Ind., Ltd.)

Matching connector : FI-RE51HL, FI-RE51CL (Japan Aviation Electronics Ind., Ltd.)

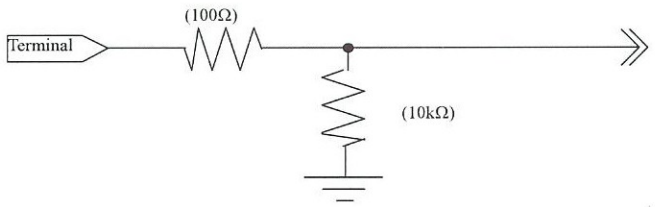
Matching LVDS transmitter : THC63LVD1023 or equivalent device

Pin No.	Symbol	Function	Remark
1	GND		
2	Reserved	It is required to set non-connection(OPEN)	
3	Reserved	It is required to set non-connection(OPEN)	
4	Reserved	It is required to set non-connection(OPEN)	
5	Reserved	It is required to set non-connection(OPEN)	
6	Reserved	It is required to set non-connection(OPEN)	
7	SELLVDS	Select LVDS data order [Note1,2]	Pull down : (GND)
8	Reserved	It is required to set non-connection(OPEN)	
9	Reserved	It is required to set non-connection(OPEN)	
10	FRAME	Frame frequency setting 1:60Hz 0:50Hz	Pull down :GND
11	GND		
12	AIN0-	Aport (-)LVDS CH0 differential data input	
13	AIN0+	Aport (+)LVDS CH0 differential data input	
14	AIN1-	Aport (-)LVDS CH1 differential data input	
15	AIN1+	Aport (+)LVDS CH1 differential data input	
16	AIN2-	Aport (-)LVDS CH2 differential data input	
17	AIN2+	Aport (+)LVDS CH2 differential data input	
18	GND		
19	ACK-	Aport LVDS Clock signal(-)	
20	ACK+	Aport LVDS Clock signal(+)	
21	GND		
22	AIN3-	Aport (-)LVDS CH3 differential data input	
23	AIN3+	Aport (+)LVDS CH3 differential data input	
24	AIN4-	Aport (-)LVDS CH4 differential data input	
25	AIN4+	Aport (+)LVDS CH4 differential data input	
26	GND		
27	GND		
28	BIN0-	Bport (-)LVDS CH0 differential data input	
29	BIN0+	Bport (+)LVDS CH0 differential data input	
30	BIN1-	Bport (-)LVDS CH1 differential data input	
31	BIN1+	Bport (+)LVDS CH1 differential data input	
32	BIN2-	Bport (-)LVDS CH2 differential data input	
33	BIN2+	Bport (+)LVDS CH2 differential data input	
34	GND		
35	BCK-	Bport LVDS Clock signal(-)	
36	BCK+	Bport LVDS Clock signal(+)	
37	GND		
38	BIN3-	Bport (-)LVDS CH3 differential data input	
39	BIN3+	Bport (+)LVDS CH3 differential data input	
40	BIN4-	Bport (-)LVDS CH4 differential data input	
41	BIN4+	Bport (+)LVDS CH4 differential data input	
42	GND		
43	GND		
44	GND		

45	GND		
46	GND		
47	VCC	+12V Power Supply	
48	VCC	+12V Power Supply	
49	VCC	+12V Power Supply	
50	VCC	+12V Power Supply	
51	VCC	+12V Power Supply	

[note] GND of a liquid crystal panel drive part has connected with a module chassis.

