BOE	PROPRIETARY NOTE THIS SPECIFICATION IS THE PROPERTY OF BOE Ordos AND SHALL NOT BE REPRODUCED OR COPIED WITHOUT THE WRITTEN PERMISSION OF BOE Ordos AND MUST BE RETURNED TO BOE Ordos UPON ITS REQUEST			
SPEC. NUMBER	PRODUCT GROUP	Rev.P0	ISSUE DATE	PAGE 1 OF 31

TITLE: B8 BV066WBM-L04-8K01 Product Specification Rev.P0

Supplier	Chongqing BOE Optoelectronics CO., LTD
Model	BV066WBM-L04-8K01 (2.1t TLCM)

TITLE/SIGNATURE	DATE

ITEM SIGNATURE DATE		
Ammayad		
Approved		
Reviewed		
Prepared		

Chongqing BOE Optoelectronics CO., LTD



B <u>O</u> E		PRODUCT GROUP	REV	ISSUE DATE
		TFT- LCD PRODUCT	P0	2019.10.08
SPEC. NUMBER		BV065WBQ-L11-8QV0 Product Specification		PAGE 2 OF 31
		REVISION HISTORY		
REV.	ECN No.	DESCRIPTION OF CHANGES	DATE	PREPARED
P0		Initial Release		Weichao Sun

No.	Detail of the Develop Group	Person in Charge
1	PM	Weichao Sun
2	Array Parts	Chunxiao LI
3	Cell/CF Parts	Zhidan Sun/Yan Liu
4	Circuit Parts	Meijuan AN
5	Mechanical Characteristics	Junyan Liu
6	PACKING	Xue Gao



BOF	PRODUCT GROUP	REV	ISSUE DATE
DOL	TFT- LCD PRODUCT	P0	2019.10.08
SPEC. NUMBER	BV066WBM-L04-8K01 Product Specification		PAGE
OI LO. NOMBLIX			3 OF 31

Contents

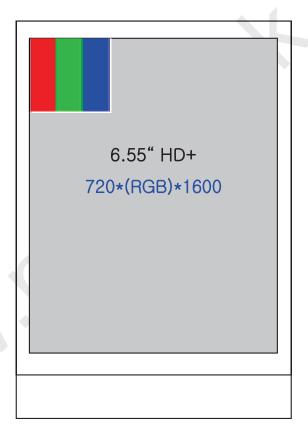
No.	Items	Page
1.0	General Description	P4
2.0	Absolute Maximum Ratings	P6
3.0	Electrical Specifications.	P7
4.0	Optical Specifications.	P8
5.0	Data Gate IC Pad & FPC Assignment	P10
6.0	Mechanical Characteristics	P19
7.0	Touch Mapping	P20
8.0	Appendix	P22
9.0	Reliability Test	P24
10.0	Handling & Cautions	P25
11.0	Packing & Label	P29

BOE	PRODUCT GROUP	REV	ISSUE DATE
DOL	TFT- LCD PRODUCT	P0	2019.10.08
SPEC. NUMBER	BV066WBM-L04-8K01 Product Specification		PAGE 4 OF 31

1.0 GENERAL DESCRIPTION

1.1 Introduction

B8 BV065WBQ-L11-8QV0 is a color active matrix TFT LCD Panel using amorphous silicon TFT's (Thin Film Transistors) as an active switching devices. This Panel has a 6.55 inch diagonally measured active area with HD+ resolutions (720 horizontal by 1600 vertical pixel array). Each pixel is divided into RED, GREEN, BLUE dots which are arranged in vertical stripe and this module can display 16.7M colors.



1.2 Features

Border (L/R/U/D): 0.75/0.75/0.75/3.7mm

• NTSC: 82% @C Light

• 0.3t Panel

wide viewing angle (U/D/L/R) : 80/80/80/80

BOF	PRODUCT GROUP	REV	ISSUE DATE
DOL	TFT- LCD PRODUCT	P0	2019.10.08
SPEC. NUMBER	BV066WBM-L04-8K01 Product Specification		PAGE
SI LO. NOIVIDLIX			5 OF 31

1.3 Application

Smart Mobile Phone

1.4 General Specification

The followings are general specifications of COGA BS063YPE-L30-6Q00.

<Table 1. General Specifications>

Parameter	Specification	Unit	Remarks
Active area	68.256(H) × 151.680 (V)	mm	
CF size	70.256(H) × 153.740 (V)	mm	
Number of pixels	720(H) $ imes$ 1600 (V)	pixels	HD+
Pixel pitch	0.0316 × 0.0948	mm	
Pixel arrangement	RGB Vertical stripe		
Display colors	16.7M	colors	
Color gamut	82	%	@C Light
Display mode	Normally black		
Panel Size	70.256(H)×155.780 (V) ×0.16T	mm	
IC	FT8009/TD4150/S6D7AT1/HX83106-C/NT36 526/ILI9881X		



BOF	PRODUCT GROUP	REV	ISSUE DATE
DOL	TFT- LCD PRODUCT	P0	2019.10.08
SPEC. NUMBER	BV066WBM-L04-8K01 Product Specification		PAGE
or Eo. Nowbert			6 OF 31

2.0 ABSOLUTE MAXIMUM RATINGS

The followings are maximum values which, if exceed, may cause faulty operation or damage to the unit. The operational and non-operational maximum voltage and current values are listed in Table 2.

< Table 2. Absolute Maximum Ratings>

Parameter	Symbol	Min.	Max.	Unit	Remarks
LC operating Voltage [1]	V _{OP}	4.1	5.1	V	Typ=4.6 Ta=25+/-2°C
Operating Temperature	T _{OP}	-20	+70	$^{\circ}$	
(Humidity)	RH		90	%	At 60°C
Storage Temperature	T _{ST}	-30	+80	$^{\circ}$	
(Humidity)	RH		90	%	At 60°C

[1] Liquid Crystal driving voltage

Due to the characteristics of LC Material, this voltage varies with environmental temperature.



BOF	PRODUCT GROUP	REV	ISSUE DATE
DOL	TFT- LCD PRODUCT	P0	2019.10.08
SPEC. NUMBER	BV066WBM-L04-8K01 Product Specificat	PAGE 7 OF 31	

3.0 ELECTRICAL SPECIFICATIONS

3.1 Electrical Specifications

< Table 3. Electrical specifications >

 $[Ta = 25 \pm 2 \,^{\circ}\mathbb{C}]$

Parameter	Symbol	Value	Unit	Remarks
TFT Gate ON Voltage	VGH	12	V	
TFT Gate OFF Voltage	VGL	-14	V	
TFT Common Electrode Voltage	VCOM	0	V	
I/O Supply Voltage	IOVCC	1.8	V	
Liquid crystal driver supply voltage	VSP	5.5	V	
Liquid crystal driver supply voltage	VSN	-5.5	V	
Frame Frequency	f_Frame	60	Hz	

Notes:

- 1. VGH is TFT Gate operating voltage.
- 2. VGL is TFT Gate operating voltage. The low voltage level of VGL signal must be fluctuates with same phase as Vcom.
- 3. Vcom must be adjusted to optimize display quality, as Crosstalk and Contrast Ratio etc..
- 4. The value is just the reference value. The customer can optimize the setting value .



