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BG-RD-工控-2022001-O

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R		PRODUCT GROUP	REV	ISSUE DATE
D	ΩĽ	TFT LCD PRODUCT	P0	2023.8.15
		REVISION HISTORY		
REV.	ECN NO.	DESCRIPTION OF CHANGES	DATE	PREPARED
P0	-	Initial Release	2023.8.15	Qiao Handan
			0	
			+	
SPE	C. NUMBER	SPEC TITLE GV101WXM-N80 Product Specification R	ev.P0	PAGE 2 OF 30
DBG-RD	<b>)-</b> 工控 <b>-202200</b>	1-0		A4(210 X 297)

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		PRODUCT GROUP	REV	ISSUE DATE
БÖ		TFT LCD PRODUCT	P0	2023.8.15
		Contents		
No.		Items		Page
1.0	Gener	al Description		4
2.0	Absolu	ute Maximum ratings		6
3.0	Electri	cal specifications.	$\overline{\mathbf{G}}$	7
4.0	Interfa	ce Connection	•	9
5.0	Signal	Timing Specifications		11
6.0	Signal	Timing Waveforms Of Interface Signal		13
7.0	Power	Sequence		15
8.0	Optica	al specifications.		16
9.0	Mecha	anical Outline Dimension		20
10.0	Reliab	ility Test		22
11.0	Preca	utions		23
12.0	Label			27
13.0	Packir	ng information		29
SPEC. NUM	BER	SPEC TITLE	DO	PAGE
	022001	GV101VVXIM-N80 Product Specification Rev	2.20	A4(210 X 297

One stop solution for LCD / OLED panel application: Datasheet, inventory and accessory!

BOE	PRODUCT GROUP	REV	ISSUE DATE
ЪЦГ	TFT LCD PRODUCT	P0	2023.8.15

## **1.0 GENERAL DESCRIPTION**

## **1.0.1 Introduction**

GV101WXM-N80 is a color active matrix TFT LCD module using amorphous silicon TFT's (Thin Film Transistors) as an active switching devices. This module has a 10.1 inch diagonally measured active area with XGA resolutions (1280 horizontal by 800 vertical pixel array). Each pixel is divided into RED, GREEN, BLUE dots which are arranged in vertical stripe and this module can display 16.7 M colors.



	PRODUCT GROUP	REV	ISSUE DAT
DOL	TFT LCD PRODUCT	P0	2023.8.15
1.0.4 General Spe	cification		
	< Table T. General Specifications >	1	
Parameter	Specification(15inch 参考)	Unit	Remarks
Active area	216.96 (H) $ imes$ 135.6(V)	mm	
Number of pixels	1280(H) × 800(V)	Pixels	
Pixel pitch	0.1695(H) × 0.1695 (V)	mm	
Pixel arrangement	RGB Vertical stripe		
Display colors	16.7M	Colors	8bit
Display mode	Normally Black		
Dimensional outline	228.2±0.3(H) x 148.85±0.3(V) x 2.8ma x/4.9(max.)	mm	10.0max
Weight	TBD	g	
Surface treatment	Hard Coating, 3H		
Back-light	Edge side, 1-LED Lighting Bar Type		27*LED
SPEC. NUMBER	SPEC TITLE GV101WXM-N80 Product Specification Rev	P0	PAGE 5 OF

