

GG-1206A0

FEATURES

- **Display Mode** : Reflective / Transflective / Transmissive
STN, Positive
- **Color** : Display dot : Dark blue
Background : Yellow-Green / Gray / Blue
- **Display Format** : 128 Dots x 64 Dots
- **Interface Input Data** : 8 Bit Interface available
- **Driving Method** : 1/64 Duty , 1/9 Bias
- **Viewing Direction** : 6 O'clock
- **Backlight** : LED Unit (Yellow/Green)

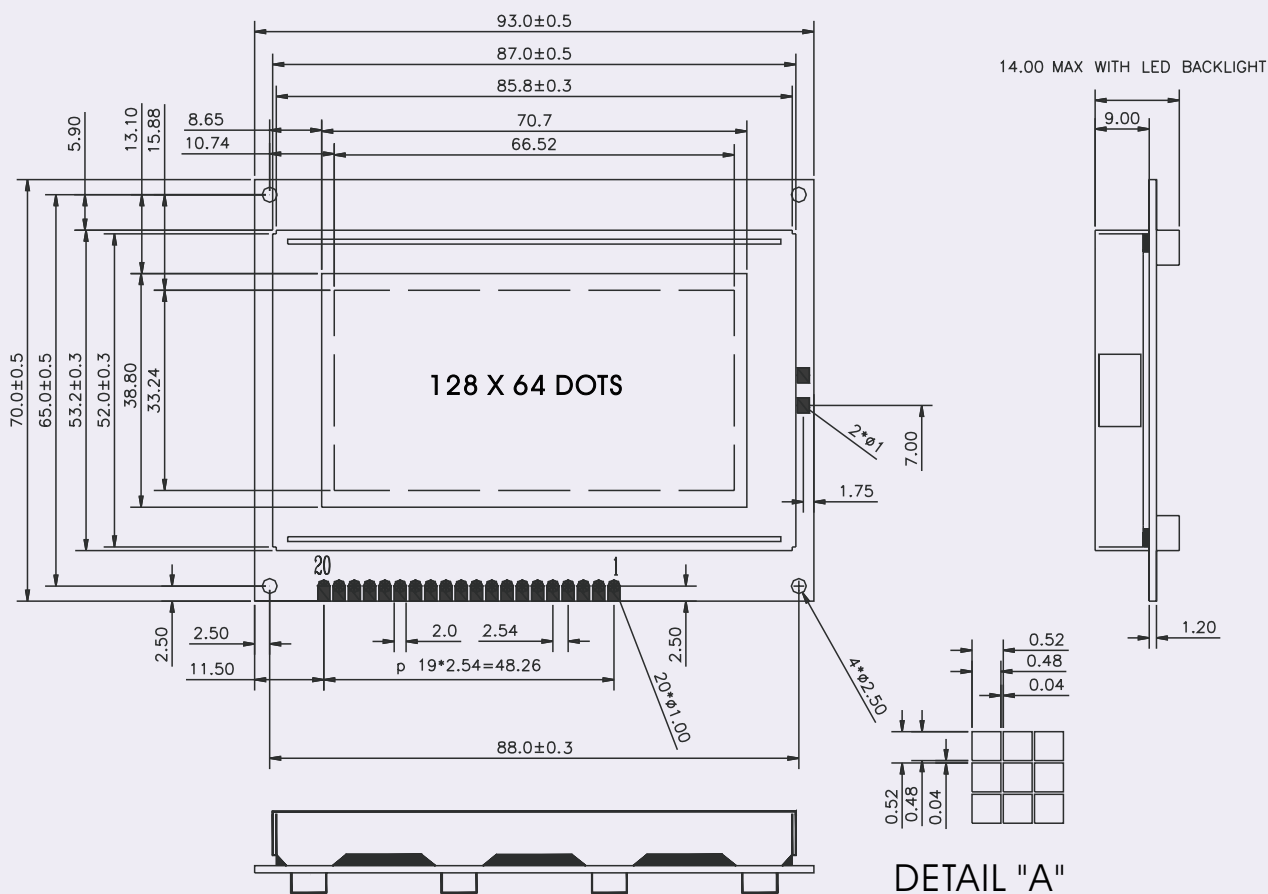
MAXIMUM RATING

(V_{SS}=0V)