4.0 OPTICAL SPECIFICATION

4.1 Overview

The test of Optical specifications shall be measured in a dark room (ambient luminance ≤ 1 lux and temperature = $25\pm 2^{\circ}C$) with the equipment of Luminance meter system (Goniometer system and TOPCON BM-5) and test unit shall be located at an approximate distance 50cm from the LCD surface at a viewing angle of θ and Φ equal to θ 0°. We refer to θ 0°0 (= θ 3) as the 3 o"clock direction (the "right"), θ 0°0 (= θ 12) as the 12 o"clock direction ("upward"), θ 0°180 (= θ 9) as the 9 o"clock direction ("left") and θ 0°270(= θ 6) as the 6 o"clock direction ("bottom"). While scanning θ and/or θ 0, the center of the measuring spot on the Display surface shall stay fixed. Optimum viewing angle direction is 6 "clock.

4.2 Optical Specifications

Paran	neter	Symbol	Condition	Min.	Тур.	Max.	Unit	Remark
	Horizontal	Θ_3		70	80	-	Deg.	
Viewing	Horizoniai	Θ ₉	CR > 10	70	80	-	Deg.	
Angle range	Vertical	Θ ₁₂	CR > 10	70	80	-	Deg.	
	verticai	Θ_6		70	80	-	Deg.	
Luminance C	ontrast ratio	CR	Θ = 0°	1000	1500	-		@ Silicate BLU
Cell Trans	mittance	Tr	Θ = 0°	-	4.25	-	%	With APF &50%Haze
White Chr	White Chromaticity		OIE 1021	0.652	0.662	0.672		
vvnite Chr			CIE 1931	0.311	0.321	0.331		
Pod Chro	Red Chromaticity		CIE 1021	0.238	0.248	0.258		
Red Chird	omaticity	У	CIE 1931	0.562	0.572	0.582		
Croon Chr	romoticity	х	CIE 1931	0.128	0.138	0.148		CF @ C Light
Green Chr	omaticity	У	CIE 1931	0.090	0.100	0.110		
Pluo Chro	am atiaity	х	CIE 1931	0.273	0.283	0.293		
Blue Chromaticity		у	CIE 1931	0.303	0.313	0.323		
Color	Gamut (C lig	ght)		-	72	-	%	
Respons (Rising +		T _{RT}	Ta= 25° C Θ = 0°	-	-	30	ms	

BOE	PRODUCT GROUP	REV	ISSUE DATE
POL	TFT- LCD PRODUCT	P0	2019.10.08
SPEC. NUMBER	JMBER BV066WBM-L04-8K01 Product Specification		

Note:

- 1. Viewing angle is the angle at which the contrast ratio is greater than 10. The viewing angles are determined for the horizontal or 3, 9 o'clock direction and the vertical or 6, 12 o'clock direction with respect to the optical axis which is normal to the LCD surface (see FIGURE 4).
- 2. Contrast measurements shall be made at viewing angle of Θ = 0 and at the center of the LCD surface. Luminance shall be measured with all pixels in the view field set first to white, then to the dark (black) state. (see FIGURE 1) Luminance Contrast Ratio (CR) is defined mathematically.

- Transmittance is the Value with Polarizer
- 4. The color chromaticity coordinates specified in Table 5 shall be calculated from the spectral data measured with all pixels first in red, green, blue and white. Measurements shall be made at the center of the panel.
- 5. The electro-optical response time measurements shall be made as FIGURE 3 by switching the "data" input signal ON and OFF. The times needed for the luminance to change from 10% to 90% is Tr, and 90% to 10% is Td.



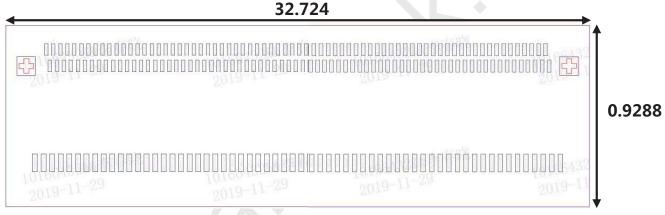
BOF	PRODUCT GROUP	REV	ISSUE DATE
	TFT- LCD PRODUCT P0		2019.10.08
SPEC. NUMBER	BV066WBM-L04-8K01 Product Specificat	PAGE 10 OF 31	

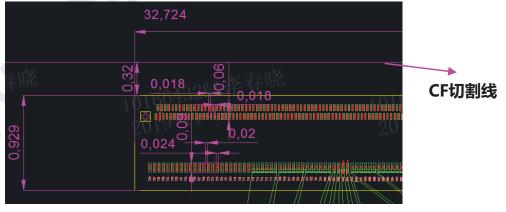
5.0 Data Gate IC Pad & FPC Assignment

5.1 IC Pin Assignment

Global LCD Panel Exchange Center







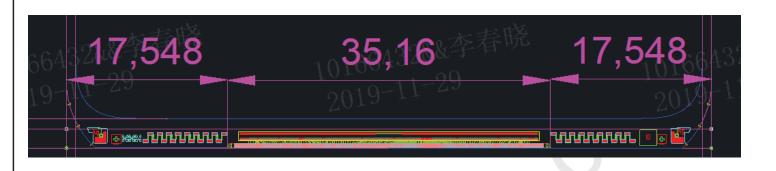
Size: mm

Item	Lead Length	Lead Width	Space	Pitch	
IC Output	60um	18um	18um	36um	
IC Input	90um	24um	20um	44um	
Remark	FT8009/TD4150/S6D7AT1/HX83106-C/NT36526/ILI9881X				

BOE PRODUCT GROUP		REV	ISSUE DATE
	TFT- LCD PRODUCT	P0	2019.10.08
SPEC. NUMBER	BV066WBM-L04-8K01 Product Specification		PAGE 11 OF 31

