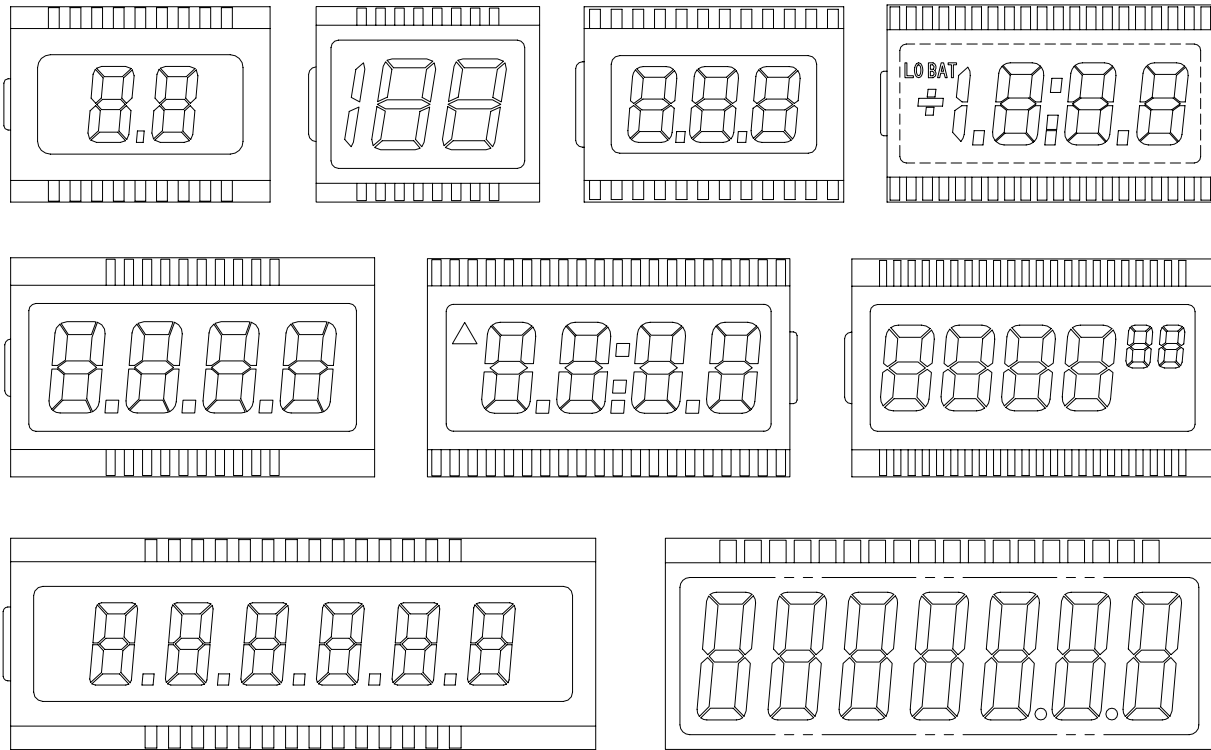


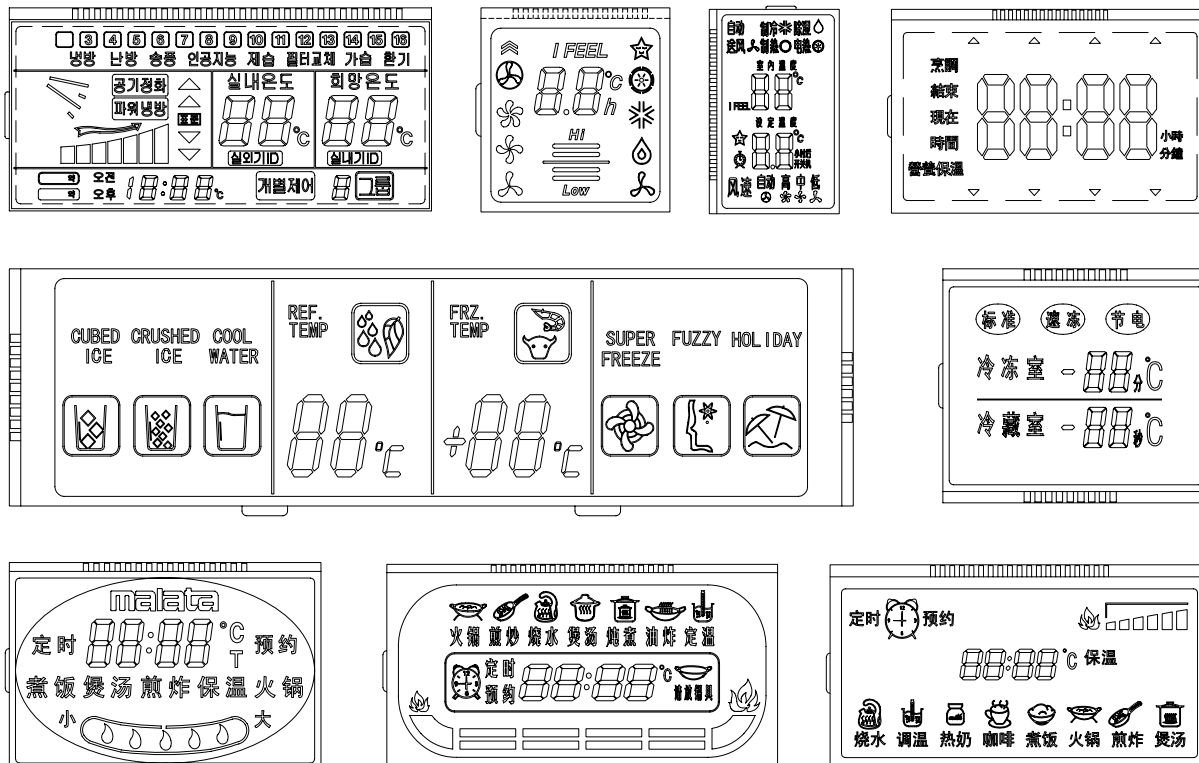
GOLDEN VIEW DISPLAY

LCD PANEL

Standard Glass (标准屏)



Home Electrical Appliances (家电)



GOLDEN VIEW DISPLAY, INC.

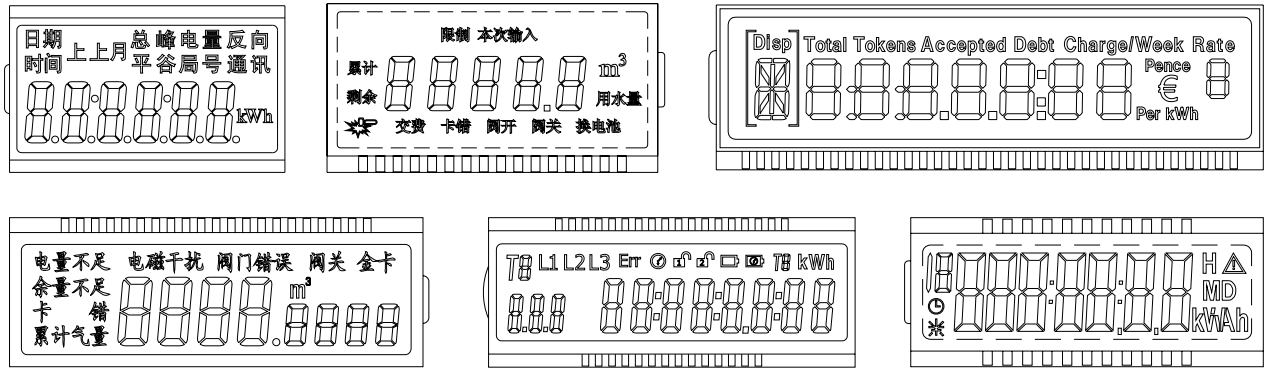
8460 Southwind Bay Circle, Fort Myers, Florida 33908

