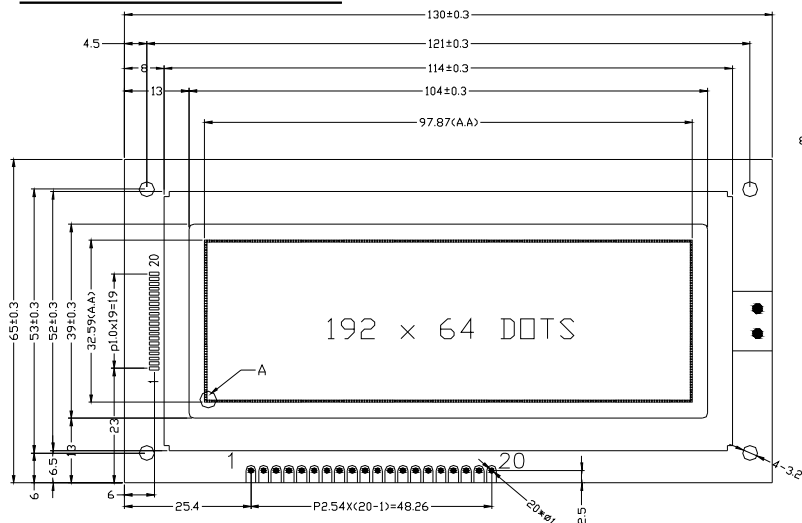
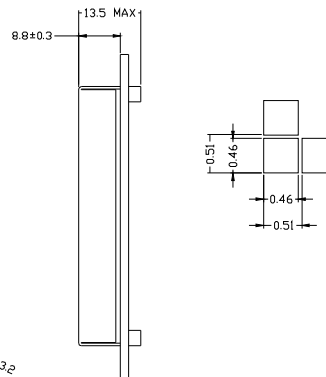


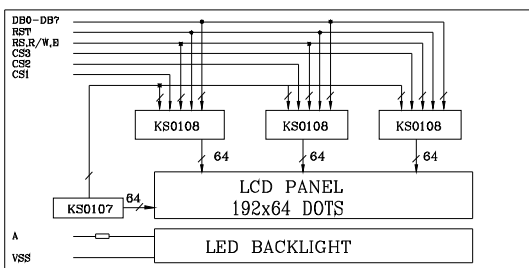
EXTERNAL DIMENSIONS:



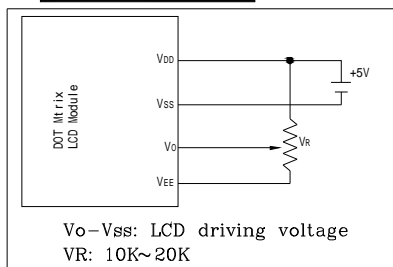
[] For LED Backlight



BLOCK DIAGRAM:



POWER SUPPLY:



MECHANICAL SPECIFICATIONS

ITEM	SPECIFICATION	UNIT
Module Size (WxHxT)	130.0x65.0x9.2[13.5]	mm
Viewing Area (WxH)	104.0x39.0	mm
Dot Number (WxH)	192x64	dots
Dot Size (WxH)	0.46x0.46	mm
Dot Pitch (WxH)	0.51x0.51	mm
LCD MODE	STN(Y/G,Gray,Blue),FSTN	

PIN ASSIGNMENT

PIN	SYMBOL	FUNCTION
1	Vss	Power Supply (0V)
2	Vdd	Power Supply (+5V)
3	Vo	Contrast Adjust
4	RS	Data/Instruction Register Select
5	R/W	Read/Write select
6	E	Enable Signal
7~14	DB0~DB7	Data bus Line
15	CS1	Chip select 1
16	/RST	Reset Singal
17,18	CS2,CS3	Chip select 2 ,Chip select 3
19	VEE	Negative Power Out
20	A	LED BL(+)

ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	MIN.	MAX.	UNIT
Power Supply (logic)	Vdd-Vss	-0.3	7.0	V
Power Supply (LCD)	Vdd-Vo	0.3	15.0	V
Input Voltage	Vi	-0.3	Vdd+0.3	V
Operating Temperature	Topr	0	50	°C
Storage Temperature	Tstg	-20	70	°C

ELECTRICAL CHARACTERISTICS (Ta=25°C)

ITEM	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
Power Supply (logic)	Vdd	-	4.5	5.0	5.5	V
Supply Current (logic)	Idd	VDD=5.0V	3.0	-	-	mA
Driving Voltage (LCD)	Vdd-Vo		10.0	12	14.0	V
Driving Current (LCD)	Ilcd		0	3	-	mA
Input Voltage "H"	Vih		2.2	-	Vdd	V
Input Voltage "L"	Vil		-0.3	-	0.6	V
Output Voltage "H"	Voh		Ioh=-0.205mA	2.4	-	-
Output Voltage "L"	Vol	Iol=1.2mA	-	-	0.4	V

LED BACKLIGHT SPECIFICATIONS(SIZE TYPE)

PARAMETER	TYP.	ITEM	TYP.
Forward Voltage	5.0V	Power Dissipation	400mW
Forward Current	80mA	Emission Wavelength	nm