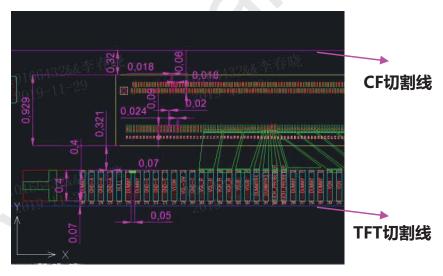
5-2. FPC Pin Assignment

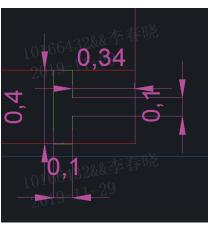
Global LCD Panel Exchange Center





FPC 方向





FPC Mark

FPC Size: 35.16 * 0.4 mm



IC	Hx83112A	TD4330	FT8719	NT36672A
1	Dummy	Dummy	Dummy	Dummy
2	null	null	null	null
3	FOG_TEST	FOG_TEST	FOG_TEST	FOG_TEST
4	FOG_TEST	FOG_TEST	FOG_TEST	FOG_TEST
5	GND_AG	GND_AG	GND_AG	GND_AG
6	GND_AG	GND_AG	GND_AG	GND_AG
7	GND_ESD	GND_ESD	GND_ESD	GND_ESD
8	GND_ESD	GND_ESD	GND_ESD	GND_ESD
9	VGL_E	VGL_E	VGL_E	VGL_E
10	VGL_E	VGL_E	VGL_E	VGL_E
11	VGH_E	VGH_E	VGH_E	VGH_E
12	VGH_E	VGH_E	VGH_E	VGH_E
13	CTD_EVEN	CTD_EVEN	CTD_EVEN	CTD_EVEN
14	CTD_VCOM	CTD_VCOM	CTD_VCOM	CTD_VCOM
15	COGTEST12	COGTEST12	COGTEST12	COGTEST12
16	COGTEST12	COGTEST12	COGTEST12	COGTEST12
17	VGLO_L	VGL	VGLO	VGLO
18	VGHO_L	VGH	VGHO	VGHO
19	VCCAREGT_L	GBDTX	VGHO1	TVSS_ADC
20	VCCAREGT_L	VSUB	VGHO1	TVSS_ADC
21	VCCAREGT_L	GND	VGHO1	TVSS_ADC
22	VSSACT_L	GND	VGHO2	TVDD_ADC
23	VSSAT_L	VDD	VREF_TP_L	TVDD
24	VSSD	VSN	AVDD	TVSS
25	VMD	AGND	AVSS	VMOD_GATE
26	VREF	AGND	VDD5_L	TVCH
27	SHK1	TX_0D	KEY1	TX_0D
28	SHK2	RX_0D<0>	KEY2	RX_0D[0]
29	SHK3	RX_0D<1>	KEY3	RX_0D[1]
30	SHK4	RX_0D<2>	KEY4	RX_0D[2]
31	SHK5	RX_0D<3>	TX_L	RX_0D[3]
32	VTESTOUTP_L	VSP	AFETEST_L0	TEST_TP[0]
33	VTESTOUTN_L	VSP	AFETEST_L1	TEST_TP[1]
34	VSP	VSP	AVDD	TVCL
35	VCOM_L	C21P	VCOM_L	AVEE
36	VDDD	C21P	VDD_TP_L	VCOM
37	VSSA	C21M	VDDI_TP_L	AVSS
38	VSP	C21M	AVDD	AVDD
39	VGH	VGH	VGH	VSS
40	C21P	VSUB	C21P	VDD_TP



IC	Hx83112A	TD4330	FT8719	NT36672A
41	C21N	VSP	C21N	VGH
42	VSN	VSP	AVEE	C21P
43	VSSD_P_L	VSN	VSS_P_L	C21M
44	VGL	GND	VGL	VGL
45	VDDD	VCL	VDD	CVSS
46	VSSA	VCOM	VDDI	AVDD
47	VSSA	VCI	VDDI	AVDD
48	VSSA	VCI	VSS	AVDD
49	VSSA	AGND	VSS	AVDD
50	VSSA	TOUCH_PROBEO_L	VSS	AVDD
51	VSSA	TOUCH_PROBE3_L	VSS	AVDD
52	VSP	VGUARD_L	AVDD	AVEE
53	VSP	VSP	AVDD	AVEE
54	VSP	VSPRF	AVDD	AVEE
55	VSN	VSNRF	AVEE	VDD
56	VSN	VSN	AVEE	VDD
57	VSN	VSN	AVEE	VDD
58	VSSA	AGNDRF	AVSS	AVSS
59	VSSA	GND	AVSS	AVSS
60	VSSD	GND	VSS	VSS
61	VSSD	GNDRF	VSS	VSS
62	VDD1	IOVCCRF	VDDI	VDD_TP
63	VDD1	IOVCC	VDDI	VDD_TP
64	VSP_G_L	IOVCC	AVDD_REG_L	AVDD_DC
65	VSSA_G_L	IOVCC	AVSS_REG_L	AVSS_DC
66	VSN_G_L	IOVCC	AVEE_REG_L	AVEE_DC
67	VSNR	IOVCC	GVDDN	GVDDN
68	VSPR	IOVCC	GVDDP	GVDDP
69	VREF	IOVCC	VREF	VCI_DET
70	VSSA	IOVCC	AVSS	VCI
71	VCOM	IOVCC	VCOMDC	VCL_DC
72	VCL	VDD	VCL	VSS
73	VSP	GND	AVDD	VDD_TP
74	VSSD_OSC	GND	VSS_OSC	VDDI_DC
75	VDDD	AGND	VDD	VDDI
76	VDDD	CAP_REF_GND	VDD	VDDI
77	VDD1	VGH_CAP_REF	VDDI	VDD
78	VDD1	VGL_CAP_REF	VDDI	VDD
79	VDD1	VSP	VDDI	VDD
80	VDD1	GVSP	VDDI	VDD

BV066WBM-L04-8K01 Product Specification

PRODUCT GROUP

TFT- LCD PRODUCT



PAGE

14 OF 31

5-3. Panel Pin Map

SPEC. NUMBER

IC	Hx83112A	TD4330	FT8719	NT36672A
81	VDD1	VGUARD	VDDI	VDD
82	VDD1	GGND	VDDI	VDD
83	VDD1	VSP	VDDI	VDD
84	VDDD	IOVCC	VDD_TP	VCOM
85	VSSD	VDDCORE	VSS	VSS
86	VSSD	AGND	VSS	VSS
87	DUMMY3	TESTPWRSW	VMODE	AVSS
88	DUMMY4	IOVCC	VMODE	AVSS
89	DUMMY18	IOVCC	VMODE	AVSS
90	DUMMY18	IOVCC	VMODE	AVSS
91	DUMMY30	GND	AVSS	VSS
92	DD_IO_I2C_SDA	GND	LCD_I2C_SDA	DUMMY_VCL[0]
93	DD_IO_I2C_SCL	GND	LCD_I2C_SCL	DUMMY_VCL[1]
94	INT_VDDD_OFF	GND	LCD_V12_REG_EN	DUMMY_VCOM
95	DUMMY31	GND	VREF_TP_M	VSS
96	DUMMY42	IM<0>	VREF_TP_M	VSS
97	DUMMY42	IM<0>	VREF_TP_M	VSS
98	SAFE_MODEX	SCAN_ENABLE	POR_N	GPIO[11]
99	RESX	RESET_N	RESX	RESX
100	TP_EXT_RSTN	TCH_RESET_N	TP_EXT_RSTN	TP_RESX
101	TP_IO_TSIX	GPIO<1>	BOOT_DEVICE	TCH_ATTN
102	TP_IO_I2C_SDA	GPIO<0>	TP_IO_I2C_SDA	TCH_IO_SDA
103	TP_IO_I2C_SCL	TCH_IO_CSN	TP_IO_I2C_SCL	TCH_IO_SCL
104	TP_IO_SPI_SS	TCH_IO_MOSI	TP_IO_SPI_SS	TCH_IO_CSN
105	TP_IO_SPI_MISO	TCH_ATTN	TP_IO_SPI_MISO	TCH_IO_MISO
106	TP_IO_SPI_MOSI	TCH_IO_SDA	TP_IO_SPI_MOSI	TCH_IO_MOSI
107	TP_IO_SPI_SCL	TCH_IO_SCL	TP_IO_SPI_SCL	TCH_IO_SCK
108	SCAN_CLK	OSC	SCAN_CLK	GPIO[10]
109	SCAN_ENABLE	REF_CLK	CLK_SEL	GPIO[9]
110	FLASH_HOLD	TCH_IO_SCK	FLASH_HOLD	TP_OPT
111	FLASH_WP	TCH_IO_MISO	FLASH_WP	DSV_EN
112	FLASH_SS	FLASH_SPI_MISO	FLASH_SS	FLASH_SPI_CSN
113	FLASH_MISO	FLASH_SPI_CSN	FLASH_MISO	FLASH_SPI_MISO
114	FLASH_MOSI	FLASH_SPI_MOSI	FLASH_MOSI	FLASH_SPI_MOSI
115	FLASH_SCL	FLASH_SPI_SCL	FLASH_SCL	FLASH_SPI_SCK
116	VSSD	GND	VSS	VSS
117	VDDD	VDD	VDD	VDD
118	VDD1	IOVCC	VDDI	VDD
119	GPIO_DMY7	IOVCC	GPIO1	GPIO[7]
120	GPIO_DMY6	PS_TM	GPIO2	GPIO[6]