Phone: (239) 332-8868

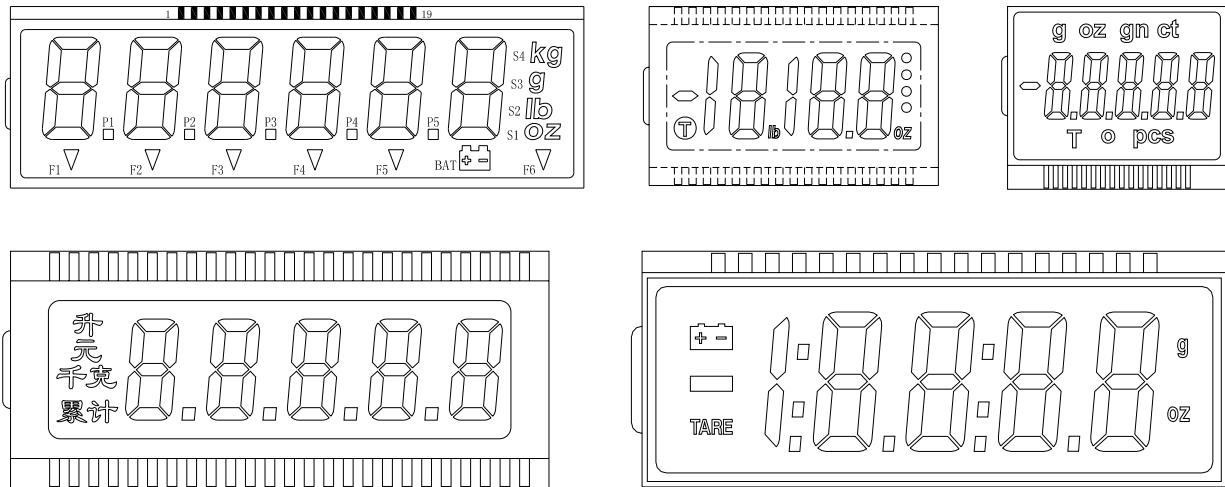
Fax: (239) 590-6066

Email: sales@goldenviewdisplay.com

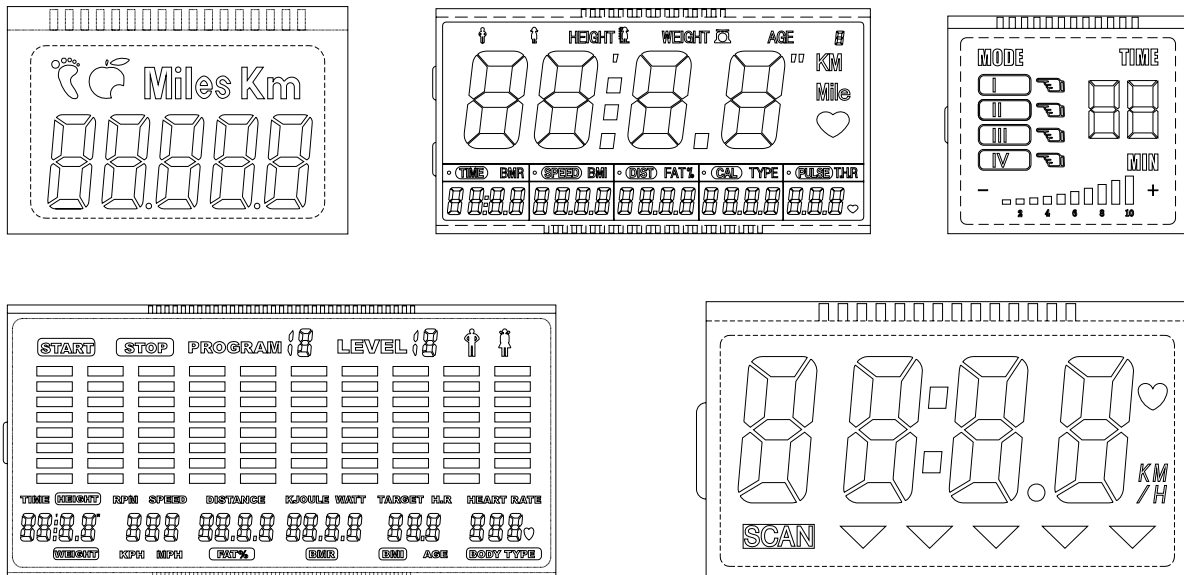
Intelligent Meter (智能表)



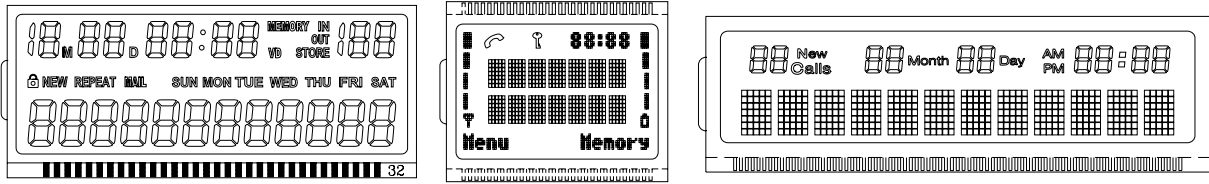
Electronic Scale (电子秤)



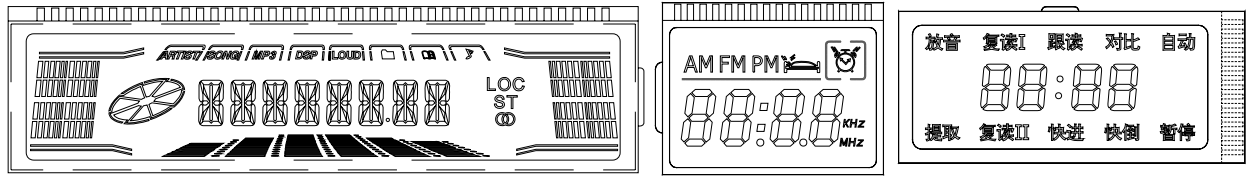
Fitness & Health Care (健身保健)



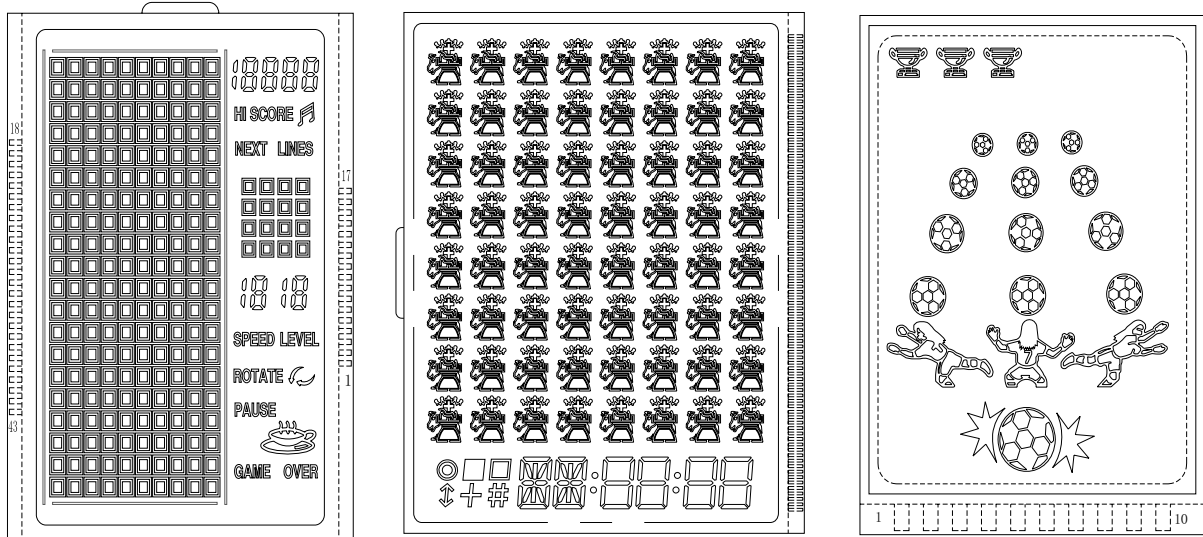
Telecom(通讯)