E		PRODU	CT GRO	OUP		F	REV	ISSUE DATE
	ЪСГ	TFT LCI	D PRODUC	т			P0	2023.8.15
2.0	ABSOLUTE	MAXIMUM RATIN	IGS					
	The followings and damage to the under the und	re maximum values v init. The operational in Table 2. < Table 2. Environm	which, if ex and non-op nent Absolu	ceed, may perational te Maximi	y cau maxi um R	se fa mum ating	ulty ope voltage s> []	ration or and current 「a =25±2 ℃]
	Para	imeter	Symbol	Min.	Ма	ax.	Unit	Remarks
	LCD Power Supp	ly Voltage	VDD	3.0	3.	6	V	
	LED Driver Powe	r Supply Voltage	$V_{LED}$	5	24	4	V	Ta = 25 °C Note 1&2
	Operating Tempe	rature	T <sub>OP</sub>	-20	7	0	°C	
	Storage Tempera	ture	T <sub>ST</sub>	-30	8	0	°C	Environment
	Operating Ambier	nt Humidity	Нор	10	9	0	%RH	Temperature
	Storage Humidity		Hst	10	9	0	%RH	
	Heat Releas	e Requirement	Trls	1:	5		Ĉ	Note3 仅适用于Q/Sin gle/FOG出货项 目
o p n B V	te: These range above erating temperatur perature ; OE is not respons Vhen the ambient ceed (T+15)℃.	e is maximum value re is no more than <u>4(</u> sible for product prob temperature is T ℃,	not the act <u>0</u> ℃ and ter lems beyou the surfa	ual operat nperature nd the use ce temper	ing te refer e con rature	empe rs to t ditior e of F	erature the LCM ns. Panel car	Actual surface n not
SI	PEC. NUMBER	SPEC TITLE GV101WXM-N80 F	Product Spe	ecification	Rev.	P0		PAGE 6 OF 30

DBG-RD-工控-2022001-O

A4(210 X 297)

F		PRO		GRC	OUP		REV	ISSUE DAT	ΓE
		Т	FT LCD PRODUCT				P0	2023.8.15	5
3	.0 ELECTRICA		CATIONS	6					
	3.0.1 TFT LCD M	lodule							
		< Table 3. L	CD Modu	le Electri	cal Specif	ications	3 >	<b>[Ta =25±2 ℃</b>	]
	Parame	ter	Symbol		Values		Unit	Notes	
	Dowor Supply In			Min	lyp	Max	) /		
	Power Supply II			J.J TRD	3.3 TRD	J.0 TRD	v mA	Note 1	
	LED Driver Pov Voltage	ver Supply	V <sub>LED</sub>	10.8	12	13.2	V		
	LED Driver Pov Currer	ver Supply	I <sub>LED</sub>	TBD	TBD	TBD	mA	Note 2	
	LED Power Co	nsumption	P <sub>LED</sub>	TBD	TBD	TBD	W		
	Positive-goir Threshold \	ng Input /oltage	V <sub>IT+</sub>	1	5	+100	mV		
	Negative-goi Threshold V	ng Input /oltage	V <sub>IT-</sub>	-100	-	-	mV		
	Differential inp mode vo	ut common Itage	V <sub>com</sub>	0.6	1.2	1.4	V		
	Notes : 1. The su The cu Max va 2. Calcula	pply voltage is rrent draw an alue at XXX Pa ated value for	s measure d power co attern reference	ed and sp onsumpti ا <sub>LED</sub> × ۱	ecified at on specifi / <sub>LED</sub> ÷0.8	the inte ed is fo 5 = P <sub>LEI</sub>	erface co r 3.3V at	onnector of LCN t 25 ℃	Л.
S	SPEC. NUMBER	SPEC TITLI GV101WXM	∃ 1-N80 Pro¢	duct Spe	cification	Rev.P0		PAGE 7 OF	E 30
DBO	G-RD-工控-2022001	L-O						A4(210 X 2	297)

		Ρ	RODI	JCT GF	ROUP	REV		ISSUE DATE	
		TFT L	T LCD PRODUCT					2023.8.15	
3.2 Back	-light [	Driving <b>Un</b>	it						
		< Table	4. LED	Driving gui	deline sp	ecificati	ons >	Та	a=25+/-2°C
	Param	eter		Min.	Тур.	Max.	Unit	R	emarks
Power supply LED Driver	y voltag	ge for	$V_{LED}$	-	21	23.1	V		
Power supply Back light	y Curre	ent for	I <sub>LED</sub>	-	120	-	mA	5	
Power supply	y for B	ack light	P <sub>LED</sub>	-	2.52	2.8	W		Note 1
EN Control	Back	klight on	$V_{ENH}$	1.2	0	2	V	ENI	ogic high v oltage
Level	Back	klight off	V <sub>ENL</sub>	2	-	0.6	V	EN lo	ogic low vol tage
PWM	PW	M High evel	V <sub>PML</sub>	1.2	-	-	V		
Level	PW L	M Low evel	V <sub>PML</sub>	-	-	0.6	V		
PWM Contro	l Frequ	iency	F <sub>PWM</sub>	0.2	-	25	KHz		
Duty Ratio			-	5	-	100	%		
S									
SPEC. NUM	BER	SPEC T GV101V	ITLE VXM-N80	) Product S	specificat	ion Rev	.P0		PAGE 8 OF 30
BG-RD-工控-2	022001	-0							A4(210 X 292

