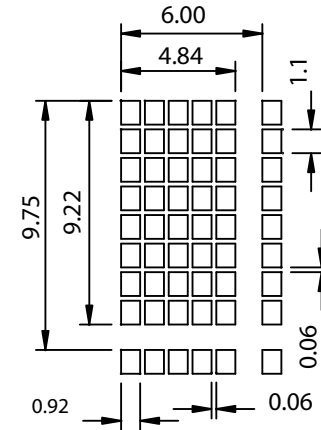


### DOTS DETAIL

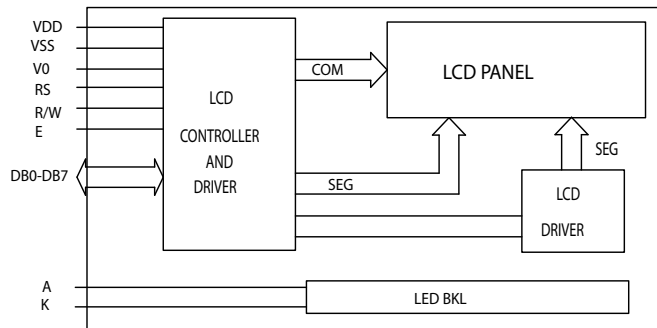


PIN NO	Symbol
1	VSS
2	VDD
3	V0
4	RS
5	R/W
6	E
7	DB0
8	DB1
9	DB2
10	DB3
11	DB4
12	DB5
13	DB6
14	DB7
15	A
16	K

### Feature

- 2-line x20 characters display; 5x8 dots with cursor
- Built-in controller (KS0066U or Equivalent)
- +5V power supply (Also available for +3.3V)
- 1/16 duty cycle; 1/5 bias;
- TN, HTN, STN or FSTN mode
- BKL to be driven by pin1, pin2, or pin15, pin16, or A, K

### Block diagram:



### Display character address code

Display position

Address	1	2	3	4	5	...	...	...	14	15	16
DDRAM address	00	01	02	...	...	...	...	...	12H	13H	
DDRAM address	40	41	42	...	...	...	...	...	52H	53H	

### Mechanical thickness

Item	T1	T2	UNIT
LCD module thickness	T1	T2	UNIT
Without or EL backlight	4.6	10.0	mm
With edge LED backlight	---	---	mm
With LED bottom backlight	9.4	14.0	mm

### Mechanical data

Item	Standard	Unit
Module dimension	146.0x43.0	mm
Viewing area	123.0x23.0	mm
Dot size	0.92x1.10	mm
Character size	4.84x9.22	mm

### Absolute Maximum Rating

Item	Symbol	Standard			Unit
		Min	Typ	Max	
Input voltage	VI	-0.3	-----	5.5	V
Power supply	VDD-VSS	-0.3	-----	VDD	

### Electronical characteristics

Item	Symbol	Condition	Standard			Unit
			Min	Typ	Max	
Input voltage	VDD	+5V	4.7	5.0	5.5	V
		+3.3V	2.7	3.3	5.3	
Supply current	IDD	VDD=5V	-----	2.0	4	mA
Recommended LCD driving voltage for normal temp version module	VDD-V0	-20°C	4.8	5.0	5.3	
		0 °C	4.6	4.8	5.0	
		25°C	4.3	4.5	4.7	
		50°C	4.2	4.3	4.5	
		70°C	4.1	4.2	4.3	
LED forward voltage	VF	25°C	-----	4.2	5.0	V
LED forward current	IF	25°C	-----	300	-----	mA
EL power supply current	IEL	VEL=110V AC 400Hz	-----	-----	-----	mA