IC	Hx83112A	TD4330	FT8719	NT36672A
121	GPIO_DMY5	PMIC_EN	INT	GPIO[5]
122	GPIO_DMY4	TSC	WAKE	GPIO[4]
123	GPIO_DMY3	TSC	DSV_EN	GPIO[3]
124	GPIO_DMY2	TSC2	DSV_EN6	GPIO[2]
125	GPIO_DMY1	TSC3	LED_KEY	GPIO[1]
126	GPIO_DMY0	VREF	BUS_SEL	GPIO[0]
127	IM1	TE	IM1	IM[1]
128	IM0	TE	IM0	IM[0]
129	FRM	TE2_EXVDD_EN	FRM	FRM
130	OSC	TE2	OSC	RDX
131	TEST2	LEDPWM	TEST2	WRX
132	DSWAP1	LEDSCL	DSWAP1	DSWAP[1]
133	DSWAP0	LEDSDA	DSWAP0	DSWAP[0]
134	PNSWAP	DBIST	PNSWAP	PNSWAP
135	TS7	EXVDD_EN	TS7	D[7]
136	CABC_PWM_OUT	PNSW	LEDPWM	LEDPWM
137	TE	LNSW<1>	TE	FTE
138	TE1	LNSW<0>	TE1	FTE1
139	VDD1	EXVDD_SEL	VDDI	VDDI
140	HS_VCC	EXVDD_SEL	VDDAM	VDDI
141	HS_VCC	DEBUG_MODE_N	VDDAM	VDDI
142	HS_LDO	IOVCC	LVDSVDD	VP_HSSI
143	HS_LDO	DPHYVCC	LVDSVDD	VP_HSSI
144	HS_VSS	GND	LVDSVSS	VG_HSSI
145	HS_D2P	D_DATA2P/C_DATA0A	D2_P	HSSI_D2_P
146	HS_D2N	D_DATA2N/C_DATA3B	D2_N	HSSI_D2_N
147	HS_VSS	GND	LVDSVSS	VG_HSSI
148	HS_D1P	D_DATA1P/C_DATA4C	D1_P	HSSI_D1_P
149	HS_D1N	D_DATA1N/C_DATA1A	D1_N	HSSI_D1_N
150	HS_VSS	GND	LVDSVSS	VG_HSSI
151	HS_CKP	D_CLKP/C_DATA1B	CLK_P	HSSI_CLK_P
152	HS_CKN	D_CLKN/C_DATA4C	CLK_N	HSSI_CLK_N
153	HS_VSS	GND	LVDSVSS	VG_HSSI
154	HS_D0P	D_DATA0P/C_DATA6A	D0_P	HSSI_D0_P
155	HS_D0N	D_DATA0N/C_DATA2B	D0_N	HSSI_D0_N
156	HS_VSS	GND	LVDSVSS	VG_HSSI
157	HS_D3P	D_DATA3P/C_DATA2C	D3_P	HSSI_D3_P
158	HS_D3N	D_DATA6N/GND or NC	D3_N	HSSI_D3_N
159	HS_VSS	GND	LVDSVSS	VG_HSSI
160	VDD1	VDDLP	VDDI	VP_HSSI





IC	Hx83112A	TD4330	FT8719	NT36672A
161	VDD1	GND	VDDI	VP_HSSI
162	VSSA	DPHYVCC	AVSS	VG_HSSI
163	VSSA	VGS	AVSS	VG_HSSI
164	VSSA	AGND	AVSS	VG_HSSI
165	VSSA_G_R	VCL	VSS	VCOM_OPT
166	VSN_G_R	VREFM	VDD_TP	VDDI
167	VSP_G_R	VCI	VDDI_TP	VDDI
168	VSP	VSN	AVDD	AVDD
169	VSP	VSP	AVDD	AVDD
170	VSN	VGUARD_R	AVEE	AVEE
171	VSN	TOUCH_PROBE1_R	AVEE	AVEE
172	VSSA	TOUCH_PROBE2_R	AVSS	AVSS
173	VSSA	AGND	AVSS	AVSS
174	VSSA	VSNRF	VSS	VSS
175	VSSA	VNLVL	VSS	VSS
176	VSSD	AGNDRF	VDDI	VDD
177	VSSD	VPLVL	VDDI	VDD
178	VDDD	VSPRF	VDD	CVSS
179	VDDD	VSP	VDD	CVSS
180	VGH	VSP	VGH	VGL
181	VSSD_P_R	GND	VSS_P_R	C31M
182	VSN	AGND	AVEE	C31P
183	C31N	AGND	C31N	TVCH
184	C31P	VSN	C31P	TVCL
185	VGL	VSN	VGL	AVDD
186	VGL	C31M	VGL	AVDD
187	VSP	C31M	VDDI_TP_R	AVEE
188	VDDD	C31P	VDD_TP_R	VCOM
189	VCOM_R	C31P	VCOM_R	AVSS
190	VCOM_R	VGL	VCOM_R	AVSS
191	VCOM_R	VSUB	VCOM_R	AVSS
192	AN_DEBUG2	GND	TEST_OUT	TEST_TP[4]
193	AN_DEBUG3	GND	TEST_OUT2	TEST_TP[5]
194	VTESTOUTP_R	GND	AFETEST_R_0	TEST_TP[6]
195	VTESTOUTN_R	GND	AFETEST_R_1	TEST_TP[7]
196	VREF	GND	VDD5_R	VDD_TP
197	VSSA	VSN	AVSS	VSS
198	VSSA	VSP	AVSS	VSS
199	VSSA	VSP	AVDD	TVSS
200	VSSA	AGND	AVDD	TVSS



