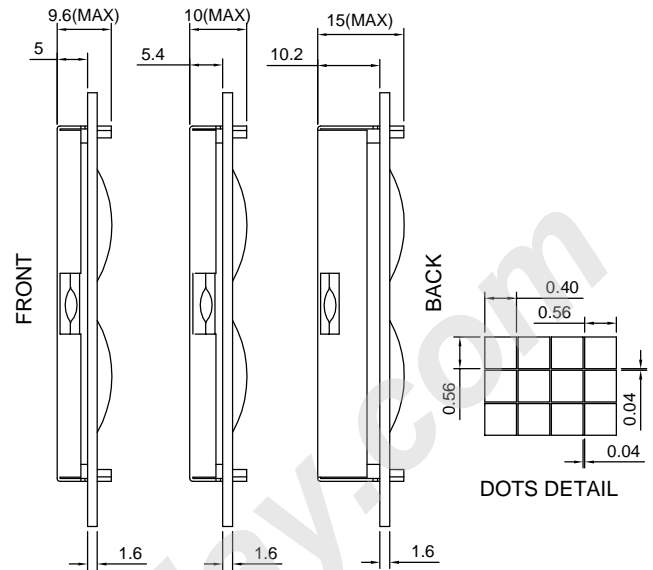
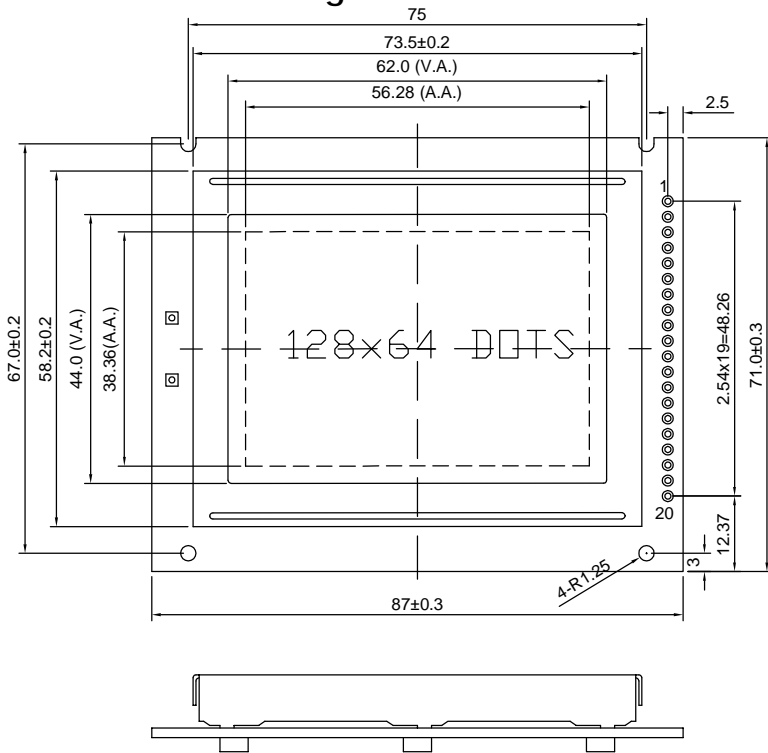


Dimension Drawing



Without B/L or EL B/L With LED B/L With LED B/L

TOLERANCES UNLESS OTHERWISE STATED
 X.X ±0.20 X.XX ±0.10 UNIT: mm

Feature:

- 128 x 64 dots graphic display
- Built-in controller(NT7108 or equivalent)
- +5V power supply(also available for +3.3V)
- 1/64 Duty cycle
- STN or FSTN Mode
- Match all kind colors of LED back light
- ROHS compliant

Mechanical Data

Item	Standard	Unit
Module dimension	87.0 x 71.0	mm
Viewing area	62.0 x 44.0	mm
Mounting hole	68.0 x 65.0	mm
Dots size	0.56 x 0.48	mm

Interface Pin Connections

PIN NO.	Symbol	Function
1	VSS	GND
2	VDD	+5V or +3.3V
3	V0	Contrast adjustment
4	A0	H → Data L → Instruction
5	R/W	H :Read data L :Write data
6	E	Enable signal
7	DB0	H/L Data bus line
8	DB1	H/L Data bus line
9	DB2	H/L Data bus line
10	DB3	H/L Data bus line
11	DB4	H/L Data bus line
12	DB5	H/L Data bus line
13	DB6	H/L Data bus line
14	DB7	H/L Data bus line
15	/CS1	L → Chip1 Enable
16	REST	H → L Rest the LCM
17	VEE	Negative voltage output
18	/CS2	L → Chip2 Enable
19	A or NC	Power supply for B/L(LED+)
20	K or NC	Power supply for B/L(LED-)

Absolute Maximum Rating

Item	Symbol	Standard			Unit
		Min	Typ	Max	
Power supply	VDD-VSS	-0.3	---	7.0	V
Input voltage	VI	VDD-19.0	---	VDD+0.3	

Electronical Characteristics

Item	Symbol	Condition	Standard			Unit
			Min	Typ	Max	
Input voltage	VDD	+5.0V	4.5	5.0	5.5	V
		+3.3V	2.7	3.3	4.5	
Supply current	I _{DD}	VDD=5V	----	----	0.5	mA
Recommended LCD driving voltage for normal temp version module	VDD-V0 (VDD=5V)	-20°C	9.8	10.0	10.3	
		0°C	9.5	9.8	10.1	
		25°C	9.2	9.5	9.8	
		50°C	9.0	9.2	9.4	
LED forward voltage	V _F	25°C	----	4.2	4.6	V
LED forward current	I _F	25°C	Array	----	300	
			Edge	----	60	80
EL power supply	I _{EL}	V _{EL} =110V AC 400Hz	----	----	5.0	mA