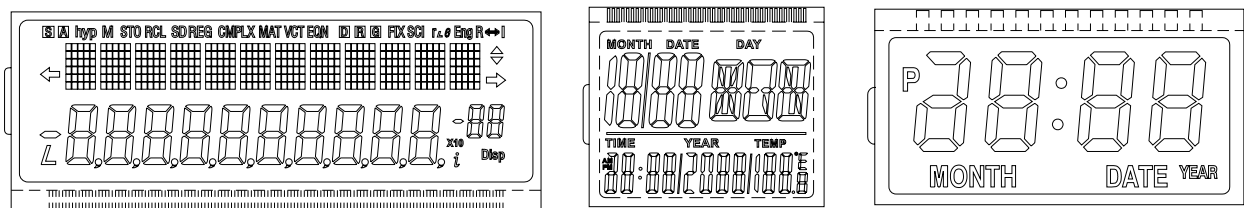
Audio Play(音响)



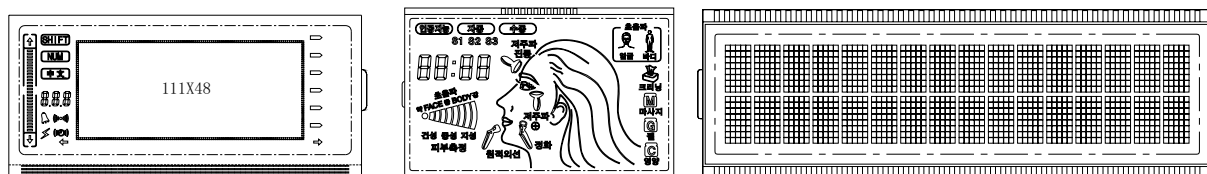
Game & Toy(游戏机)



Calculator, Calendar, Clock(计算器, 万年历, 时钟)



Others(其它)



GOLDEN VIEW DISPLAY

CHECK POINTS OF CUSTOMIZED LCD PANEL

Customer Information 客户信息	Company 公司:			Contact 联系人:		
	Address 地址:			Tel 电话:		
	E-mail 邮件:		Website 网站:		Fax 传真:	
	Target Market 目标市场:		Sales Revenue 销售额:		Business Type 业务类型:	
Schedule 计划	Item 项目	Drawing 图纸	Prototypes 样品	Production 批量	Monthly 每月	Total 总计
	Date 日期					
	Quantity 数量					
Application 应用						
LCD Type 类型	<input type="checkbox"/> TN <input type="checkbox"/> HTN <input type="checkbox"/> STN Yellow-Green <input type="checkbox"/> STN Gray <input type="checkbox"/> STN Blue <input type="checkbox"/> FSTN B/W					
Dimensions 尺寸						
	Item 项目	Size 尺寸	Item 项目	Size 尺寸		
	A. Width of Glass 玻璃长度		F. Pitch of Terminal Electrodes 电极间距			
	B. Front Glass Height 上玻璃宽度		G. Glass Thickness (1.1,0.7,0.55mm) 玻璃厚度			
	C. Rear Glass Height 下玻璃宽度		H. Connector Pin Length 金属管脚长度			
	D. Viewing Area Width 视窗长度		I. Width Between Pin lines 金属管脚跨度			
	E. Viewing Area Height 视窗宽度		J. Terminal Height 引出端子长度			
	Unit 单位	<input type="checkbox"/> mm <input type="checkbox"/> Inch	Note 备注:			
LCD Configuration 构造	<input type="checkbox"/> (1) <input type="checkbox"/> (2) <input type="checkbox"/> (3) <input type="checkbox"/> (4) <input type="checkbox"/> (5) <input type="checkbox"/> (6)					
	<p>The bold lines show the terminal electrodes 粗体线表示电极引出端</p>					
View Direction 视角方向	<input type="checkbox"/> 12:00 (from Up-Side, 从上向下看)		<input type="checkbox"/> 6:00 (from Down-Side, 从下向上看)		<input type="checkbox"/> Others 其它	
Display Mode 显示模式	<input type="checkbox"/> Positive Image 正显			<input type="checkbox"/> Negative Image 负显		
Polarizer Mode 偏振片模式	<input type="checkbox"/> Reflective 反射式 <input type="checkbox"/> Transflective(Semi-Transmissive) 半透式 <input type="checkbox"/> Transmissive 全透式					
Driving Method 驱动	Operating Voltage 工作电压 Vop _____ Frame Frequency 频率 _____ Hz <input type="checkbox"/> Static 静态 <input type="checkbox"/> Multiplex 动态 Duty 占空比 _____ Bias 偏压比 _____					
Connector 连接	<input type="checkbox"/> Rubber Connector 导电胶条连接 <input type="checkbox"/> Heat-Seal Connector 热压连接 <input type="checkbox"/> FPC Connector FPC 连接 <input type="checkbox"/> Straight-Pin Connector 直型金属引脚 <input type="checkbox"/> Curve-Pin Connector 弯曲型金属引脚 Pin Quantity 引脚数: _____ Pin Pitch 脚距: _____					
Temperature Range 温度范围	Operating Temperature 工作温度 _____ deg C ~ _____ deg C Storage Temperature 储存温度 _____ deg C ~ _____ deg C					
Other Requirements 其它要求						

