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TFT | OLED | CHARACTER | GRAPHIC | UWVD | SEGMENT | CUSTOM

Graphic Display Module

Part Number

G255128A-FTW-DW63

Overview:

- 255x128 Graphic LCD
- FSTN Gray
- 111.2x63.2mm Module
- Parallel and Serial Interface(s)
- White LED Backlight

- Transflective/ Positive
- Wide Temp Range
- 3.3V
- LCD IC: ST7529
- RoHS Compliant

Graphic LCD Features
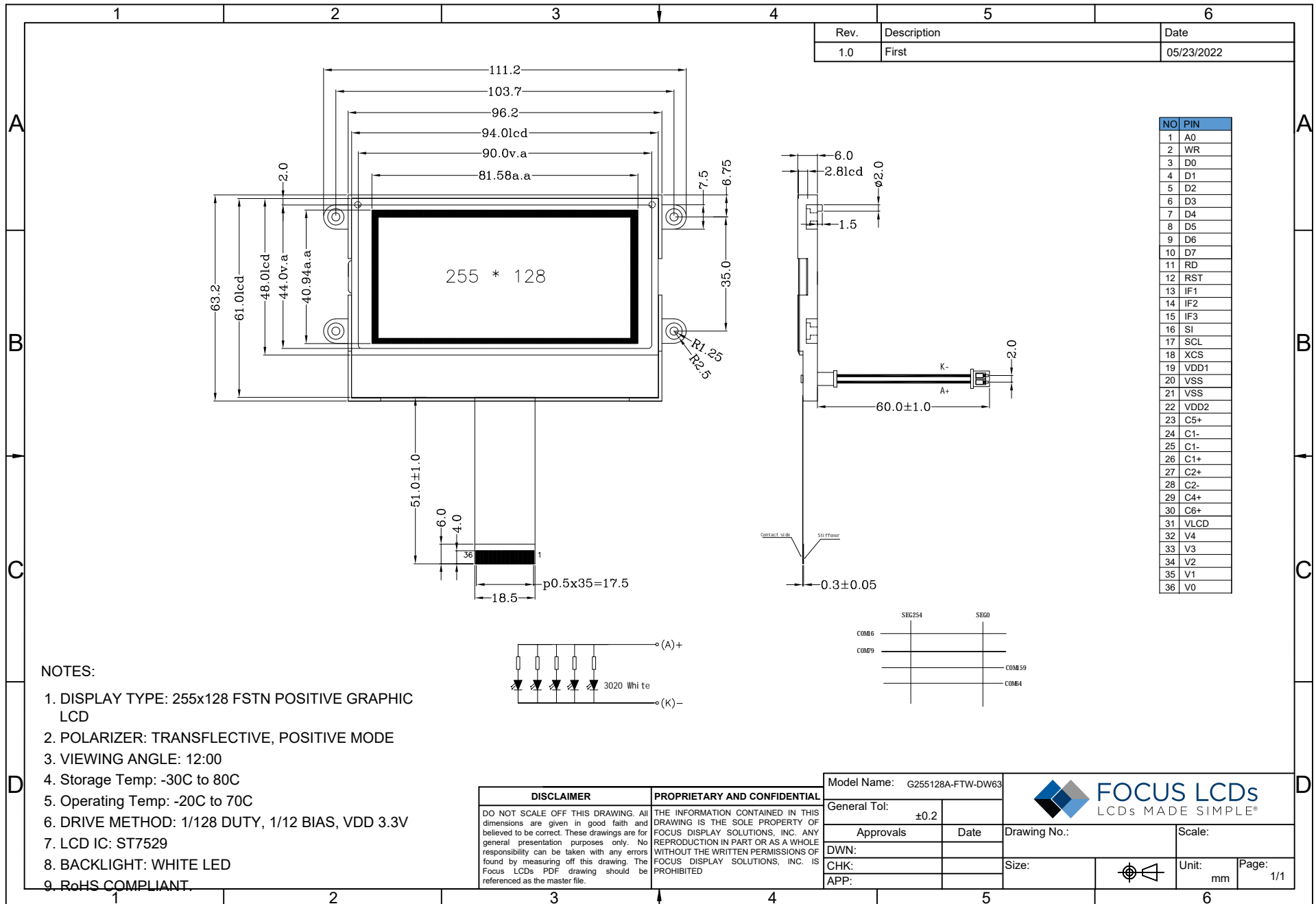
Resolution: 255x128 Dots
Interface(s): Parallel and Serial
RoHS Compliant.