R		PROE	PRODUCT GROUP REV I		
	$\subseteq$ L	TFT	LCD PRODUCT	P0	2023.8.15
<b>4.0 I</b> 4.0.1 T T	NTERFACE Electrical Int he electronics he connector in	<b>CONNECTION</b> erface Connection interface connect nterface pin assig <table 6.="" ass<="" pin="" th=""><th><b>I.</b> on or is 20455-040E-12. nments are listed in Table 6 signments for the Interface Co</th><th>onnector&gt;</th><th></th></table>	<b>I.</b> on or is 20455-040E-12. nments are listed in Table 6 signments for the Interface Co	onnector>	
	Terminal	Symbol	Functio	ons	
_	Pin No.	Symbol	Descrip	tion	
	1	NC	No Conne	ection	
	2	VDDIN	Power Supply,3	.3V(typical)	
	3	VDDIN	Power Supply,3	.3V(typical)	
_	4	VDC	EDID,3.3V(	typical)	
	5	NC	No Conne	ection	
	6	CLK_EDID	EDID 时	钟	
	7	Data_EDID	EDID data	a读取	
	8	RIN0-	-LVDS differential d	lata lane0 input	
	9	RIN0+	+LVDS differential of	lata lane0 inpu	t
	10	GND	Grour	ıd	
	11	RIN1-	-LVDS differential d	lata lane1 input	:
	12	RIN1+	+LVDS differential of	lata lane1 inpu	t
-	13	GND	Grour	nd	
-	14	RIN2-	-LVDS differential d	lata lane2 input	:
-	15	RIN2+	+LVDS differential of	lata lane2 input	t
-	16	GND	Grour	ıd	
-	17	LVDS_CLK-	-LVDS differentia	al clock input	
-	18	LVDS_CLK+	+LVDS differentia	al clock input	
	19	GND	Grour	nd	
	20	RIN3-	-LVDS differential d	lata lane3 input	:
-	21	RIN3+	+LVDS differential of	lata lane3 input	t
_	22	NC	No Conne	ection	
SPE	EC. NUMBER D-丁控-202200	SPEC TITLE GV101WXM-N 01-O	80 Product Specification Rev	r.P0	PAGE 9 OF 30

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P		PROE	OUCT GROUP	DUCT GROUP REV ISSUE			
	ЧЧL	TFT		P0	2023.8.15		
<b>4.0  </b> 4.0.′ T	INTERFACE 1 Electrical Inte The electronics in The connector in	CONNECTION erface Connection Interface connection Interface pin assign	<b>I.</b> on or is 20455-040E-12. nments are listed in Table 6				
		<table 6.="" ass<="" pin="" td=""><td>ignments for the Interface Co</td><td>onnector&gt;</td><td></td></table>	ignments for the Interface Co	onnector>			
	Terminal	Symbol	Functio	ons			
	Pin No.	Symbol	Descrip		· ·		
	23	NC(SPI_CSB)	No Connection	(SPI 斤选)			
	24	NC(SPI_SCL)	INO Connection	(SPI			
	25	GND	Grour		<u></u>		
	26	NC(SPI_SDAO)	No Connection (SP	I Data output	)		
	27	NC(SPI_SDAI)	No Connection ( S	PI Data input )	)		
	28	GND	Grour	nd			
	29	NC	No Conne	ection			
	30	NC	No Conne	ection			
	31	LED_GND	Grour	nd			
	32	LED_GND	Grour	nd			
	33	LED_GND	Grour	nd			
	34	NC	No Conne	ection			
	35	LED_PWM	LED Driver PWM dim	nming control	pin		
	36	LED_EN	LED Driver Chip Enable	e pin (Active ⊦	ligh)		
	37	NC	No Conne	ection			
	38	VLED	LED Driver Power	supply input			
	39	VLED	LED Driver Power	supply input			
	40	VLED	LED Driver Power	supply input			
		SPEC TITLE			PAGE		
SPE	EC. NUMBER	GV101WXM-N	80 Product Specification Rev	v.P0	10 OF 30		
DBG-R	RD-工控-202200	1-0	·		A4(210 X 297)		