[Note 1] The equivalent circuit figure of the terminal



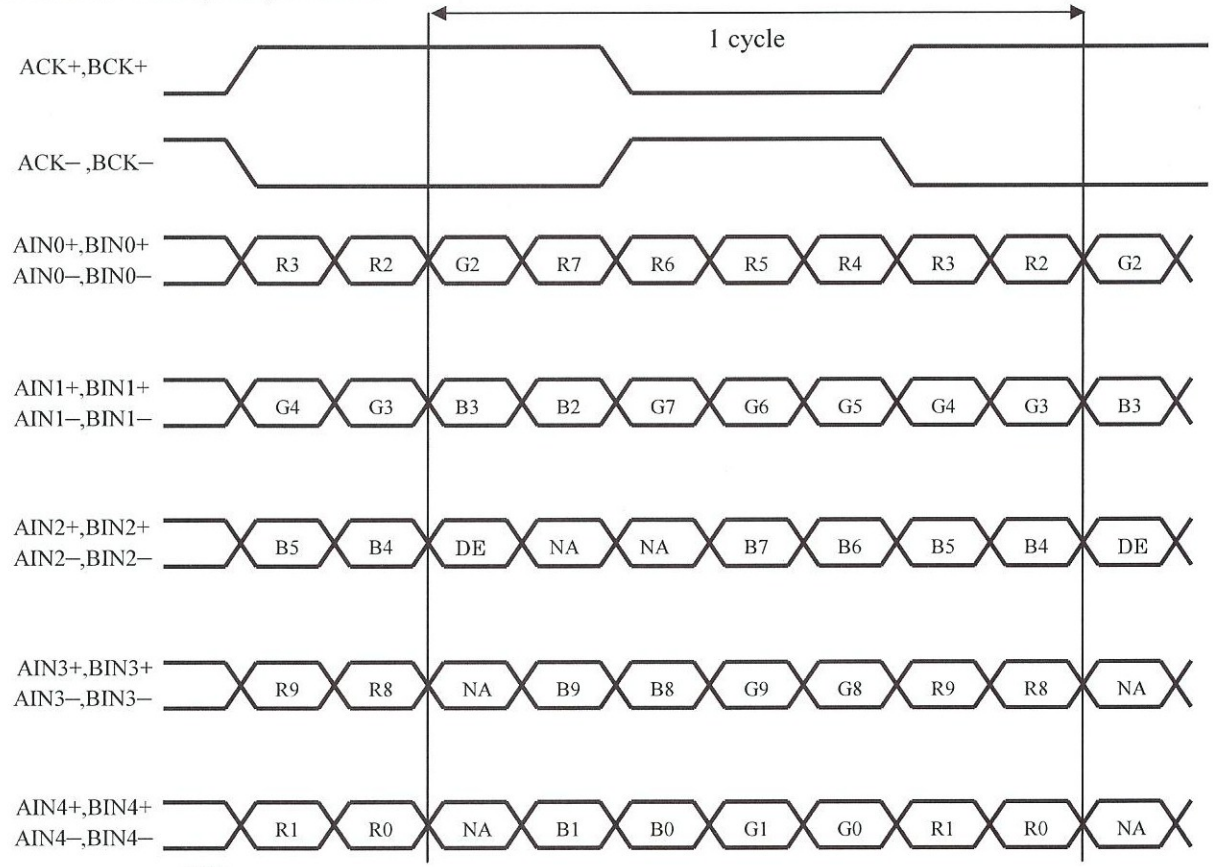
[Note 2] LVDS Data order

SELLVDS		
Data	L(GND) or Open	H(3.3V)
TA0	R2	R4
TA1	R3	R5
TA2	R4	R6
TA3	R5	R7
TA4	R6	R8
TA5	R7	R9(MSB)
TA6	G2	G4
TB0	G3	G5
TB1	G4	G6
TB2	G5	G7
TB3	G6	G8
TB4	G7	G9(MSB)
TB5	B2	B4
TB6	B3	B5
TC0	B4	B6
TC1	B5	B7
TC2	B6	B8
TC3	B7	B9(MSB)
TC4	NA	NA
TC5	NA	NA
TC6	DE(*)	DE(*)
TD0	R8	R2
TD1	R9(MSB)	R3
TD2	G8	G2
TD3	G9(MSB)	G3
TD4	B8	B2
TD5	B9(MSB)	B3
TD6	NA	N/A
TE0	R0(LSB)	R0(LSB)
TE1	R1	R1
TE2	G0(LSB)	G0(LSB)
TE3	G1	G1
TE4	B0(LSB)	B0(LSB)
TE5	B1	B1
TE6	NA	N/A