General Information Items	Specification	Unit	Note
	Main Panel		
Viewing Area (VA)	90.00 (H) x 44.00 (V)	mm	--
LCD Type	FSTN Positive	--	--
Viewing Angle	12:00	--	--
Polarizer	Transflective	--	--
Resolution	255x128	Dots	--
Backlight Type	LED	--	--
Backlight Color	White	mm	--
LCD IC	ST7529	--	--
Operating Temperature	-20 to +70	°C	--
Storage Temperature	-30 to +80	°C	--

Mechanical Information

Item		Min.	Typ.	Max.	Unit	Note
Module Size	Horizontal (H)	--	111.2	--	mm	--
	Vertical (V)	--	63.2	--	mm	--
	Depth (D)	--	6.00	--	mm	--
Weight		--	TBD	--	g	--

1. Outline Dimensions

NO	PIN
1	A0
2	WR
3	D0
4	D1
5	D2
6	D3
7	D4
8	D5
9	D6
10	D7
11	RD
12	RST
13	IF1
14	IF2
15	IF3
16	SI
17	SCL
18	XCS
19	VDD1
20	VSS
21	VSS
22	VDD2
23	C5+
24	C1-
25	C1-
26	C1+
27	C2+
28	C2-
29	C4+
30	C6+
31	VLCD
32	V4
33	V3
34	V2
35	V1
36	V0

NOTES:

1. DISPLAY TYPE: 255x128 FSTN POSITIVE GRAPHIC LCD

2. POLARIZER: TRANSFLECTIVE, POSITIVE MODE

3. VIEWING ANGLE: 12:00

4. Storage Temp: -30C to 80C

5. Operating Temp: -20C to 70C

6. DRIVE METHOD: 1/128 DUTY, 1/12 BIAS, VDD 3.3V

7. LCD IC: ST7529

8. BACKLIGHT: WHITE LED

9. RoHS COMPLIANT.

	Rev.	Description	Date
	1.0	First	05/23/2022

Model Name: G255128A-FTW-DW63

General Tol: ±0.2

Approvals	Date	Drawing No.:	Scale:
DWN:			
CHK:		Size:	Unit: mm	Page: 1/1
APP:			

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2. Input Terminal Pin Assignment

Pin	Symbol	I/O	Function
1	A0	I	Register Select Input Pin - A0 = "H": DB0 to DB15 or SI are display data - A0 = "L": DB0 to DB15 or SI are control data
2	WR	I	Read/Write Execution Control Pin <table><tr><td>MPU type</td><td>RW_WR</td><td>Description</td></tr><tr><td>6800-series</td><td>RW</td><td>Read / Write control input pin RW = "H" : read RW = "L" : write</td></tr><tr><td>8080-series</td><td>/WR</td><td>Write enable clock input pin The data on DB0 to DB15 are latched at the rising edge of the /WR signal.</td></tr></table>
3	D0	I/O	Connect to the standard 8-bit MPU bus via the 8 –bit bi-directional bus. When the following interface is selected and the XCS pin is high, the following pins become high impedance, which should be fixed to VDD or VSS.
4	D1		
5	D2		
6	D3		
7	D4		
8	D5		
9	D6		
10	D7		
11	RD	I	Read/Write Execution Control Pin <table><tr><td>MPU Type</td><td>E_RD</td><td>Description</td></tr><tr><td>6800-series</td><td>E</td><td>Read / Write control input pin – RW = "H": When E is "H", DB0 to DB15 are in an output status. – RW = "L": The data on DB0 to DB15 are latched at the falling edge of the E signal.</td></tr><tr><td>8080-series</td><td>/RD</td><td>Read enable clock input pin When /RD is "L", DB0 to DB15 are in an output status.</td></tr></table>
12	RST	I	Reset input pin .When RST is "L", initialization is executed.
13	IF1	I	Parallel/Serial Data Input Select <table><tr><td>IF1</td><td>IF2</td><td>IF3</td><td>MPU interface type</td></tr><tr><td>H</td><td>H</td><td>L</td><td>80 series 8-bit parallel</td></tr><tr><td>L</td><td>H</td><td>H</td><td>68 series 8-bit parallel</td></tr><tr><td>L</td><td>L</td><td>H</td><td>9-bit serial (3 line)</td></tr><tr><td>L</td><td>L</td><td>L</td><td>8-bit serial (4 line)</td></tr></table>
14	IF2	I	
15	IF3	I	
16	SI	I	This pin is used to input serial data when the serial interface is selected. (3 line and 4 line)
17	SCL	I	This pin is used to input serial clock when the serial interface is selected. The data is latched at the rising edge. (3 line and 4 line)
18	XCS	I	Chip select input pins Data/instruction I/O is enabled only when XCS is "L". When chip select is non-active, DB0 to DB15 may be high impedance.
19	VDD1	SUPPLY	Power supply for OSC Circuit
20	VSS	SUPPLY	Ground - Ground System Should Be Connected Together.
21	VSS	SUPPLY	Ground - Ground System Should Be Connected Together.
22	VDD2	SUPPLY	Power Supply
23	C5+	O	DC/DC Voltage Converter
24	C3+		
25	C1-		
26	C1+		
27	C2+		
28	C2-		
29	C4+		
30	C6+		
31	VLCD	SUPPLY	Internal Voltage Generator
32	V4	SUPPLY	LCD Driver Supply Voltages
33	V3		
34	V2		
35	V1		
36	V0		