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GOLDEN VIEW DISPLAY

LCD MODULE LIST

CHARACTER MODULE

FORM	MODULE P/N	OUTLINE DIMENSION W X H X D (mm)	VIEWING AREA W X H (mm)	CHARACTER SIZE W X H (mm)	DOT SIZE W X H (mm)	DUTY	CONTROLLER	
8X1	GVDCM0801A	84.0X44.0X10.0/13.5	61.0X15.8	6.45X10.75	1.25X1.30	1/8	S6A0069 or Equivalent	
	GVDCM0801C	69.0X28.0X8.0/13.5	45.2X13.8	4.20X7.71	0.80X0.92	1/8	S6A0069 or Equivalent	
	GVDCM0801D	45.0X24.0X15.0	40.0X10.0	3.71X5.96	0.71X0.75	1/8	S6A0069 or Equivalent	
8X2	GVDCM0802A	40.0X30.4X8.5/13.0	30.4X13.9	2.95X4.75	0.55X0.55	1/16	S6A0069 or Equivalent	
	GVDCM0802B	58.0X32.0X9.5/13.5	38.0X16.0	2.96X5.56	0.56X0.66	1/16	S6A0069 or Equivalent	
	GVDCM0802C	58.0X32.0X9.5/13.5	38.0X16.0	2.96X5.56	0.56X0.66	1/16	S6A0069 or Equivalent	
	GVDCM0802F	34.0X34.0X10.0	27.0X12.7	2.70X4.95	0.50X0.50	1/16	S6A0069 or Equivalent	
12X2	GVDCM0802G	47.5X28.0X9.5/13.5	38.0X16.0	2.96X5.56	0.56X0.66	1/16	S6A0069 or Equivalent	
	GVDCM1202A	55.7X32.0X9.2/13.0	46.7X17.5	2.65X5.50	0.45X0.60	1/16	S6A0069 or Equivalent	
15X1	GVDCM1501A	38.0X15.0X15.5	32.0X6.03	1.56X3.53	0.28X0.47	1/16	S6A0069 or Equivalent	
16X1	GVDCM1601A	80.0X36.0X9.5X13.5	64.0X13.8	3.07X6.56	0.55X0.75	1/16	S6A0069 or Equivalent	
	GVDCM1601B	122.0X33.0X9.5/13.5	99.0X13.0	4.92X9.68	0.92X1.10	1/16	S6A0069 or Equivalent	
	GVDCM1601C	122.0X33.0X9.5/13.5	99.0X13.0	4.84X9.22	0.92X1.10	1/16	S6A0069 or Equivalent	
16X2	GVDCM1601G	151.0X40.0X9.5/13.5	120.0X23.0	6.00X14.54	1.152X1.765	1/16	S6A0069 or Equivalent	
	GVDCM1602A	80.0X36.0X9.5/13.5	64.0X13.8	2.95X4.35	0.55X0.50	1/16	S6A0069 or Equivalent	
	GVDCM1602B	84.0X44.0X9.5/13.5	64.5X16.4	3.00X5.23	0.56X0.61	1/16	S6A0069 or Equivalent	
	GVDCM1602B1	84.0X44.0X9.5/13.5	64.5X16.4	2.95X5.55	0.56X0.61	1/16	S6A0069 or Equivalent	
	GVDCM1602C	66.0X25.0X7.0	61.7X15.6	2.95X5.55	0.55X0.65	1/16	S6A0069 or Equivalent	
	GVDCM1602E	85.0X36.0X9.5/13.5	63.0X16.4	3.00X5.23	0.56X0.61	1/16	S6A0069 or Equivalent	
	GVDCM1602H	65.5X36.7X9.5/13.5	54.0X14.4	2.55X4.99	0.47X0.58	1/16	S6A0069 or Equivalent	
	GVDCM1602K	80.0X36.0X9.5/13.5	64.5X16.4	3.00X5.23	0.56X0.61	1/16	S6A0069 or Equivalent	
	GVDCM1602K1	80.0X36.0X9.5/13.5	64.5X16.4	2.95X5.55	0.55X0.55	1/16	S6A0069 or Equivalent	
	GVDCM1602K2	80.0X36.0X9.5/13.5	64.5X16.4	2.95X5.55	0.55X0.55	1/16	S6A0069 or Equivalent	
	GVDCM1602L	80.0X36.0X9.5/13.5	64.0X13.8	2.95X4.35	0.55X0.50	1/16	S6A0069 or Equivalent	
	GVDCM1602M	53.0X20.0X7.6	36.0X10.0	1.85X3.15	0.33X0.35	1/16	S6A0069 or Equivalent	
20X2	GVDCM1602N	85.0X29.5X9.5/13.5	64.5X16.4	3.00X5.23	0.56X0.61	1/16	S6A0069 or Equivalent	
	GVDCM1602N1	85.0X29.5X9.5/13.5	64.5X16.4	3.00X5.23	0.56X0.61	1/16	S6A0069 or Equivalent	
	GVDCM1602P	80.0X36.0X9.5/13.5	64.0X13.8	2.95X4.35	0.55X0.50	1/16	S6A0069 or Equivalent	
	GVDCM1602Q	66.0X26.0X8.5	51.0X14.8	2.46X5.56	0.46X0.66	1/16	S6A0069 or Equivalent	
	GVDCM1602S	122.0X44.0X9.5/13.5	99.0X24.0	5.20X9.55	1.00X1.15	1/16	S6A0069 or Equivalent	
	GVDCM1602S2	122.0X44.0X9.5/13.5	99.0X24.0	4.84X9.66	0.92X1.10	1/16	S6A0069 or Equivalent	
	16X4	GVDCM1604A	120.3X67.3X13.5	100.9X40.9	5.40X8.70	1.00X1.00	1/16	S6A0069 or Equivalent
		GVDCM1604B	87.0X60.0X9.5/13.5	61.8X25.2	2.95X4.75	0.55X0.55	1/16	S6A0069 or Equivalent
		GVDCM1604C	87.0X60.0X9.5/13.5	61.8X25.2	2.95X4.75	0.55X0.55	1/16	S6A0069 or Equivalent
	20X4	GVDCM2002A	146.0X43.0X9.5/13.5	123.0X23.0	4.84X9.22	0.92X1.10	1/16	S6A0069 or Equivalent
GVDCM2002B		180.0X40.0X9.5/13.5	149.0X23.0	6.00X9.66	1.12X1.12	1/16	S6A0069 or Equivalent	
GVDCM2002D		116.0X37.0X9.5/13.5	83.0X18.6	3.20X5.55	0.60X0.65	1/16	S6A0069 or Equivalent	
GVDCM2004A		77.0X47.0X13.5	60.0X22.0	2.3X4.03	0.42X0.46	1/16	S6A0069 or Equivalent	
20X2	GVDCM2004C	98.0X60.0X9.5/14.0	76.0X25.2	2.95X4.75	0.55X0.55	1/16	S6A0069 or Equivalent	
	GVDCM2004D	98.0X60.0X9.5/14.0	78.0X25.2	2.95X4.75	0.55X0.55	1/16	S6A0069 or Equivalent	
	GVDCM2004F	146.0X62.5X10.5/14.0	123.0X42.5	4.85X9.23	0.93X1.11	1/16	S6A0069 or Equivalent	
24X2	GVDCM2402B	116.0X37.0X9.5/13.5	83.0X18.6	2.70X5.55	0.50X0.65	1/16	S6A0069 or Equivalent	
	GVDCM2402C	118.0X36.0X9.5/14.0	94.0X17.8	3.2X5.55	0.60X0.65	1/16	S6A0069 or Equivalent	
40X1	GVDCM4001A	182.0X33.5X9.5/13.5	154.5X16.5	3.20X8.20	0.60X0.70	1/16	S6A0069 or Equivalent	
	GVDCM4002A	182.0X33.5X9.5/13.5	154.5X16.5	3.20X5.55	0.65X0.55	1/16	S6A0069 or Equivalent	
	GVDCM4004A	190.0X54.0X9.5/13.5	147.0X29.5	2.78X4.89	0.50X0.55	1/16	S6A0069 or Equivalent	
	GVDCM4004B	190.0X54.0X9.5/13.5	147.0X29.5	2.78X4.89	0.50X0.55	1/16	S6A0069 or Equivalent	

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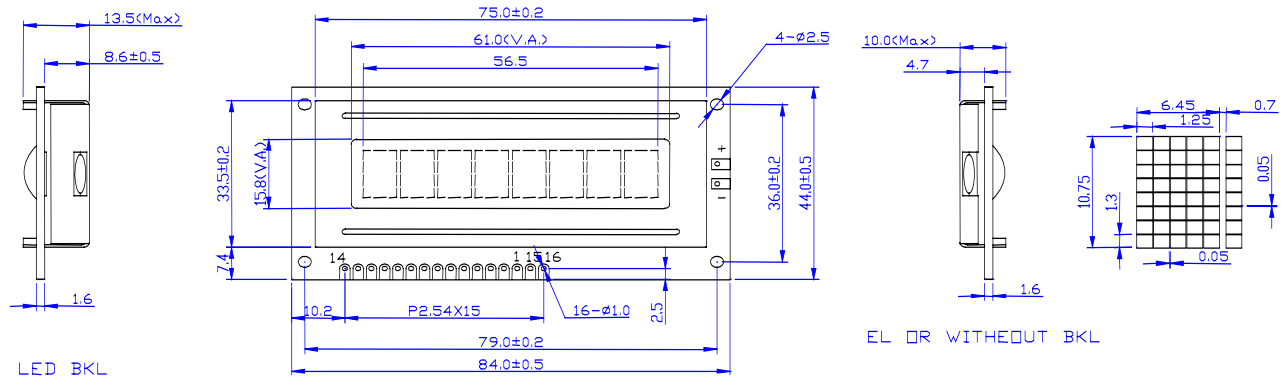
GRAPHIC MODULE