Item	Symbol	Min.	Max.	Unit	Note
Supply Logic	V _{dd}	0	6.0	V	
Voltage LCD Drive	V _{dd-Vo}	0	17	V	
Input Voltage	V _i	V _{SS}	V _{dd}	V	
Operating Temperature	T _{op}	0	40	°C	
Storage Temperature	T _{Stg}	-20	60	°C	
Humidity	—	—	90	%RH	①

Note ① Wet bulb temperature should be 29°C max.
And no condensation of water.

DIMENSIONAL DRAWING



ELECTRO-OPTICAL CHARACTERISTICS

Item	Symbol	Condition	Min.	typ.	Max.	Unit
Supply Voltage	Logic	Vdd	4.5	5.0	5.5	V
	LCD Drive	Vdd-Vee	—	—	17.0	
Input Voltage	"H" Level	VIH	0.8Vdd	—	Vdd	V
	"L" Level	VIL	0	—	0.2Vdd	
Frame Frequency	fFlm	Vdd=5V	65	78	85	Hz
Current Consumption	Idd	Vdd=5V Vdd-Vee=13.1V V/R =160Kohm	—	1.9	3.8	mA
LCD Drive Voltage (Recommended Voltage)	Vdd-Vo	Ta=0°C Φ=0° θ=0°	13.1	13.4	13.7	V
		Ta=25°C Φ=0° θ=0°	12.8	13.1	13.4	
		Ta=40°C Φ=0° θ=0°	12.5	12.8	13.1	
Response Time	Rise Time	Tr	—	200	250	ms
	Decay Time	Tf	—	250	300	
Viewing Angle	△Φ	θ=0°	60	—	—	deg
		θ=90°	60	—	—	
Contrast Ratio	K	Φ=0° θ=0°	2.0	3.0	—	—

I/O CONNECTION

Pin	Symbol	Function	Pin	Symbol	Function
1	Vss	Ground (0V)	15	CS1	Chip Selection Signal for IC2
2	Vdd	Power Supply for Logic (+5)	16	CS2	Chip Selection Signal for IC2
3	Vo	Power Supply of LCD Drive (Should Be Variable)	17	Reset	Reset (Active "LOW")
4	D/I	H: Data Input L: Instruction Code Input	18	V0ut	Output Voltage for LCD Driving
5	R/W	H: Data Read (LCM to MPU) L: Data Write (MPU to LCM)	19	LED(+)	Backlight (+)
6	E	Enable	20	LED(-)	Backlight (-)
7-14	DBO-DB7	Data Bus (Three State I/O Common Terminal)			

SPEC. FOR LED BACKLIGHT

Item	Symbol	Condition	Min.	TYP.	Max.	Unit
Forward Current	IF	Ta=25°C	—	300	600	mA
Reverse Voltage	VR		—	4	4.2	V
Power Dissipation	PD		—	—	3240	mW
Luminous	—	Ta=25°C IF=200mA	35	—	—	cd/m2

SIGNAL TIMING DIAGRAM

Item	Symbol	Min.	Typ.	Max.	Unit
E Cycle	tc	1000	—	—	ns
E High Level Width	tWH	450	—	—	ns
E High Level Width	tWL	450	—	—	ns
E Rise Time	tR	—	—	25	ns
E Fall Time	tF	—	—	25	ns
Address Setup Time	tASU	140	—	—	ns
Address Hold Time	tAH	10	—	—	ns
Data Set-Up Time	tDSW	200	—	—	ns
Data Delay Time	tDDR	—	—	320	ns
Data Hold Time(Write)	tDHW	10	—	—	ns
Data Hold Time(Read)	tDHR	20	—	—	ns

INTERFACE TIMING CHART