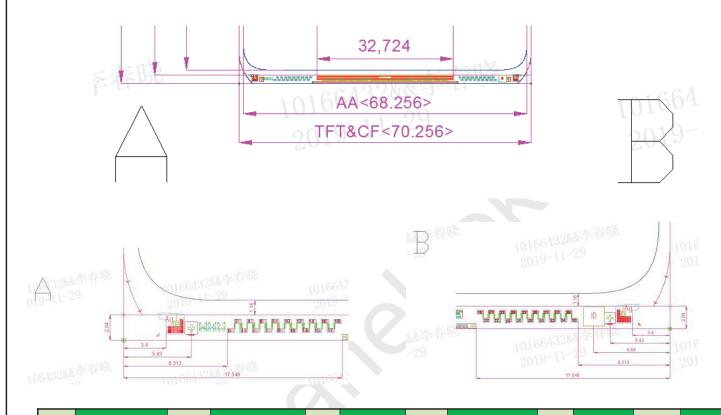


	IC	Hx83112A	TD4330	FT8719	NT36672A
	201	VSSAT_R	VDD	VREF_TP_R	TVDD
	202	VSSACT_R	GND	VGLO2	TVDD_ADC
	203	VCCAREGT_R	GND	VGLO1	TVSS_ADC
	204	VCCAREGT_R	VSUB	VGLO1	TVSS_ADC
	205	VCCAREGT_R	GBDRX	VGLO1	TVSS_ADC
	206	VGHO_R	VGH	VGHO	VGHO
	207	VGLO_R	VGL	VGLO	VGLO
	208	COGTEST34	COGTEST34	COGTEST34	COGTEST34
	209	COGTEST34	COGTEST34	COGTEST34	COGTEST34
	210	CTD_ODD	CTD_ODD	CTD_ODD	CTD_ODD
	211	VGH_E	VGH_E	VGH_E	VGH_E
	212	VGH_E	VGH_E	VGH_E	VGH_E
	213	VGL_E	VGL_E	VGL_E	VGL_E
	214	VGL_E	VGL_E	VGL_E	VGL_E
	215	GND_ESD	GND_ESD	GND_ESD	GND_ESD
	216	GND_ESD	GND_ESD	GND_ESD	GND_ESD
	217	GND_AG	GND_AG	GND_AG	GND_AG
	218	GND_AG	GND_AG	GND_AG	GND_AG
	219	FOG_TEST	FOG_TEST	FOG_TEST	FOG_TEST
	220	FOG_TEST	FOG_TEST	FOG_TEST	FOG_TEST
	221	null	null	null	null
ſ	222	Dummv	Dummy	Dummv	Dummv





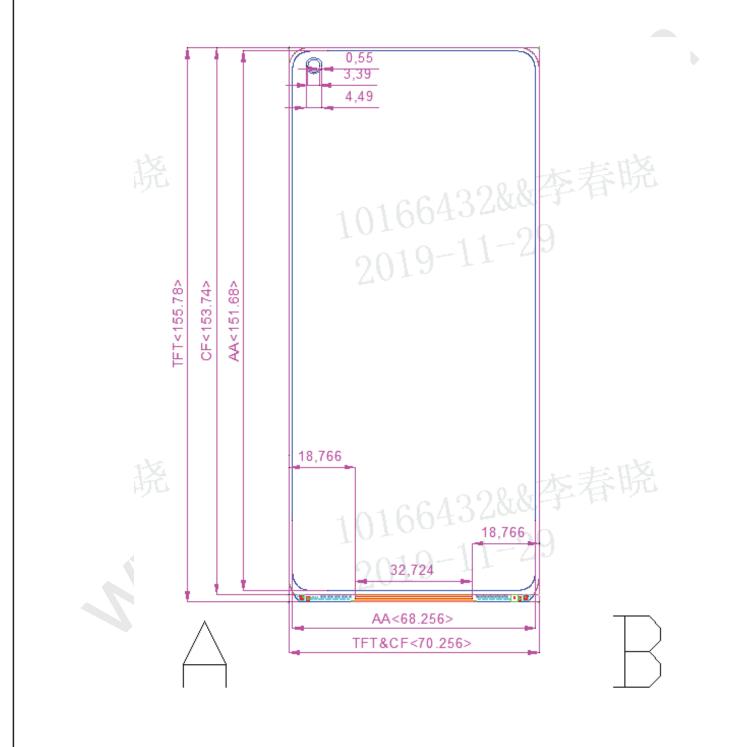
5-4. ET PAD Assignment



1	CLK2	7	CLK14	13	VGL	19	СОМ	25	STV1	31	CLK11
2	CLK4	8	CLK16	14	STV0	20	DY	26	STV3	32	CLK9
3	CLK6	9	VDS	15	VSD	21	DC	27	GCH	33	CLK7
4	CLK8	10	GCH	16	DM	22	VSD	28	VSD	34	CLK5
5	CLK10	11	STV4	17	SW	23	STV0	29	CLK15	35	CLK3
5	CLK12	12	STV2	18	сом	24	VGL	30	CLK13	36	CLK1

BOF	PRODUCT GROUP	REV	ISSUE DATE
	TFT- LCD PRODUCT	P0	2019.10.08
SPEC. NUMBER	BV066WBM-L04-8K01 Product Specification		PAGE 19 OF 31

6.0 Mechanical Characteristics



Unit: mm





7.0 Touch Mapping

	9	8	7	6	5	4	3	2	1
36	rx289	rx253	•	rx217	rx181	rx145	rx109	rx73	rx37
35	rx290 •	rx254	rx218	rx182 ,	rx146	rx110	rx74	rx38	rx2
34	rx291 •	rx255	rx219	rx183	rx147	rx111	rx75	rx39	rx3
33	rx292	rx256	rx220,	rx184	rx148	rx112	rx76	rx40	rx4
32	rx293	rx25	rx221	rx185	rx149	rx113	rx77	rx41	rx5
31	rx294	rx258	rx222	rx186	rx150	rx114	rx78	rx42	rx6
30	rx295	rx259	rx223	rx187	rx151	rx115	rx79	rx43	rx7
29	rx296	rx260	rx224	rx188	rx152	rx116	rx80	rx44	rx8
28	rx297	rx261	rx225	rx189	rx153	rx117	rx81	rx45	rx9
27	rx298	rx262	rx226	rx190	rx154	rx118	rx82	rx46	rx10
26	rx299	rx263	rx227	rx191	rx155	rx119	rx83	rx47	rx11
25	rx300	rx264	rx228	rx192	rx1 <mark>56</mark>	rx120	rx84	rx48	rx12
24	rx301	rx265	rx2 <mark>29</mark>	rx1 <mark>93</mark>	rx157	rx121	rx85	rx49	rx13
23	rx302	rx2 <mark>66</mark>	rx230	rx194	rx158	rx122	rx86	rx <mark>50</mark>	rx14
22	rx303	rx267	rx231	rx195	rx159	rx123	rx87	rx51	rx15
21	rx304	rx268	rx232	rx196	rx160	rx124	rx88	rx52	rx16
20	rx305	rx269	rx233	rx197	rx161	rx125	rx89	r x 53	rx17
19	rx306	rx270	rx234	rx198	rx162	rx126	rx90	rx54	rx18
18	rx307	rx271	rx235	rx199	rx163	rx127	rx91	rx55	rx19
17	rx <mark>308</mark>	rx272	rx236	rx200	rx164	rx128	rx92	r;x56	rx20
16	rx309	rx273	rx237	rx201	rx165	rx129	rx93	rx57	rx21
15	rx310	rx274	r x 238	rx202	rx166	rx130	rx94	rx58	rx22
14	r x 311	rx275	rx239	rx203	rx167	rx131	rx95	rx59	rx23
13	rx312	rx276	rx240	rx204	rx168	rx132	rx96	rx60	rx24
12	rx313	rx277	rx241	rx205	rx169	rx133	rx97	rx61	rx25
11	rx314	r¦x278	rx242	rx206	rx170	rx134	rx98	rx62	rx26
10	rx315	rx279	rx243	rx207	rx171	rx135	rx99	rx63	rx27
9	rx316	rx280	rx244	rx208	rx172	rx136	rx100	rx64	rx28
8	rx317	rx281	rx245	rx209	rx173	rx137	rx101	rx65	rx29
7	rx318	rx282	rx246	rx210	rx174		rx102		rx30
6	rx319	rx283	rx247	rx211	rx175	rx139	rx103	rx67	rx31
5	rx320	rx284	rx248	rx212	¦ rx176	rx140	rx104	rx68	rx32
4	rx321	rx285	rx249	rx213	rx177	rx141	rx105	rx69	rx33
3	rx322	rx286	rx250	rx214	rx178	rx142	rx106	rx70	rx34
	rx323	• rx287	• rx251	• rx215	rx179	• rx143	• rx107	rx71	• rx35
1		rx288	rx252	rx216	rx180	rx144	rx108	rx72	rx36
				h II - IIII	[[]			11	