FORM	MODULE P/N	OUTLINE DIMENSION W X H X D (mm)	VIEWING AREA W X H (mm)	DOT SIZE W X H (mm)	DOT PITCH W X H (mm)	DUTY	CONTROLLER
122X32	GVDGM12232A	84.0X44.0X9.5/13.5	64.0X17.9	0.40X0.45	0.44X0.49	1/32	SED1520 or Equivalent
	GVDGM12232C	84.0X44.0X9.5/13.5	64.0X17.9	0.40X0.45	0.44X0.49	1/32	ST7920 or Equivalent
	GVDGM12232D1	80.0X36.0X8.5	54.8X18.3	0.36X0.40	0.40X0.44	1/32	SED1520 or Equivalent
	GVDGM12232E	98.0X50.0X11.5	76.0X25.2	0.55X0.61	0.60X0.66	1/32	SED1520 or Equivalent
	GVDGM12232F	75.0X30.0X9.5	60.0X20.5	0.42X0.42	0.47X0.47	1/32	SED1520 or Equivalent
128X32	GVDGM12832B	85.0X29.5X9.5/13.5	64.5X16.4	0.40X0.40	0.45X0.45	1/64	S6B0108 or Equivalent
128X64	GVDGM12864A	93.0X70.0X9.5/13.5	72.0X40.0	0.48X0.48	0.52X0.52	1/64	S6B0108 or Equivalent
	GVDGM12864B	78.0X70.0X10.0/13.0	62.0X44.0	0.40X0.56	0.44X0.60	1/64	S6B0108 or Equivalent
	GVDGM12864C	93.0X70.0X9.5/13.5	72.0X40.0	0.48X0.48	0.52X0.52	1/64	ST7920 or Equivalent
	GVDGM12864E	78.0X70.0X10.0/13.0	62.0X44.0	0.40X0.56	0.44X0.60	1/64	T6963C or Equivalent
	GVDGM12864F	54.0X50.0X7.5	43.5X29.0	0.28X0.35	0.32X0.39	1/64	S6B0108 or Equivalent
	GVDGM12864H	75.0X52.7X9.5/13.0	60.0X32.5	0.39X0.39	0.43X0.43	1/64	S6B0108 or Equivalent
	GVDGM12864J	70.0X46.0X9.6	43.5X29.0	0.28X0.35	0.32X0.39	1/64	S6B0108 or Equivalent
128X128	GVDGM128128A	92.0X106.0X12.0	73.0X73.0	0.50X0.50	0.55X0.55	1/128	T6963C or Equivalent
160X32	GVDGM16032A	114.0X40.0X9.5/13.5	92.0X22.0	0.49X0.49	0.54X0.54	1/32	ST7920 or Equivalent
	GVDGM16032C	122.0X44.0X13.5	99.0X24.0	0.51X0.52	0.56X0.57	1/32	ST7920 or Equivalent
	GVDGM16032D	122.0X44.0X13.5	99.0X24.0	0.51X0.52	0.56X0.57	1/32	SED1521 or Equivalent
	GVDGM16032F	122.0X44.0X13.5	99.0X24.0	0.51X0.52	0.56X0.57	1/32	ST7920 or Equivalent
192X64	GVDGM19264A	130.0X65.0X9.5/14.0	104.0X39.0	0.458X0.458	0.508X0.508	1/64	S6B0108 or Equivalent
	GVDGM19264B	120.0X62.0X9.5/14.0	104.0X39.0	0.458X0.458	0.508X0.508	1/64	S6B0108 or Equivalent
240X64	GVDGM24064A	180.0X65.0X9.5/13.5	132.0X39.0	0.49X0.49	0.53X0.53	1/64	T6963C or Equivalent
256X64	GVDGM25664A	178.0X69.0X12.5	139.0X38.1	0.48X0.48	0.52X0.52	1/64	S6B0086 or Equivalent
240X128	GVDGM240128A	144.0X104.0X10.0/15.0	114.0X64.0	0.40X0.40	0.45X0.45	1/128	T6963C or Equivalent
	GVDGM240128C	144.0X104.0X10.0/15.0	114.0X64.0	0.40X0.40	0.45X0.45	1/128	T6963C or Equivalent

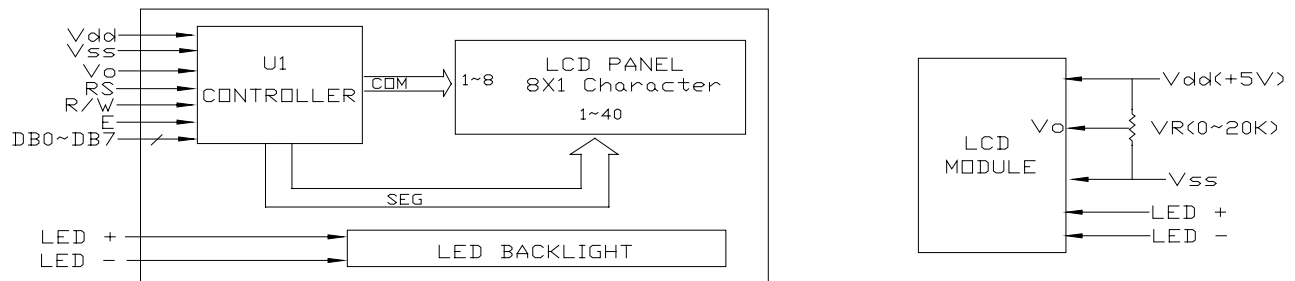
DIGITAL MODULE

MODULE P/N	OUTLINE DIMENSION W X H X D (mm)	VIEWING AREA W X H (mm)	APPLICATION (应用)	CONTROLLER
GVDDM1621-804	44.0X25.0X10.0	31.0X8.0	Automotive Dash Board (汽车仪表)	HT1621 or Equivalent
GVDDM1621-806	49.0X42.5X9.0	35.0X30.0	Medical & Health Care (医疗保健)	HT1621 or Equivalent
GVDDM1621-807	52.7X25.3X7.0	48.0X20.5	Water Meter (水表)	HT1621 or Equivalent
GVDDM1621-823	94.0X30.0X8.0	65.5X18.5	Gas Meter (煤气表)	HT1621 or Equivalent
GVDDM7065-825	128.0X48.0X8.5	124.0X22.0	Gas Meter (煤气表)	KS0065 or Equivalent
GVDDM1621-831	90.0X48.0X11.7	76.0X32.0	Automotive Dash Board (汽车仪表)	HT1621 or Equivalent
GVDDM8566-841	48.8X36.1X7.0	24.13X11.43	Alarm System (报警仪表)	PCF8566 or Equivalent
GVDDM1621-868	55.0X29.0X5.5	42.0X12.0	Energy Meter (电表)	HT1621 or Equivalent
GVDDM1621-875	35.0X29.0X32.0	31.0X16.0	Gas Detector (探测仪器)	HT1621 or Equivalent
GVDDM700	66.0X19.0X42.0	52.0X15.2	Counter Meter (计数器)	W541E260 or Equivalent
GVDDM17075	66.0X19.0X42.0	52.0X15.2	Hour Meter (计时器)	W541E260 or Equivalent
GVDDM54-848	57.2X34.0X12.66	42.0X12.0	Energy Meter (电表)	W541E260 or Equivalent

