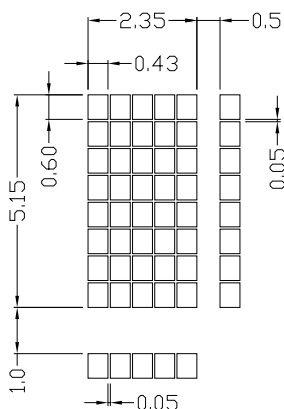


**Pin connections**

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

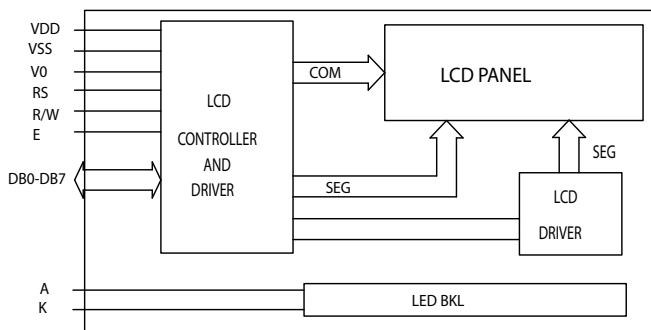
**DOTS DETAIL**



**Feature**

1. 4-line x20 characters display; 5x8 dots with cursor
2. Built-in controller (KS0066U or Equivalent)
3. +5V power supply(Also available for +3.3V)
4. 1/16 duty cycle;1/5bias;
5. TN, HTN, STN or FSTN mode
6. BKL to be driven by pin1,pin2,or pin15,pin16,or A,K

**Block diagram:**



**Display character address code**

Display position

	1	2	3	4	5	---	---	---	18	19	20
DDRAM address	00	01	02	---	---	---	---	---	11	12	13H
DDRAM address	40	41	42	---	---	---	---	---	51	52	53H
	14	15	16	---	---	---	---	---	25	26	27H
	54	55	56	---	---	---	---	---	65	66	67H

**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	V
Supply current	IDD	VDD=5V	-----	2.5	3	mA
Recommended LCD driving voltage for normal temp version module	VDD-V0	-20°C	4.8	5.0	5.3	V
		0 °C	4.6	4.8	5.0	
		25°C	4.3	4.5	4.7	
		50°C	4.2	4.3	4.5	
LED forward voltage	VF	25°C	-----	4.2	4.6	V
LED forward current	IF	25°C	-----	150	-----	mA
EL power supply current	IEL	VEL=110V AC 400Hz	-----	-----	-----	mA

**Mechanical thickness**

LCD module thickness	T1	T2	UNIT
Without or EL backlight	-----	----	mm
With edge LED backlight	8.6	13.0	mm
With LED bottom backlight	8.6	13.0	mm

**Mechanical data**

Item	Standard	Unit
Module dimension	79.0x36.0	mm
Viewing area	60.0x28.0	mm
Dot size	0.43x0.60	mm
Character size	2.35x5.15	mm