		PRO	ODUCI	GRO	UP	RE	V	ISSUE DATE
2		Т	FT LCD P	RODUCT		P	0	2023.8.15
5.0 SIGN/ 5.0.1 The	AL TIN 9 GV10 <sup>-</sup>	IING SPEC 1WXM-N80 is	IFICATIC s operated	DN d by the D	)E only.			
Item		Symbols		Min	Тур	Max	Unit	Note
DCLK	Fı	requency	-	-	75.3	-	MHz	
		Period	tHP	-	1490		tCLK	
Hsync	Hori	zontal Valid	tHV	-	1280		tCLK	
	Horiz	zontal Blank	tHB	-	210	-	tCLK	
		Period	tVP		842	-	tHP	
17	Ver	tical Valid	tVV	$\overline{\mathbf{C}}$	800	-	tHP	
Vsync	Ver	tical Blank	tVB	-	42	-	tHP	
	Fi	requency	fV	-	60	-	Hz	



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	PRODUC	T GROUP	REV	ISSUE DATE
DOL	TFT LCD F	PRODUCT	P0	2023.8.15
6.0 POWER SE To prevent a la sequence shal	<b>QUENCE</b> Itch-up or DC operatior I be as shown in below	n of the LCD module, t v	he power on/o	ff
Power Supply	OV 0.9VDD T1 T2	0.9VDD	0.1VDD T7 T6	
Interface Signa	I ov	Valid		
Back- light	0V		-	
		Values		
Parameter		values		Units
Parameter	Min	Тур	Max	Units
Parameter T1	<b>Min</b> 0.5	Typ -	<b>Max</b> 10	Units ms
ParameterT1T2	Min           0.5           0		Max           10           50	Units ms ms
ParameterT1T2T3T4	Min           0.5           0           200	Typ           -           -           -           -           -	Max       10       50       -	Units ms ms ms
ParameterT1T2T3T4	Min           0.5           0           200           500	Typ       -       -       -       -       -       -	Max       10       50       -       -       -       -	Units     ms     ms     ms     ms
Parameter           T1           T2           T3           T4           T5	Min           0.5           0           200           500           0	Typ       -       -       -       -       -       -       -       -	Max       10       50       -       50       -       50	Units     ms     ms     ms     ms     ms
Parameter           T1           T2           T3           T4           T5           T6	Min           0.5           0           200           500           0           500           0           500	Typ       -	Max       10       50       -       50       10       10	Unitsmsmsmsmsmsmsmsms
ParameterT1T2T3T4T5T6T7Notes:1. When the powthe low or keep t2. Do not keep tBack Light mustare valid.	Min         0.5         0         200         500         0         0         0         500         0         500         0         0         0         500         ver supply VDD is 0V, nigh impedance.         he interface signal hig be turn on after power	Typ       -	Max10505010-wit signals oncower is on.ace signal	Unitsmsmsmsmsmsmsms
ParameterT1T2T3T4T5T6T7Notes:1. When the powthe low or keep t2. Do not keep tBack Light mustare valid.	Min         0.5         0         200         500         0         0         0         500         0         500         0         500         0         500         Ver supply VDD is 0V, nigh impedance.         he interface signal higher be turn on after power         SPEC TITLE	Typ       -	Max10505010-wt signals oncower is on.ace signal	Units ms
ParameterT1T2T3T4T5T6T7Notes:1. When the powthe low or keep t2. Do not keep tBack Light mustare valid.SPEC. NUMBER	Min         0.5         0         200         500         0         0         0         0         0         0         0         0         0         0         500         0         500         0         500         0         500         0         500         0         500         0         500         0         500         Ver supply VDD is 0V,         nigh impedance.         he interface signal hig         be turn on after power         SPEC TITLE         GV101WXM-N80 Pro	Typ       -	Max10505010-5010-signals oncower is on.ace signal	Units ms