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	84.0×44.0×10.0/13.5	LC Fluid	TN,STN (Yellow-green,Gray, Blue),FSTN
Viewing Area(W×H)	61.0×15.8	Polarizer	Reflective,Transflective,Transmissive
Dot Size(W×H)	1.25×1.30	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	1.30×1.35	Display Type	Positive or Negative
Character Size(W×H)	6.54×10.75	Backlight	LED(Optional)
Character Pitch(W×H)	7.15× --	Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6A0069 or Equivalent

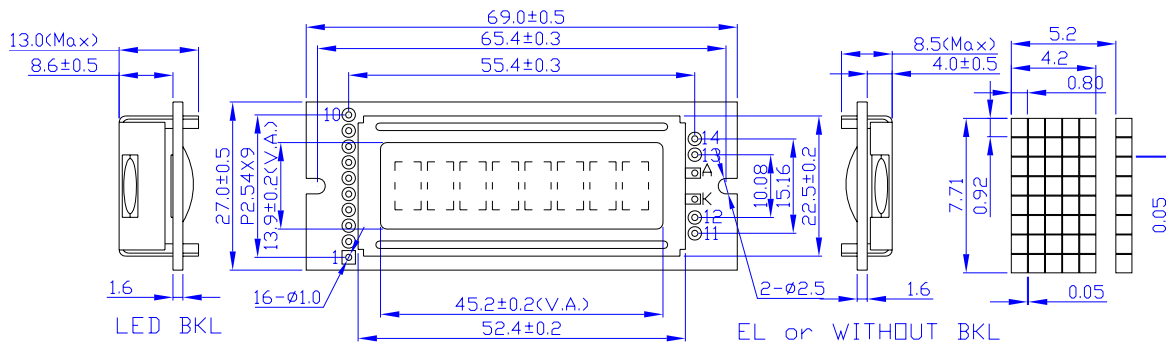
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vss	Ground for logic	6	E	Enable signal
2	Vdd	Power supply for logic	7~14	DB0~DB7	Data bus lines
3	Vo	Power supply for LCD	15	A	BKL +
4	RS	Register selection(H:Data,L:Instruction)	16	K	BKL -
5	R/W	Read/Write selection(H: R, L: W)			

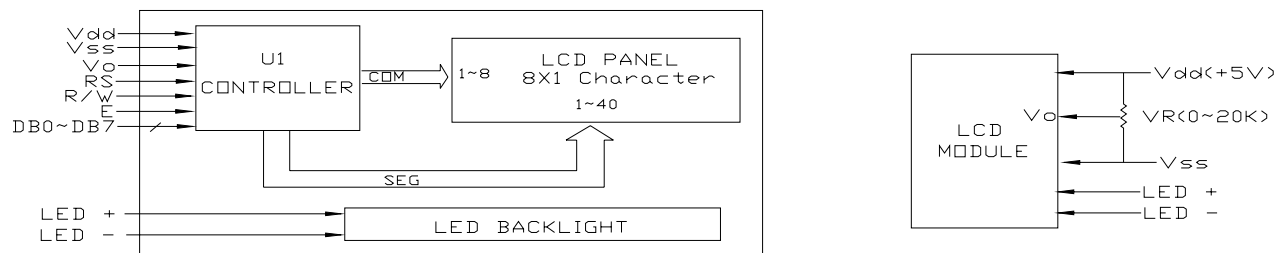
◆ELECTRICAL CHARACTERISTICS

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	---	2.0	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=6.8Ω	---	4.2	---	V
Supply Current for LED	If	Ta=25°C, Vf=4.2V	---	120	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	69.0×27.0×8.5/13.0	LC Fluid	TN,STN (Yellow-green, Gray, Blue),FSTN
Viewing Area(W×H)	45.2×13.8	Polarizer	Reflective,Transflective,Transmissive
Dot Size(W×H)	0.80×0.92	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.85×0.97	Display Type	Positive or Negative
Character Size(W×H)	4.20×7.71	Backlight	LED (Optional)
Character Pitch(W×H)	5.2× --	Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6A0069 or Equivalent

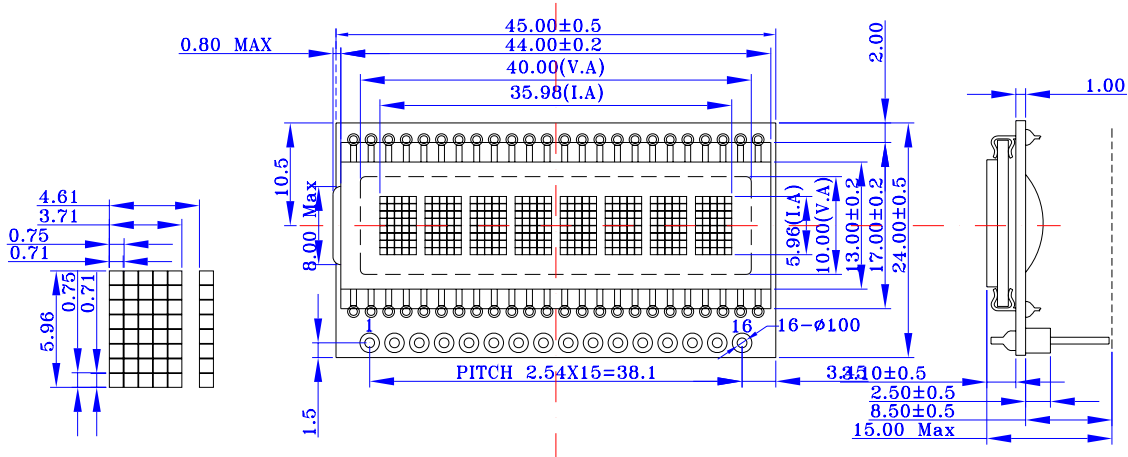
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	V _{SS}	Ground for logic	6	E	Enable signal
2	V _{DD}	Power supply for logic	7~14	DB0~DB7	Data bus lines
3	V _O	Power supply for LCD		A	BKL +
4	RS	Register selection(H:Data,L:Instruction)		K	BKL -
5	R/W	Read/Write selection(H: R, L: W)			