324

IC Touch Pin

2



BOF	PRODUCT GROUP	REV	ISSUE DATE
DOL	TFT- LCD PRODUCT	P0	2019.10.08
SPEC. NUMBER	BV066WBM-L04-8K01 Product Specificat	PAGE 21 OF 31	

7.0 Touch Mapping

	18	17	16	15	14	13	12	11	10
36	rx612	rx576	rx540	rx504 •	rx468	rx432	•	rx396	rx360
35	rx647	rx611	rx575	rx539	rx503	rx467	rx431	rx395	rx359
34	rx646	rx610	rx574	rx538	rx502	rx466	rx430	rx394	rx358
33	• rx645	rx609	rx573	rx537	•rx501	rx465	•rx429	• rx393	• rx357
32	rx644	∱x608	rx572	rx536	rx500	x464	rx428	rx392	rx356
31	rx643	rx607	rx571	rx535	rx499	rx463	rx427	rx391	rx355
30	rx642	rx606	rx570	rx534	rx498	rx462	rx426	rx390	rx354
29	rx641	rx605	rx569	rx533	rx497	rx461	rx425	rx389	rx353
28	rx640	rx604	rx568	rx532	rx496	rx460	rx424	rx388	rx352
27	rx639	rx603	rx567	rx531	rx495	rx459	rx423	rx387	rx351
26	rx638	rx602	rx566	rx530	rx494	rx458	rx422	rx386	rx350
25	rx637	rx601	rx565	rx529	rx493	rx457	rx421	rx385	rx349
24	rx636	rx600	rx564	rx528	rx492	rx456	rx420	rx384	rx348
23	rx635	rx599	rx563	rx527	rx491	rx455	rx419	rx383	rx347
22	rx634	rx598	rx562	rx526	rx490	rx454	rx418	rx382	rx346
21	rx633	rx597	rx <mark>561</mark>	rx525	rx489	rx453	rx417	rx381	rx345
20	rx632	rx 5 96	rx560	rx524	rx488	rx452	rx416	rx380	rx344
19	rx631	rx595	rx559	rx523	rx487	rx451	rx415	rx379	rx343
18	rx630	rx594	rx558	rx522	rx486	rx450	rx414	rx378	rx342
17	rx629	rx5 <mark>93</mark>	rx5 <mark>57</mark>	rx521	rx485	rx449	rx413	rx377	rx341
16	rx628	rx592	rx5 <mark>56</mark>	rx520	rx484	rx448	rx412	rx376	rx340
15	rx627	rx591	rx555	rx519	rx483	rx447	rx411	rx3 <mark>75</mark>	rx339
14	rx626	rx590	rx5 <mark>5</mark> 4	rx518	rx482	rx446	rx410	rx374	rx338
13	rx625	rx589	rx5 5 3	rx517	rx481	rx445	rx409	rx373	rx3 <mark>37</mark>
12	rx624	rx588	rx552	rx516	rx480	rx444	rx408	rx372	rx336
11	rx623	rx587	rx551	rx515	rx479	rx443	rx407	rx371	rx335
10	rx622	rx586	rx55 <mark>0</mark>	rx514	rx478	rx442	rx406	rx370	rx334
9	rx621	rx585	rx549	rx513	rx477	rx441	rx405	rx369	rx333
8	rx620	rx584	rx548	rx512	rx476	rx440	rx404	rx368	rx332
7	rx619		rx547	-	rx475	rx439	rx403	rx367	rx331
6	rx618	rx582	rx546	rx510	rx474	rx438	rx402	rx366	rx330
5	rx617	rx581	rx545	rx509	rx473	rx437	rx401	rx365	rx329
4	rx616	rx580	rx544	rx508	rx472	rx436	rx400	rx364	rx328
3	rx615	rx579	rx543	rx507	rx471 •	rx435	rx399	rx363•	rx327
2	rx614 •	rx578 •	rx542	rx506	rx470 •	rx434	rx398 •	rx362 •	rx326
1	rx613 •	rx577 •	rx541	rx505	rx469 •	rx433	rx397 •	rx361	rx325 •
								1111	

647

IC Touch Pin

325

BOF	PRODUCT GROUP	REV	ISSUE DATE
DOL	TFT- LCD PRODUCT P0		2019.10.08
SPEC. NUMBER	BV066WBM-L04-8K01 Product Specification		PAGE 22 OF 31

8.0 APPENDIX

Figure 1. Optical Test Equipment Setup

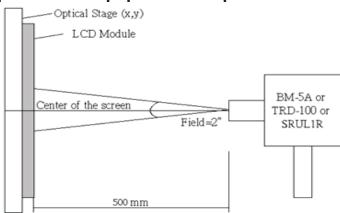


Figure 2. Response Time Testing

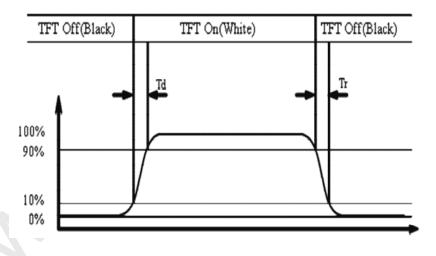
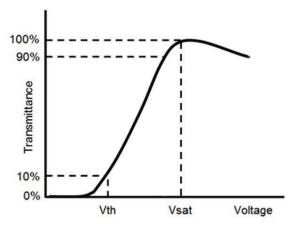


Figure 3. The Definition of Vth & Vsat



BOF	PRODUCT GROUP	PRODUCT GROUP REV	
DOL	TFT- LCD PRODUCT	P0	2019.10.08
SPEC. NUMBER	BV066WBM-L04-8K01 Product Specification		PAGE 23 OF 31

Figure 4. Viewing Angle Range is defined as follows;