ROF	PRODUCT GROUP	REV	ISSUE DATE
 DOL	TFT LCD PRODUCT	P0	2023.8.15

## 8.0 OPTICAL SPECIFICATION

## 8.0.1 Overview

The test of view angle range shall be measured in a dark room (ambient luminance  $\leq 1$ lux and temperature =  $25\pm2^{\circ}$ C) with the equipment of Luminance meter system (Goniometer system and TOPCON CS2000/CA310) and test unit shall be located at an approximate distance 50cm from the LCD surface at a viewing angle of  $\theta$  and  $\Phi$  equal to 0°. We refer to  $\theta \emptyset = 0$  (= $\theta 3$ ) as the 3 o'clock direction (the "right"),  $\theta \emptyset = 90$  (=  $\theta 12$ ) as the 12 o'clock direction ("upward"),  $\theta \emptyset = 180$  (=  $\theta 9$ ) as the 9 o'clock direction ("left") and  $\theta \emptyset = 270$ (=  $\theta 6$ ) as the 6 o'clock direction ("bottom"). While scanning  $\theta$  and/or  $\emptyset$ , the center of the measuring spot on the Display surface shall stay fixed. The luminance, color and uniformity (etc) should be tested by CS2000/CA310. The backlight should be operating for 10 minutes prior to measurement. VDD shall be 3.3 ± 0.3V at 25°C. Optimum viewing angle direction is 6 'clock

Parameter		Symbol	Condition	Min.	Тур.	Max.	Unit	Remark		
	Hori	zontal	Θ <sub>3</sub>		80	85	-	Deg.		
Viewing Angle		Lonia	Θ <sub>9</sub>		80	85	-	Deg.	Noto 1	
range	Vor	tical	Θ <sub>12</sub>	CK = 10	80	85	-	Deg.	Note 1	
	ver	lical	$\Theta_6$		80	85	-	Deg.		
Luminance Co	ontras	t ratio	CR	Θ = 0°	900	1300	-		Note 2	
Luminance of White	Ce	nter	Yw		425	500	-	cd/m <sup>2</sup>	Note 3 (MDL以 外产品删 除此行)	
White Luminance uniformity	9 P or 5	oints Points	ΔY9 or ΔY5	Θ = 0°	75	80	-	%	Note 4 (MDL以 外产品删 除此行)	
Color Gamut	NT	SC	CIE1931	Θ = 0°	40	45	-	%		
Reproduction			Wx	Wx		0.313	Тур		Note 5	
of color	White		Wy	$\Theta = 0^{\circ}$	-0.03	0.329	+0.03			
Response Time		Tr+Td	Ta= 25° C Θ = 0°	-	30	35	ms	Note 6		
SPEC. NUMB	ER	SPE GV1	C TITLE D1WXM-N8(	) Product S	pecificat	ion Rev.F	20		PAGE 17 OF 30	

<Table 5. Optical Specifications>

DBG-RD-工控-2022001-O

A4(210 X 297)

BOE	PRODUCT GROUP	REV	ISSUE DATE				
DOL	TFT LCD PRODUCT	P0	2023.8.15				
<ul> <li>Notes : 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 1).</li> <li>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.</li> <li>CR = Luminance when displaying a white raster Luminance of white is defined as luminance values of center of the LCD surface. Luminance when displaying a black raster</li> <li>3. Luminance of white is defined as luminance values of center of the LCD surface. Luminance shall be measured with all pixels in the view field set first to white. This measurement shall be taken at the locations shown in FIGURE 2 for a total of the measurements per display. The luminance is measured by CS2000/CA310 when the LED current is set at 60mA.</li> </ul>							
<ol> <li>The White luminance uniformity on LCD surface is then expressed as : ΔY = Minimum Luminance of 9 Points or 5 points / Maximum Luminance of 9 Points or 5 points(See FIGURE 2).</li> </ol>							
5. 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.							
6. The elect 3 by swite luminanc	ro-optical response time measurements shall ching the "data" input signal ON and OFF. Th e to change from 10% to 90% is Tr, and 90%	be made as f e times neede to 10% is Td.	FIGURE d for the				
SPEC. NUMBER	SPEC TITLE GV101WXM-N80 Product Specification Rev	<i>.</i> .P0	PAGE 18 OF 30				
BG-RD-工控-2022001-O A4(210 X 297)							