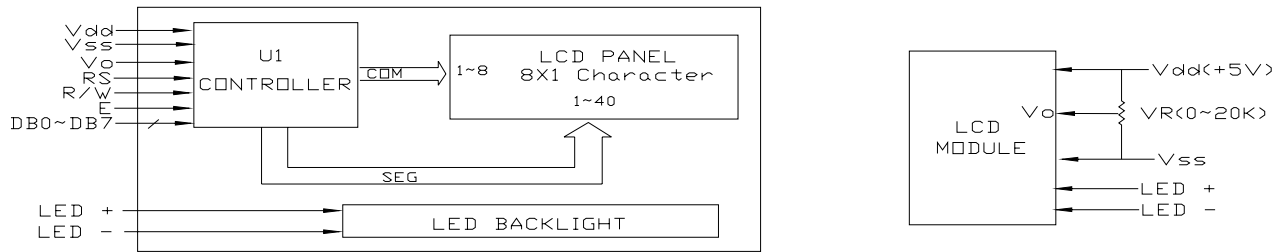
◆ELECTRICAL CHARACTERISTICS

Item	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Operating Voltage	V _{DD}	T _a =25°C	---	5.0	---	V
Operating Voltage for LCD	V _{LCD}	T _a =25°C	---	4.5	---	V
Supply Current	I _{DD}	T _a =25°C, V _{DD} =5.0V	---	1.5	3.0	mA
Supply Voltage for LED	V _F	T _a =25°C, R=6.8Ω	---	4.2	---	V
Supply Current for LED	I _F	T _a =25°C, V _F =4.2V	---	80	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	45.0×24.0×15.0	LC Fluid	TN,STN (Yellow-green, Gray, Blue),FSTN
Viewing Area(W×H)	40.0×10.0	Polarizer	Reflective,Transflective,Transmissive
Dot Size(W×H)	0.71×0.71	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.75×0.75	Display Type	Positive or Negative
Character Size(W×H)	3.71×5.96	Backlight	NC (Optional)
Character Pitch(W×H)	4.61× --	Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6A0069 or Equivalent

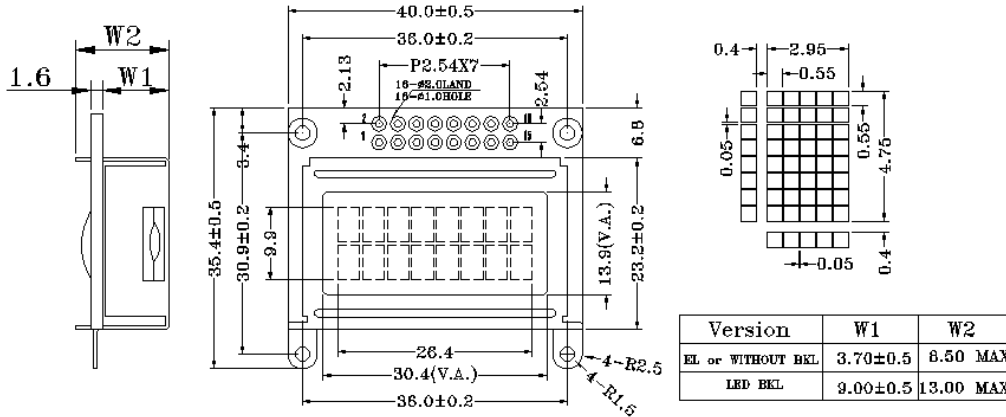
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vss	Ground for logic	6	E	Enable signal
2	Vdd	Power supply for logic	7~14	DB0~DB7	Data bus lines
3	Vo	Power supply for LCD	15	NC	
4	RS	Register selection(H:Data,L:Instruction)	16	NC	
5	R/W	Read/Write selection(H: R, L: W)			

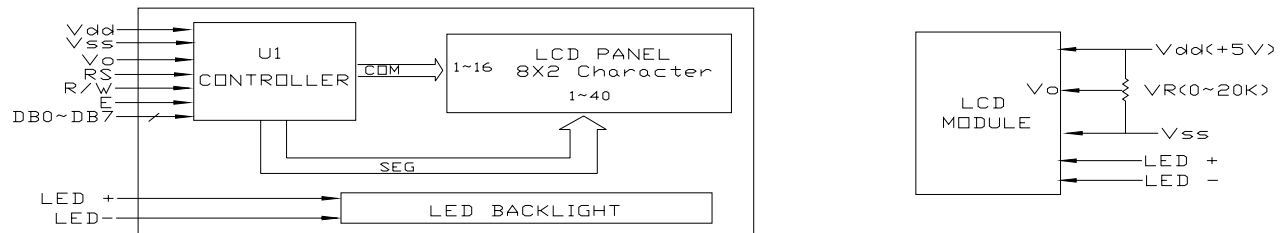
◆ELECTRICAL CHARACTERISTICS

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=3.0V~5.0V	---	1.5	3.0	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	40.0×35.4×8.5/13.0	LC Fluid	TN,STN (Yellow-green, Gray, Blue),FSTN
Viewing Area(W×H)	30.4×13.9	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.55×0.55	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.60×0.60	Display Type	Positive or Negative
Character Size(W×H)	2.95×4.75	Backlight	LED (Optional)
Character Pitch(W×H)	3.35×5.15	Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6A0069 or Equivalent

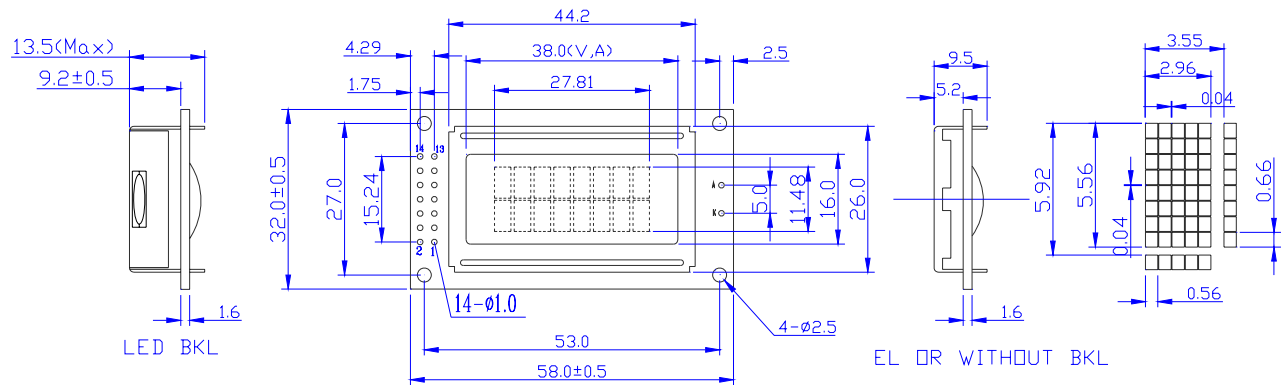
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vss	Ground for logic	6	E	Enable signal
2	Vdd	Power supply for logic	7~14	DB0~DB7	Data bus lines
3	Vo	Power supply for LCD		A	BKL +
4	RS	Register selection(H:Data,L:Instruction)		K	BKL -
5	R/W	Read/Write selection(H: R, L: W)			

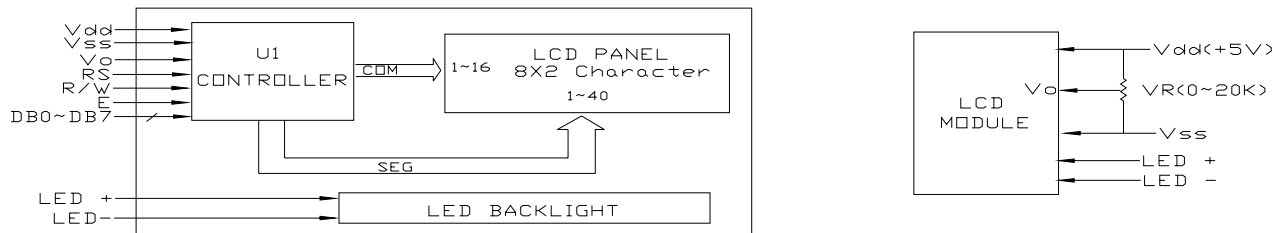
◆ELECTRICAL CHARACTERISTICS

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	---	2.0	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=6.8Ω	---	4.2	---	V
Supply Current for LED	If	Ta=25°C, Vf=4.2V	---	60	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	58.0×32.0×9.5/13.5	LC Fluid	TN,STN (Yellow-green, Gray, Blue),FSTN
Viewing Area(W×H)	38.0×16.0	Polarizer	Reflective,Transflective,Transmissive
Dot Size(W×H)	0.56×0.66	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.60×0.70	Display Type	Positive or Negative
Character Size(W×H)	2.92×5.56	Backlight	LED (Optional)
Character Pitch(W×H)	3.55×5.92	Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6A0069 or Equivalent