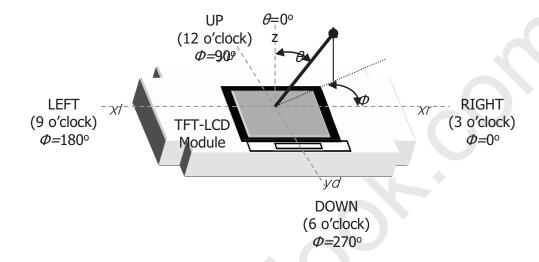
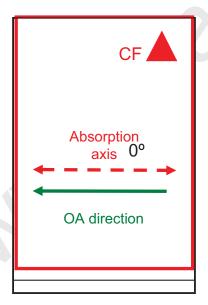
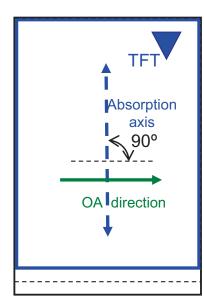


Figure 5. Pol General Spec

UP POL



DOWN POL



	CF Pol	TFT Pol	Remark
Absorption. Axis	$0^{\circ}\!\pm\!0.5^{\circ}$	90°±0.5°	



BOF	PRODUCT GROUP	REV	ISSUE DATE
DOL	TFT- LCD PRODUCT P0		2019.10.08
SPEC. NUMBER	DV066VVDVA LOA 9VO1 Dreduct Charificat	PAGE	
BV066WBM-L04-8K01 Product Specification			24 OF 31

9.0 RELIABILITY TEST

The Reliability test items and its conditions are shown in below.

<Table 8. Reliability test>

No	Test Items	Conditions
1	High temperature storage test	Ta = 80 ℃, 240 hrs
2	Low temperature storage test	Ta = -30℃, 240hrs
3	High temperature & high humidity operation test	Ta = 60 ℃, 90%RH, 240hrs
4	High temperature operation test	Ta = 70 ℃, 240 hrs
5	Low temperature operation test	Ta = -20 ℃, 240hrs
6	Thermal shock test	Ta = $-30 ^{\circ}\text{C} \leftrightarrow 80 ^{\circ}\text{C}$ (30min), 100cycle

BOF	PRODUCT GROUP	REV	ISSUE DATE
DOL	TFT- LCD PRODUCT	P0	2019.10.08
SPEC. NUMBER	SPEC NUMBER BYOCCIVIDA LOA SKOL Product Consideration		PAGE
J. 23. NOMBER	BV066WBM-L04-8K01 Product Specificat	.1011	25 OF 31

10.0 Handling & Cautions

10.1 Mounting Method

- The panel of the LCD consists of two thin glasses with polarizers which easily get damaged. So extreme care should be taken when handling the LCD.
- Excessive stress or pressure on the glass of the LCD should be avoided. Care must be taken to insure that no torsional or compressive forces are applied to the LCD unit when it is mounted.
- If the customer's set presses the main parts of the LCD, the LCD may show the abnormal display. But this phenomenon does not mean the malfunction of the LCD and should be pressed by the way of mutual agreement.
- To determine the optimum mounting angle, refer to the viewing angle range in the specification for each model.
- Mount a LCD module with the specified mounting parts.
- Use fingerstalls of soft gloves in order to keep clean display quality, when persons handle the LCD for incoming inspection or assembly.
- This product is not authorized for use in life supporting systems, aircraft navigation control systems, military systems and any other application where performance failure could be life-threatening or otherwise catastrophic.



10.0 Handling & Cautions

10.2 Caution of LCD Handling and Cleaning

- Since the LCD is made of glass, do not apply strong mechanical impact or static load onto it. Handling with care since shock, vibration, and careless handling may seriously affect the product. If it falls from a high place or receives a strong shock, the glass may be broken.
- The polarizers on the surface of panel are made from organic substances. Be very careful for chemicals not to touch the polarizers or it leads the polarizers to be deteriorated.
- If the use of a chemical is unavoidable, use soft cloth with solvent (recommended below) to clean the LCD's surface with wipe lightly.
 - -IPA(Isopropyl Alcohol), Ethyl Alcohol, Trichlorotriflorothane
- Do not wipe the LCD's surface with dry or hard materials that will damage the polarizers and others. Do not use the following solvent.
 - -Water, Ketone, Aromatics
- It is recommended that the LCD be handled with soft gloves during assembly, etc. The polarizers on the LCD's surface are vulnerable to scratch and thus to be damaged by sharp particles.
- Do not drop water or any chemicals onto the LCD's surface.
- A protective film is supplied on the LCD and should be left in place until the LCD is required for operation.
- The ITO pad area needs special careful caution because it could be easily corroded. Do not contact the ITO pad area with HCFC, Soldering flux, Chlorine, Sulfur, saliva or fingerprint. To prevent the ITO corrosion, customers are recommended that the ITO area would be covered by UV or silicon.
- Please use suction cup to grab the Q-Panel. Please use suction ball to grab the Cell. It is forbidden to touch the ITO pad area and Active Area.
- Repeatedly bonding will result in film peeling.
- The special tray should be used to avoid Q-panel bending while the placement, flipping, etc.
- When the LCD needs to be returned, please use special tray.
- When disposing LCD, obey the local environmental regulations.
- The ion wind blowing is the unique way to clean ITO pad area. No wipe.
- The LCD should be no falling and violent shocking during transportation, and also should avoid excessive press, water, damp and sunshine.

BOF	PRODUCT GROUP	REV	ISSUE DATE
DOL	TFT- LCD PRODUCT	P0	2019.10.08
SPEC. NUMBER	BV066WBM-L04-8K01 Product Specification		PAGE 27 OF 31

10.3 Caution Against Static Charge

- The LCD modules use C-MOS LSI drivers, so customers are recommended that any unused input terminal would be connected to Vdd or Vss, do not input any signals before power is turn on, and ground you body, work/assembly area, assembly equipments to protect against static electricity.
- Remove the protective film slowly, keeping the removing direction approximate 30-degree not vertical from panel surface, If possible, under ESD control device like ion blower, and the humidity of working room should be kept over 50%RH to reduce the risk of static charge.
- Avoid the use work clothing made of synthetic fibers. We recommend cotton clothing or other conductivity-treated fibers.
- In handling the LCD, wear non-charged material gloves. And the conducting wrist to the earth and the conducting shoes to the earth are necessary.
- To reduce the amount of static electricity generated, do not conduct assembly and other work under dry conditions.

10.4 Caution For operation

- It is indispensable to drive the LCD within the specified voltage limit since the higher Voltage than the limit causes the shorter LCD's life. An electro-chemical reaction due to DC causes undesirable deterioration of the LCD so that the use of DC drive should avoid.
- Do not connect or disconnect the LCD to or from the system when power is on.
- Never use the LCD under abnormal conditions of high temperature and high humidity.
- When expose to drastic fluctuation of temperature (hot to cold or cold to hot), the LCD may be affected; Specifically, drastic temperature fluctuation from cold to hot ,produces dew on the LCD's surface which may affect the operation of the polarizer and the LCD.
- Response time will be extremely delayed at lower temperature than the operating temperature range and on the other hand at higher temperature LCD may turn black at temperature above its operational range. However those phenomena do not mean malfunction or out of order with the LCD. The LCD will revert to normal operation once the temperature returns to the recommended temperature range for normal operation.
- Do not display the fixed pattern for a long time because it may develop image sticking due to the LCD structure. If the screen is displayed with fixed pattern, use a screen saver.
- The ET standard timing is required. Abnormal power-down will cause jitter.