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BOF	PRODUCT GROUP	REV	ISSUE DATE
DOL	TFT LCD PRODUCT	P0	2023.8.15
	Figure 3. Response Time Testing		
Display data	Black (TFT OFF) White (TFT ON)	Black (TFT OFF	) 5
Optical 1009 Response 909 109 09			
The electro-o FIGURE 3 b for the lumin	optical response time measurements shall be y switching the "data" input signal ON and OF ance to change from 10% to 90% is Tr and 90	Tim made as sho F. The times 0% to 10% is	e wn in needed Td.
SPEC. NUMBER	SPEC TITLE GV101WXM-N80 Product Specification Rev	<i>ı</i> .P0	PAGE 20 OF 30
	-0		A4(210 X 297





R	BOE PRODUCT GROUP REV TFT LCD PRODUCT P0								
D	$\Box$ L	TFT L	.CD PRODUCT	P0	2023.8.15				
<b>10.0 RELIABILITY TEST</b> The Reliability test items and its conditions are shown in below. <table 9.="" reliability="" test=""></table>									
No	Т	est Items	Conditions		Remark				
1	High temperat	ture storage test	Ta = 80℃, 300 hrs						
2	Low temperate	ure storage test	Ta = -30 ℃, 300 hrs						
3	High temperat test	ture operation	Ta = 70℃, 300 hrs	相根索白					
4	Low temperate test	ure operation	Ta = -20 ℃, 300 hrs	一 版据各广 规格更新					
5	High temperat humidity storage test	ırs							
6	Thermal shocl	k	Ta = -30 °C ↔ 80°C (0.5 h	Non- operation					
7	Image Sticking		5*5 Pattern, 2hrs 25℃ ±2 check pattern Gray 127, after 5 s, the mura must b completely	根据客户					
8	ESD test	N.X	Air Voltage:±8KV&±15K Contact Voltage:±8KV R: 330Ω C: 150pF 5 time						
Note defe befo	After the relia ct (non-display, re the reliablity t	ability test, the pro- line defect, aborm test.	duct only guarantee function al display etc ). All the cosn	n normally with	out any fatal tion is judged				
epr		SPEC TITLE			PAGE				
SPE		GV101WXM-N8	0 Product Specification Rev	.P0	23 OF 30				
)BG-RI	D-工控-2022001	1-0			A4(210 X 297)				

	PRODUCT GROUP	REV	ISSUE DATE
DOL	TFT LCD PRODUCT	P0	2023.8.15
<ul> <li><b>11.0 Precau</b></li> <li>Please pay attention</li> <li><b>11.1 Mounting</b> <ul> <li>(1) Use fingerst</li> <li>inspection and assen</li> <li>(2) You must mathematical systems</li> <li>(3) Please maked during the process of</li> <li>(4) Note that poor the exposed polarized rub with dust classical systems</li> <li>(5) Do not pull or factorized for the exposed polarized rub with dust classical strong particles and the electrostatic chare (10) Since the LO Handling with care so falls from a high</li> <li>(10) Do not disa</li> <li>(11) To determine specification for</li> <li>(12) If the custor display. But this phere way of mutual a</li> </ul> </li> </ul>	<b>Jutions</b> on to the followings when you use this TFT LC <b>Precautions</b> alls with soft gloves in order to keep display clear obly process. Dount a module using specified mounting holes (D sure to avoid external forces applied to the Source of handling or assembling. If not, It causes panel of larizers are very fragile and could be easily dama rs with glass, tweezers or anything harder than H othes with chemical treatment. Or fold the source D-IC which connect the source old the LED wire. In the protective film, when the surface becomes other soft materials like chamois soaks with alcoh olar solvent because they cause chemical damage iva or water drops as soon as possible. Their long and color fading. Im for polarizer on the module shall be slowly pe ge can be minimized. CD is made of glass, do not apply strong mechanic ince shock, vibration, and careless handling may a place or receives a strong shock, the glass may b assemble the module. The the optimum mounting angle, refer to the view or each model. met's set presses the main parts of the LCD, the I nomenon does not mean the malfunction of the L agreement. The sum of any chemicals onto the LCD's surface.	CD Panel. In during the inc etails refer to the ce FPC and D-I lamage or malfudged. Do not tou B pencil lead. A FPC and the particles were solver and the polarized time contact were the eled off just bed cal impact or state seriously affect to broken. Ting angle range LCD may show CD and should	oming e drawings). C inction. ch, push or rub and please do not anel. vipe gently with rater. the polarizer fore use so that atic load onto it. the product. If it in the the abnormal be pressed by the
SPEC. NUMBER	SPEC TITLE GV101WXM-N80 Product Specification Rev	/.P0	PAGE 24 OF 30
DBG-RD-工控-2022001	-0		A4(210 X 297)

