



**Feature**

- 1. 192x64 dots includes cursor
- 2. Built-in controller (KS0107,KS0108 or equivalent)
- 3. +5V power supply(Also available for +3V)
- 4. 1/64duty cycle
- 5. LED can be driven by pin13,pin14,or A and K

**Mechanical Data**

Item	Value	Unit
Outline	100.0 x 60.0	mm
Viewing Area	85.0 x 35.0	mm
Active Area	78.67x 26.19	mm
Dot Size	0.36 x 0.36	mm
Dot Pitch	0.41 x 0.41	mm

**Terminal Function**

Pin No.	Symbol	Function
1	CSA	Chip select for IC
2	CSB	Chip select for IC
3	V <sub>SS</sub>	GND
4	V <sub>DD</sub>	Supply voltage for logic
5	V <sub>0</sub>	Contrast Adjustment
6	D/I	Data/instruction
7	R/W	Data read/write
8	E	Enable signal
9-16	DB0-DB7	H/L Data bus line
17	A	Backlight LED+
18	K	Backlight LED-
19	V <sub>ee</sub>	Negative Voltage output
20	/RST	Reset signal

**Electrical Characteristics**

Item	Symbol	Min	Typ	Max
Operating Voltage(V)	V <sub>DD</sub>	4.7	5.0	5.3
Supply Voltage For LCD	V <sub>DD</sub> - V <sub>0</sub>	—	12	—
Input High Voltage(V)	V <sub>IH</sub>	0.7	—	V <sub>DD</sub>
Input Low Voltage(V)	V <sub>IL</sub>	V <sub>SS</sub>	—	0.6
Operating Current(mA)	I <sub>DD</sub>	—	3.6	4.5

**Backlight Characteristics**

Item	Symbol	Min	Typ	Max	Unit
Forward Voltage	V <sub>f</sub> (edge)	3.4	3.5	3.6	V
Forward Current	I <sub>f</sub> (edge)	48	64	80	mA

**Absolute Maximum**

Item	Symbo	Min	Max
Operating Voltage(V)	V <sub>dd</sub>	-0.3	5.5
Operating Temperature(°C)	Top	-20	+70
Storage Temperature (°C)	T <sub>st</sub>	-30	+80