

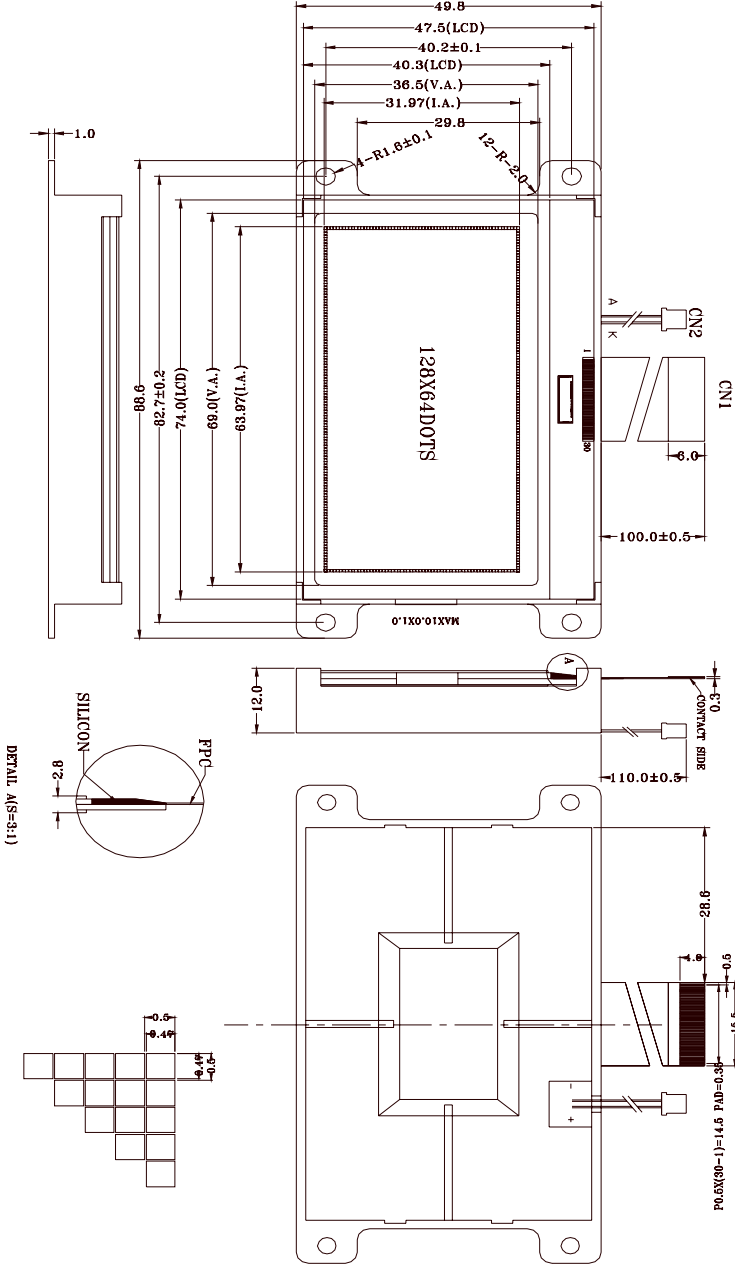
1. General Specifications

Display Fonts:	Graphic Matrix
Display Type:	FSTN
Display Color:	White
Display Mode:	Transmissive / Negative
Backlight:	White/Green LED
Viewing Direction:	6 O'clock
Driver Mode:	1/65 Duty
Module Size (W×H×T) :	88.6× 49.8× 12.0mm
Viewing Area (W×H) :	69.0× 36.5 mm
Number of Dots:	128 × 64 dots
Dot Size (W×H):	0.48 × 0.48mm
Dot Pitch (W×H):	0.5 × 0.5 mm
Operation Temperature:	-20°C ~ +70°C
Storage Temperature:	-30°C ~+ 80°C
Controller:	NJU6676
Assy. Type:	COG





2. Mechanical Diagram





3. Absolute Maximum Ratings

Unless otherwise noted, VSS = 0 V

Absolute Maximum Ratings Parameter	Symbol	Conditions	Unit
Power Supply Voltage	VDD	-0.3 to +7.0	V
Power supply voltage	Vout, V0	-18.0 to +0.3	V
Power supply voltage	V1, V2, V3, V4	V5 to +0.3	V
Input voltage	Vin	-0.3 to VDD + 0.3	V
Output voltage	Vout	-0.3 to VDD + 0.3	V

4. Electrical Characteristics

Item		Symbol	Conditions	Min.	Typ.	Max.	Unit
Supply Voltage	Logic	Vdd		2.2	—	5.5	V
	LCD drive	Vdd-Vee		6.0	—	18.0	
Input Voltage	“H” Level	Vihc1		0.8Vdd	—	Vdd	
	“L” Level	Vilc1		VSS	—	0.2Vdd	
Output Voltage	“H” Level	Vohc1	Ioh=-0.5mA	0.8Vdd	—	Vdd	
	“L” Level	Volc1	Iol=0.5mA	VSS	—	0.2Vdd	
Supply Current		Idd	Vdd-Vss=5.0V	—	1.06	1.60	mA



5. Interface Pin Function

Pin No.	Symbol	Level	Description
1	CS1	H/L	Chip select terminal.
2	RES	H/L	Reset terminal.
3	A0	H/L	Connect to the Address bus of MPU. The data on the D0 to D7 is distinguished between Display data and Instruction by status of A0. A0= "H": Indicates that D0 to D7 are display data. A0 = "L": Indicates that D0 to D7 are control data.
4	WR	H/L	80 family CPU : Write Signal : Active
5	RD	H/L	80 family CPU : Read Signal : Active
6	DB0	H/L	Data bus line.
7	DB1	H/L	Data bus line.
8	DB2	H/L	Data bus line.
9	DB3	H/L	Data bus line.
10	DB4	H/L	Data bus line.
11	DB5	H/L	Data bus line.
12	DB6(CSL)	H/L	Data bus line.
13	DB7(SC)	H/L	Data bus line.
14	VDD	--	Shared with the MPU power supply terminal VCC.
15	VSS	--	This is a 0 V terminal connected to the system VSS.
16	Vout	---	Voltage booster output terminal. Connect the boosted capacitor between this terminal and VSS2.
17	C3-	---	Boosted capacitor connecting terminals used for voltage booster.
18	C1+	---	Boosted capacitor connecting terminals used for voltage booster.
19	C1-		Boosted capacitor connecting terminals used for voltage booster.
20	C2-		Boosted capacitor connecting terminals used for voltage booster.
21	C2+		Boosted capacitor connecting terminals used for voltage booster.
22	V1		LCD Driving Voltage Supplying Terminal.
23	V2		LCD Driving Voltage Supplying Terminal.
24	V3		LCD Driving Voltage Supplying Terminal.
25	V4		LCD Driving Voltage Supplying Terminal.
26	V5		LCD Driving Voltage Supplying Terminal.
27	VR		Voltage adjust terminal.
28	C86		MPU interface type selection terminal .
29	PS		Serial or parallel interface selection terminal.
30	NC		Non-connection