К	$\rho$	X
	V	2

	PRODUCT GROUP	REV	ISSUE DATE					
DOL	TFT LCD PRODUCT	P0	2023.8.15					
<ul> <li>11.2 Operating Pre</li> <li>(1) Be careful for compolarizer or electrical compolation (2) Module has high interference shall be done to minimized the interference shall be avoided</li> <li>(3) The electrochem drive should be avoided</li> <li>(4) The LCD module input terminal would be ground you body, we</li> <li>(5) Do not exceed the variation, variation in puse damaged.</li> <li>(6) Design the length as short as possible and The longer cable betwe lower and need a hig</li> <li>(7) Connectors are pushould insert and unpushould signals is lost, the LCD</li> <li>(10) Obey the supply</li> <li>(11) Do not re-adjust 11.3 Electrostatic D</li> <li>(2) Avoid the use wo conductivity-treated</li> </ul>	<b>cautions</b> ondensation at sudden temperature change. Condensation at sudden temperature change. Condensation, such a frequency circuits. Sufficient suppression to the ne by system manufacturers. Grounding and shie erference. ical reaction caused by DC voltage will lead to L l. es use C-MOS LSI drivers, so customers are record e connected to Vdd or Vss, do not input any signatork/assembly area, assembly equipments to protect e absolute maximum rating value. (supply voltag art contents and environmental temperature, and a of cable to connect between the connector for be the shorter cable shall be connected directly. en that of back-light and that of converter may cather startup voltage(Vs). recise devices for connecting FPC and transmitting plug MDL in parallel when assembling MDL. r disconnect the cable to/ from the module at the e is operating, do not lose CLK, ENAB signals. If panel would be damaged. v voltage sequence. If wrong sequence is applied, to variable resistor or switch etc. <b>Discharge Control</b> s composed of electronic circuits, it is not strong nent persons are connected to ground through wr n directly. Keep products as far away from static rk clothing made of synthetic fibers. We recomm	ensation makes hear or spot will electromagnetic lding methods r CD degradation mmended that a ils before power ct against static re variation, inpu- so on) Otherwis ack-light and th ause the luminar ing electrical sig "Power On" cor f any one these the module wo to electrostatic of ist band etc. An electricity as po- tend cotton cloth	damage to occur. may be important n, so DC my unused r is turn on, and electricity. ut voltage se the Module e converter nee of LED to nals. Operators ndition. uld be damaged. discharge. dossible. ning or other					
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BOE	TFT LCD PRODUCT	PO							
<ul> <li>11.4 Precautions for Strong Light Exposure It is not allowed to store or run directly in strong light or in high temperature and humidity for a long time; Strong light exposure causes degradation of polarizer and color filter. 11.5 Storage Precautions When storing modules as spares for a long time, the following precautions are necessary. •(1) The polarizer surface should not come in contact with any other object. It is recommended that they be stored in the container in which they were shipped. Temperature : 5 ~ 40 °C •(2) Humidity : 35 ~ 75 %RH •(3) Period : 6 months •(4) Control of ventilation and temperature is necessary. •(5) Please make sure to protect the product from strong light exposure, water or moisture. Be careful for condensation. •(6) Store in a polyethylene bag with sealed so as not to enter fresh air outside in it.</li></ul>									
•(6) Store in a polyethy •(7)Do not store the LC •(8) Please No Bal 2 mor	ylene bag with sealed so as not to enter fresh air o CD near organic solvents or corrosive gasses king $50^{\circ}$ C, 10%, 24hr $50^{\circ}$ C, 10%, 48hr ath 3 month 6 month	butside in it.							
2 month       3 month       6 month <b>11.6 Precautions for Protection Film (运用通用产品, 含Q/Single Production)</b> • (1) 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.         • (2) 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. <b>11.7 Appropriate Condition for Display</b> • (1) Normal operating condition         • Temperature: $0 \sim 40^{\circ}$ C         • Operating Ambient Humidity : $10 \sim 90$ %         • Display pattern: dynamic pattern (Real display)         (2) Special operating condition         If the product will be used in extreme conditions such as high temperature, humidity, display patterns or 7*24hrs operation time etc, It is strongly recommended to contact BOE for Application engineering advice. Otherwise, its reliability and function may not be guaranteed.         •(3)Black image or moving image is strongly recommended as a screen save.									
SPEC. NUMBER	SPEC TITLE	. D0	PAGE						
GV101WXM-N80 Product Specification Rev.P0       26 OF 30									

