PRODUCT SPECIFICATIONS

TNS-G128128FGDTN-3W

■ PHYSICAL DATA

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BEIJING ZHENZHONG ZHIYUAN DISP-TECH.　CO.,LTD.

型号：
TNS-G128128FGDTN-3W

■ EXTERNAL DIMENSIONS

■ PHYSICAL DATA

Item	Contents	Unit
Module size (W×H×T)	48.0(W) X 52.80(H) X 1.7(T)(MAX)	mm
Viewing area (W×H)	44.0(W) X 40,5(H)	mm
Affective area (W×H)	48.0(W) X 48.0(H)	
LCD type	FSTN	---
LCD duty	1/128	---
Viewing direction	6	o'clock
Number of dots	128X128	dots
Dot size (W×H)	0.282X0.282	mm
Dot pitch (W×H)	0.297X0.297	mm

■ ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

Parameter	Symbol	Min	Max	Unit
Supply voltage for logic	VDD	-0.3	4.0	V

Supply voltage for LCD	Vlcd	-0.3	18.0	V
Input voltage	VI	-0.3	VDD + 0.5bg	V
Operating temperature	TOP	-20	70	°C
Storage temperature	TST	-30	80	°C

■ ELECTRICAL CHARACTERISTICS

u DC Characteristics (Ta=25 °C)

ITEM	SYMBOL	CONDITION	MIN	TYPE	MAX.	UNIT
LOGIC CIRCUIT POWER SUPPLY VOLTAGE	V_{DD}-V_{SS}	———	2.7	3.0	3.3	V
INPUT VOLTAGE	V_{IH}	———	0.7 V_{DD}	—	V_{DD}	V
INPUT VOLTAGE	V_{IL}	———	V_{SS}	—	0.15 V_{DD}	V
LOGIC CIRCUIT POWER SUPPLY CURRENT	I_{DD}	V_{DD}-V_{SS}=3.0V	——	21.6	50	uA
RECOMMENDED LCD DRIVING VOLTAGE	V_{EE}-V_{SS}	Ta=25 °C	——	22.0	——	V
LCD DRIVING POWER SUPPLY CURRENT	I_{EE}	Ta=25 °C	——	2.3	3.7	mA

Please refer to "UC1610" data sheet.
u AC Characteristics
Please refer to "UC1610" data sheet.

■ ELECTRO-OPTICAL CHARACTERISTICS

(Ta = 25°C Duty=1/128 Bias=1/12 fF=64Hz**)**

Item	Symbol	Condition	Min	Typ	Max	Unit	Remarks	Note
Operating Voltage for LCD	Vop	-20°C	22.0	22.4	22.8	V		
		25°C	21.6	22.0	22.4			
		70°C	21.2	21.6	22.0			
Response time	Tr	25°C	---	192	---	ms	---	1
	Tf		---	90	---	ms	---	1
Contrast Ratio	Cr	25°C	---	20	---	---	---	2

■ INTERFACE PIN CONNECTIONS

No.	Symbol	Function
1	VLCD	MAIN LCD POWER SUPPLY(CAP 0.1uF CONNECTED GND).
2	VB0+	LCD BIAS VOLTAGE. CONNECTED CAPACITORS OF CBX VALUE BETWEEN THE VBX+ AND VBX-.
3	VB1+	
4	BM1	Parallel/Serial. Serial modes: "LL": serial (S8) "LH": 2-wire serial (I2C) Parallel modes: "HL": 8080 "HH": 6800
5	BM0	
6	VB1-	LCD BIAS VOLTAGE. CONNECTED CAPACITORS OF CBX VALUE BETWEEN THE VBX+ AND VBX-.
7	VB0-	
8	VDD	SUPPLY VOLTAGE(3.0V)
9	VSS	GND
10	WR1	WR[1:0] controls the read/write operation of the host interface.
11	WR0	
12	CD	Select Control data or Display data for read/write operation. CD pin is not used in I2C modes, connect it to VDD or VSS. "L": Control data "H": Display data
13	CS0	Chip Select or Chip Address.
14	RESET	When RST="L", all control registers are re-initialized by their default states and/or by their pin configurations if applicable. When RST is not used, connect the pin to VDD1.
15	D7	Bi-directional bus for both serial and parallel host interfaces.
16	D6	
17	D5	
18	D4	
19	D3	
20	D2	
21	D1	
22	D0	