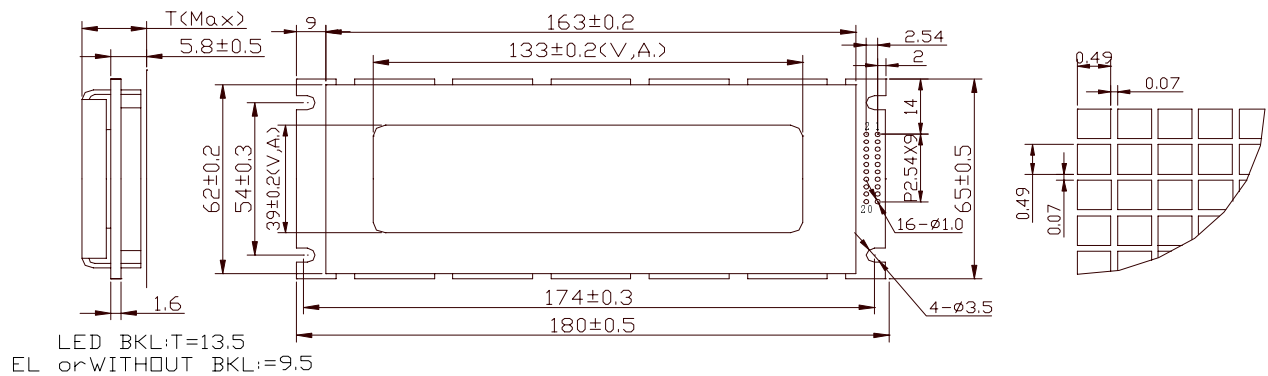
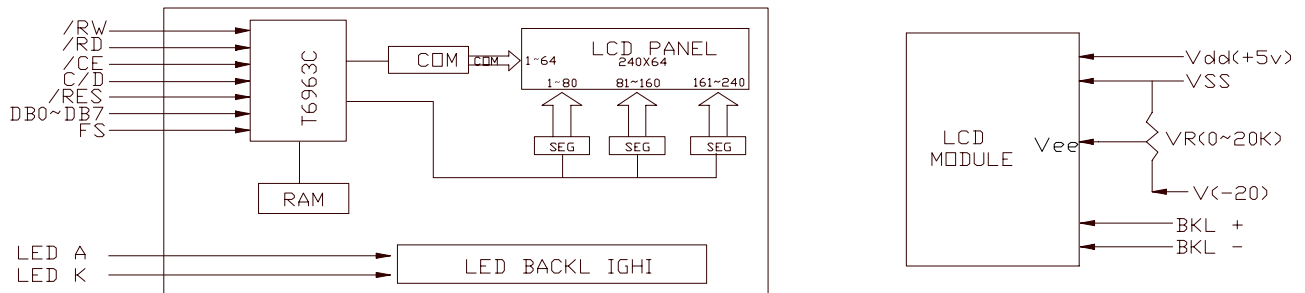


## ● OUTLINE DIMENSION



## ● BLOCK DIAGRAM & POWER SUPPLY



## ● MECHANICAL SPEC.&FEATURES

Item	Dimension(mm)
Module Size(WxHxT)	180.0x65.0x10.5/15.5
Viewing Area(WxH)	133.0x39.0
Dot Size(WxH)	0.49x0.49
Dot Pitch(WxH)	0.53x0.53
DotsxDots	240x64

Features	
LC Fluid	STN (Yellow-green, Gray, Blue), FSTN
Polarizer	Reflective, Transflective, Transmissive
View Angle	6:00 o'clock or 12:00 o'clock
Display Type	Positive or Negative
Backlight	LED(Optional)
Operating Temp.	0°C ~ 50°C or -20°C ~ 70°C
Controller	T6963C or Equivalent

## ● INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function
1	FG	Frame ground
2	Vss	Ground for logic
3	Vdd	Power supply for logic
4	Vee	Power supply for LCD
5	/WR	Write enable
6	/RD	Read enable
7	/CE	Enable signal for IC

Pin No.	Symbol	Function
8	C/D	Registers selection(H:Data,L:Instruction)
9	NC	...
10	/RES	Reset signal
11~18	DB0~DB7	Data bus lines
19	FS	Font selection
20	NC	...

## ● ELECTRICAL CHARACTERISTICS

Item	Symbol	Test Condition	Min	Typ.	Max.	Unit
Operating Voltage	Vdd	Ta=25°C	...	5.0	...	V
Operating Voltage for LCD	Vlcd	Ta=25°C	...	4.5	...	V
Supply Current	Idd	Ta=25°C, Vdd=5.0V	...	2.5	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C	...	4.2	...	V
Supply Current for LED	If	Ta=25°C, Vf=4.2V	...	...	...	mA