BOF	PRODUCT GROUP	REV	ISSUE DATE
DOL	TFT- LCD PRODUCT	P0	2019.10.08
SPEC. NUMBER	SPEC. NUMBER BV066WBM-L04-8K01 Product Specification		PAGE 28 OF 31

10.5 Packaging

- Modules use LCD element, and must be treated as such.
 - -Avoid intense shock and falls from a height.
 - -To prevent modules from degradation, do not operate or store them exposed directly to sunshine or high temperature/humidity for long periods.

10.6 Storage

- A slight dew depositing on terminals is a cause for electro-chemical reaction resulting in terminal open circuit. Relative humidity of the environment should therefore be kept below 60%RH.
- Original protective film should be used on LCD's surface (polarizer). Adhesive type protective film should be avoided, because it may change color and/or properties of the polarizers.
- Do not store the LCD near organic solvents or corrosive gasses.
- Keep the LCD safe from vibration, shock and pressure.
- Black or white air-bubbles may be produced if the LCD is stored for long time in the lower temperature or mechanical shocks are applied onto the LCD.
- In the case of storing for a long period of time for the purpose or replacement use, the following ways are recommended.
 - -Store in a polyethylene bag with sealed so as not to enter fresh air outside in it.
 - -Store in a dark place where neither exposure to direct sunlight nor light is.
 - -Keep temperature in the specified storage temperature range $(25\pm10^{\circ}\text{C})$.
 - -Store with no touch on polarizer surface by the anything else. If possible, store the LCD in the packaging situation LCD when it was delivered.
 - -The LCD should be stored in the room without acid, alkali and harmful gas.

10.7 Safety

- For the crash damaged or unnecessary LCD, it is recommended to wash off liquid crystal by either of solvents such as acetone and ethanol an should be burned up later.
- In the case the LCD is broken, watch out whether liquid crystal leaks out or not. If your hands touch the liquid crystal, wash your hands cleanly with water an soap as soon as possible.
- If you should swallow the liquid crystal, first, wash your mouth thoroughly with water, then drink a lot of water and induce vomiting, and then, consult a physician.
- If the liquid crystal should get in your eyes, flush your eyes with running water for at least fifteen minutes.
- If the liquid crystal touches your skin or clothes, remove it and wash the affected part of your skin or clothes with soap and running water.



BOF	PRODUCT GROUP REV		ISSUE DATE
	TFT- LCD PRODUCT	P0	2019.10.08
SPEC. NUMBER BV066WBM-L04-8K01 Product Specification		PAGE 29 OF 31	

11.0 LABEL

(1) High voltage caution label



HIGH VOLTAGE CAUTION

RISK OF ELECTRIC SHOCK, DISCONNECT THE ELECTRIC POWER BEFORE SERVICING

COLD CATHODE FLUORESCENT LAMP IN LCD
PANEL CONTAINS A SMALL AMOUNT
OF MERCURY, PLEASE FOLLOW LOCAL ORDINANCES OR REGULATIONS FOR DISPOSAL.

(2) Box label

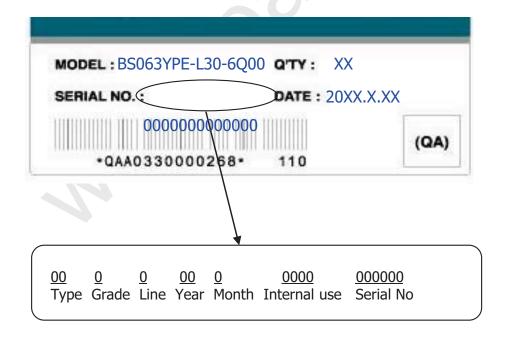
Label Size: 110 mm (L) 56 mm (W)

Contents

Model: BS063YPE-L30-6Q00 Q'ty: Cell Q'ty in one box

Serial No.: Box Serial No. See next figure for detail description.

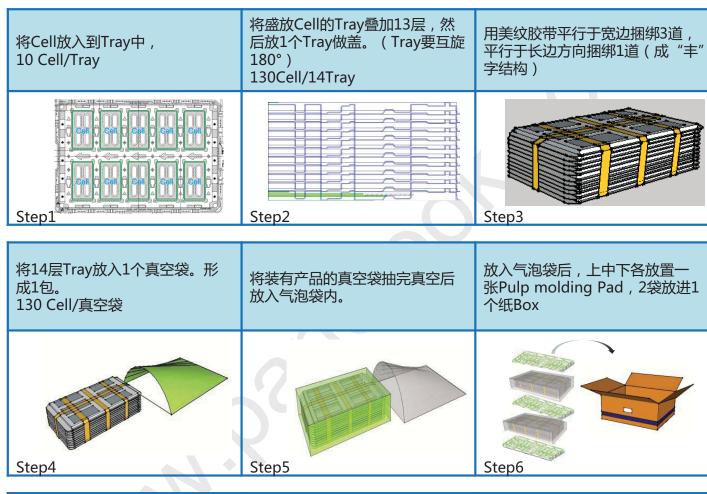
Date: Packing Date Internal use of Product

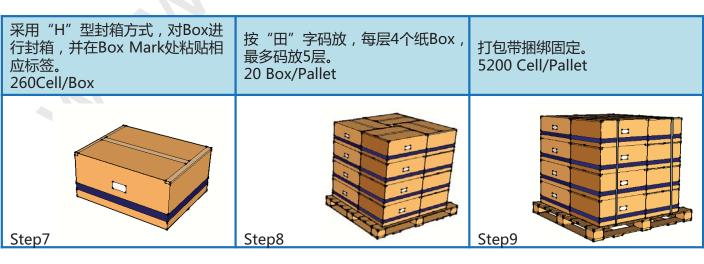




BOF	PRODUCT GROUP	REV	ISSUE DATE
	TFT- LCD PRODUCT	P0	2019.10.08
SPEC. NUMBER BV066WBM-L04-8K01 Product Specification		PAGE 30 OF 31	

11.1 PACKING INFORMATION



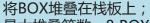




BOE	PRODUCT GROUP	REV	ISSUE DATE
DOL	TFT- LCD PRODUCT	P0	2019.10.08
SPEC. NUMBER BV066WBM-L04-8K01 Product Specification		PAGE 31 OF 31	

11.2 PACKING INFORMATION

参照Box 挡块匹配图,正确将AB	将20ea Q依次平放入, 每个Q上下	利用绑带沿着凹槽将Cover与Bot
S挡块放到EPO Bottom的相应位	均放置珍珠棉垫片, 共计21pcs	tom捆绑打包。
置	, 最后盖上EPO Cover	20 Q-Panel/EPO Box



Step1

最大堆叠箱数:8 BOX/栈板(通 常陆运8BOX,空运2BOX) 8 EPO Box/Pallet

在最上方BOX的长边侧放纸护角, 打绑带并用打包扣扣紧,缠缠绕 膜(2层/BOX),顶部加盖缠绕 膜160 Q-Panel/Pallet

整托入库

Step3

陆运: ≤8BOX (160片Q) 空运: ≤2BOX (40片Q)



Step4

DAS-RD-2019002-O



Step5

Step2