	PRODUCT GROUP	REV	ISSUE DATE					
ЪЫ	TFT LCD PRODUCT	P0	2023.8.15					
<ul> <li>(4) Lifetime in this is operating usages.</li> <li>(5) Please contract H landscape screen</li> <li>(6) Please contact B</li> <li>(7) Please contact B</li> <li>(7) Please contact B</li> <li>(8) If the Module ke</li> <li>"sticked" to the screen.</li> <li>(9) Do not exceed th variation, variation in p may be damaged.</li> <li>(10) Dew drop atmostication of the screen of t</li></ul>	spec. is guaranteed only when commercial display 3OE in advance when you want to switch between OE in advance for outdoor operation. OE in advance when you display the same pattern seps displaying the same pattern for a long period To avoid image sticking, it is recommended to us the absolute maximum rating value. (supply voltage art contents and environmental temperature, and sep or has a temperature controlling system. To drastic fluctuation of temperature (hot to cold or ally, drastic temperature fluctuation from cold to a may affect the operation of the polarizer and the will be extremely delayed at lower temperature the er hand at higher temperature LCD may turn blac owever those phenomena do not mean malfunction revert to normal operation once the temperature r or normal operation material leaks from the panel, it is recommended to n it. th hands, skin or clothes, it has to be washed awa the need to be washed, drink plenty of water to inclu- es need to be washed with running water at least 1 module for repair or etc., Please pack the module are original shipping packages.	y is used accord n portrait and n for a long tim of time, the im e a screen save e variation, inp so on) Otherwis cility and avoid r cold to hot) hot ,produces d LCD. nan the operation k at temperatur on or out of order returns to the re o wash the LC y thoroughly w luce vomiting a 15 minutes.	ing to e. age may be r. ut voltage se the Module to expose to the LCD may ew on the g temperature e above its er with the commended with acetone or ith soap. nd follow n. We					
	GV101WXM-N80 Product Specification Rev	v.P0	27 OF 30					
DBG-RD-工控-2022001	G-RD-工控-2022001-O A4(210 X 297)							

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(3) Box label BOE CHONGQING BOE OPTOELECTRONICS TECHNOLOGY Ca., LTD MODEL: XXXXXXXXXXX (1) QTY: XX (2) SERIAL NO: XXXXXXXXXXX (3) DATE: XXXXXXXXX (4) 国政策 副政策初期 副政策和技術技術限公司 国政市北磁区水土高新技术产业园云汉大道7号											
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Description Product Name	Product Grade	Facility Code	Ye	ar	Month	Revisio	n	Во	ox Ser	ial No	Э.
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