3. LCD Optical Characteristics

Item		Symbol	Condition	Min	Typ.	Max	Unit
Contrast Ratio		CR		--	3	--	
Response Time	On	T_{on}		--	150	250	ms
	Off	T_{off}		--	180	300	ms
Viewing Angle $C_1 \geq 2$, 25°C	Hor.	Θ_L	Φ=270°, 9H	--	55	--	degree
		Θ_R	Φ=90°, 3H	--	55	--	
	Ver.	Θ_T	Φ=180°, 12H	--	40	--	
		Θ_B	Φ=0°, 6H	--	70	--	

4. Electrical Characteristics

4.1 Absolute Maximum Rating

Characteristics	Symbol	Min	Max	Unit
Supply Voltage	VDD	-0.5	4.0	V
	Vout	-0.3	20.0	V
Input Voltage	Vin	-0.50	VDD+0.5	V
Operating temperature	Topr	-20	70	℃
Storage temperature	Tstr	-30	80	℃

NOTE: If the absolute maximum rating of the above parameters is exceeded, even momentarily, the quality of the product may be degraded. Absolute maximum ratings specify the values which the product may be physically damaged if exceeded. Be sure to use the product within the range of the absolute maximum ratings.

4.2 DC Electrical Characteristics

Characteristics		Symbol	Condition	Min	Typ.	Max	Unit
Supply Voltage		Logic	VDD-GND	--	3.3	--	V
Input Voltage	H Level	VDD	--	0.7VDD	--	VDD	V
	L Level	VIH	--	VSS	--	0.3VDD	V

Condition:

1. VDD = 3.3V
2. 1/128Duty, 1/12 Bias

5.0 Module Function

5.1 Timing Characteristics

For more information on timing characteristics, please see the specification for ST7529 located here ST7529.pdf.

6.0 Quality Inspection Process

For more information on the quality inspection process, please refer to https://focuslcds.com/content/LCD%20Quality%20Inspection%20Standards.pdf

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7.0 Cautions and Handling Precautions

7.1 Handling and Operating the Module

1. When the module is assembled, it should be attached to the system firmly. Do not warp or twist the module during assembly work.

2. Protect the module from physical shock or any force. In addition to damage, this may cause improper operation or damage to the module and back-light unit.

3. Note that polarizer is very fragile and could be easily damaged. Do not press or scratch the surface.

4. Do not allow drops of water or chemicals to remain on the display surface. If you have the droplets for a long time, staining and discoloration may occur.

5. If the surface of the polarizer is dirty, clean it using some absorbent cotton or soft cloth.

6. The desirable cleaners are water, IPA (Isopropyl Alcohol) or Hexane. Do not use ketene type materials (ex. Acetone), Ethyl alcohol, Toluene, Ethyl acid or Methyl chloride. It might permanent damage to the polarizer due to chemical reaction.

7. If the liquid crystal material leaks from the panel, it should be kept away from the eyes or mouth. In case of contact with hands, legs, or clothes, it must be washed away thoroughly with soap.

8. Protect the module from static; it may cause damage to the CMOS ICs.

9. Use fingerstalls with soft gloves in order to keep display clean during the incoming inspection and assembly process.

10. Do not disassemble the module.

11. Protection film for polarizer on the module shall be slowly peeled off just before use so that the electrostatic charge can be minimized.

12. Pins of I/F connector shall not be touched directly with bare hands.

13. Do not connect, disconnect the module in the "Power ON" condition.

14. Power supply should always be turned on/off by the item Power On Sequence & Power Off Sequence.

7.2 Storage and Transportation

1. Do not leave the panel in high temperature, and high humidity for a long time. It is highly recommended to store the module with temperature from 0 to 35 ℃ and relative humidity of less than 70%

2. Do not store the TFT-LCD module in direct sunlight.

3. The module shall be stored in a dark place. When storing the modules for a long time, be sure to adopt effective measures for protecting the modules from strong ultraviolet radiation, sunlight, or fluorescent light.

4. It is recommended that the modules should be stored under a condition where no condensation is allowed. Formation of dewdrops may cause an abnormal operation or a failure of the module. In particular, the greatest possible care should be taken to prevent any module from being operated where condensation has occurred inside.

5. This panel has its circuitry FPC on the bottom side and should be handled carefully in order not to be stressed.

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