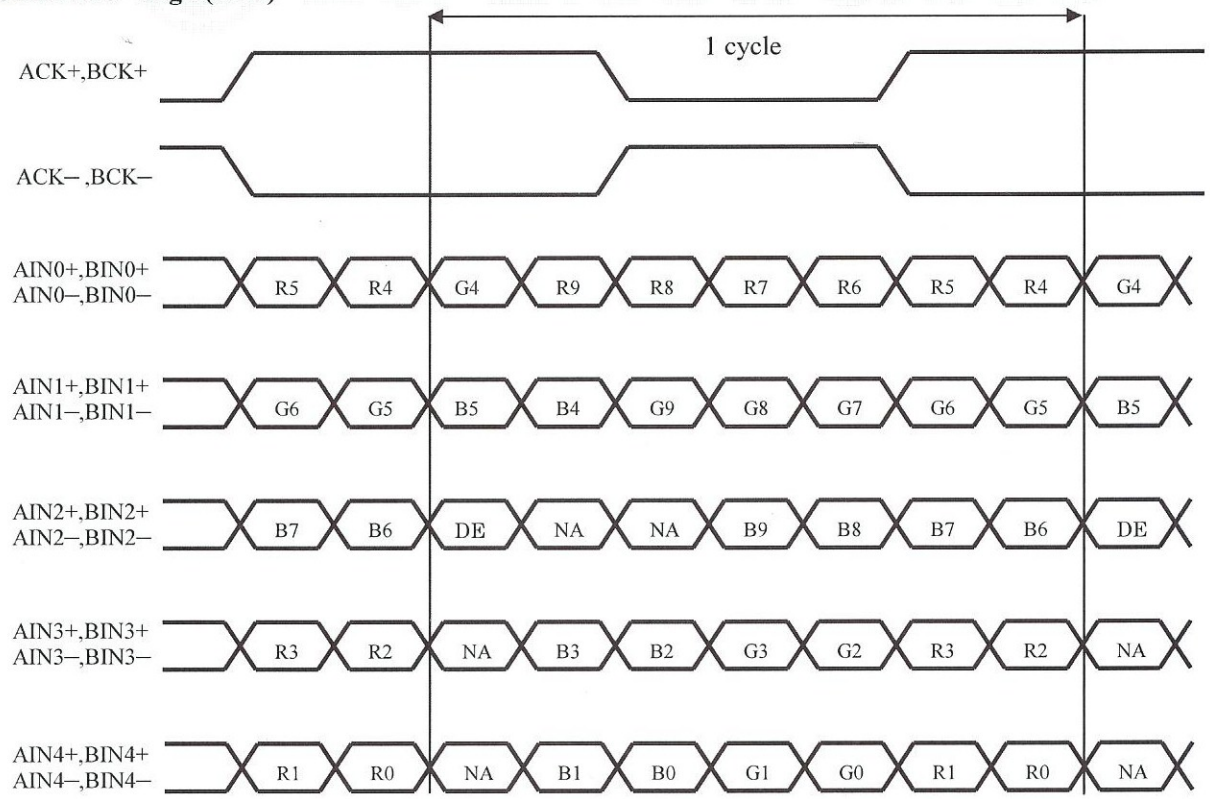
NA: Not Available

(*)Since the display position is prescribed by the rise of DE(Display Enable)signal, please do not fix DE signal during operation at "High".

SELLVDS= Low (GND) or OPEN



SELLVDS= High (3.3V)



DE: Display Enable, NA: Not Available (Fixed Low)

4.2. Interface block diagram