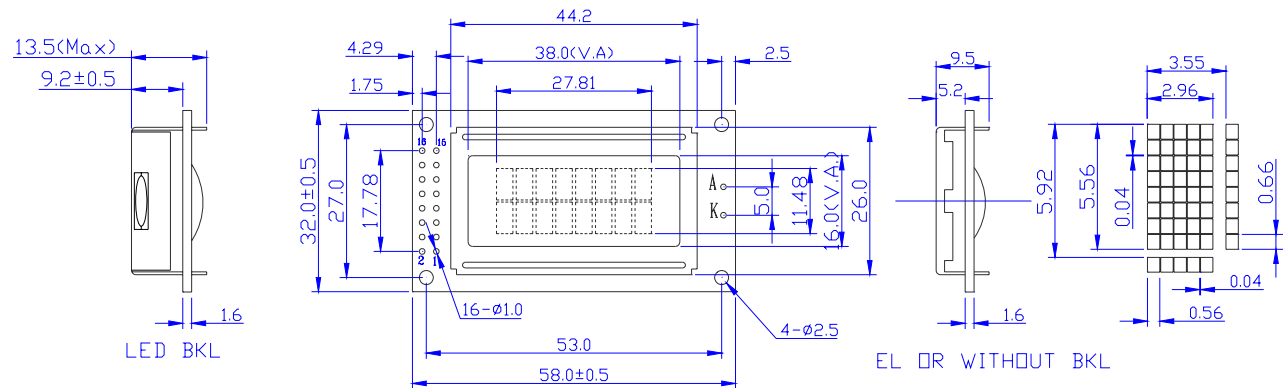
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vss	Ground for logic	6	E	Enable signal
2	Vdd	Power supply for logic	7~14	DB0~DB7	Data bus lines
3	Vo	Power supply for LCD		A	BKL +
4	RS	Register selection(H:Data,L:Instruction)		K	BKL -
5	R/W	Read/Write selection(H: R, L: W)			

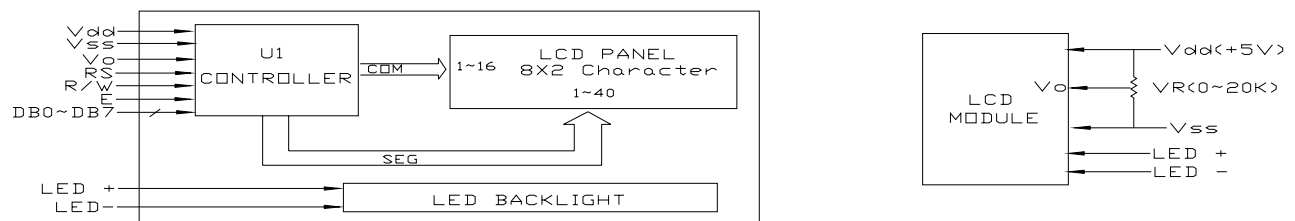
◆ELECTRICAL CHARACTERISTICS

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	---	2.0	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=6.8Ω	---	4.2	---	V
Supply Current for LED	If	Ta=25°C, Vf=4.2V	---	60	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	58.0×32.0×9.5/13.5	LC Fluid	TN,STN (Yellow-green, Gray, Blue),FSTN
Viewing Area(W×H)	38.0×16.0	Polarizer	Reflective,Transflective,Transmissive
Dot Size(W×H)	0.56×0.66	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.60×0.70	Display Type	Positive or Negative
Character Size(W×H)	2.92×5.56	Backlight	LED (Optional)
Character Pitch(W×H)	3.55×5.92	Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6A0069 or Equivalent

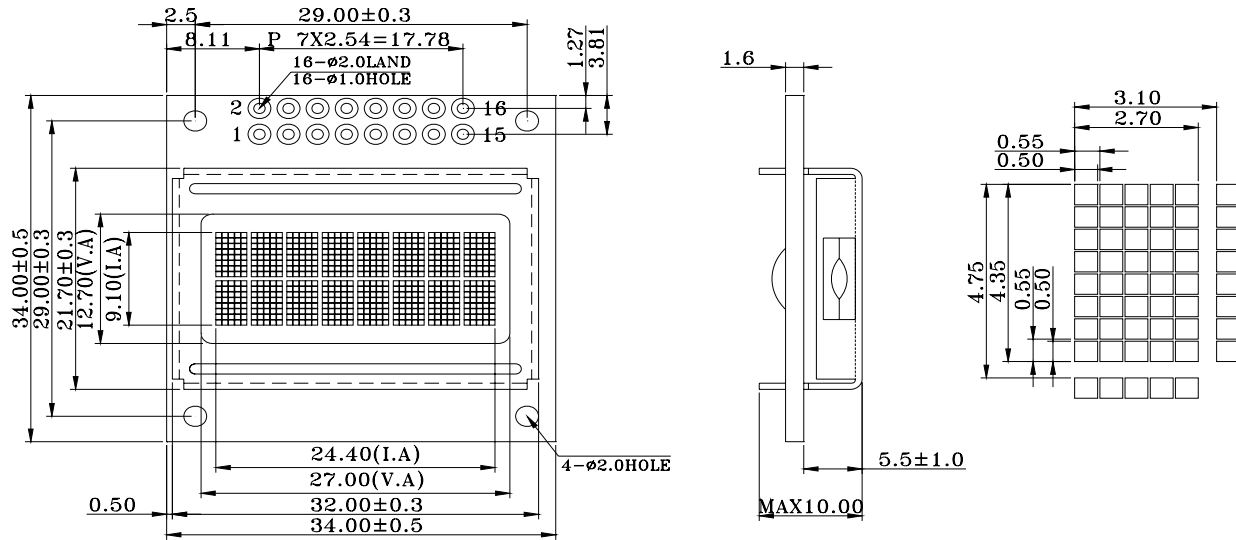
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vss	Ground for logic	6	E	Enable signal
2	Vdd	Power supply for logic	7~14	DB0~DB7	Data bus lines
3	Vo	Power supply for LCD	15	A	BKL +
4	RS	Register selection(H:Data,L:Instruction)	16	K	BKL -
5	R/W	Read/Write selection(H: R, L: W)			

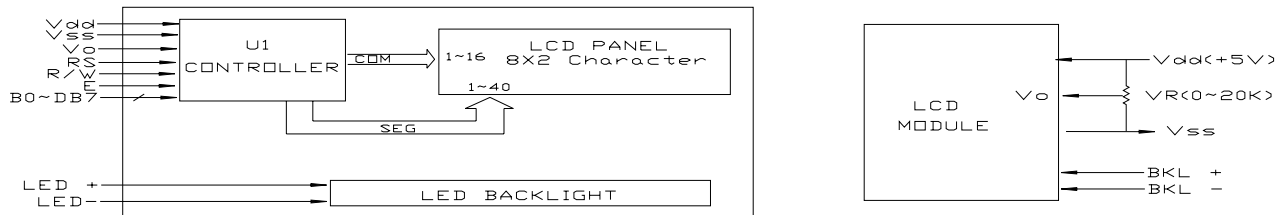
◆ELECTRICAL CHARACTERISTICS

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	---	2.0	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=6.8Ω	---	4.2	---	V
Supply Current for LED	If	Ta=25°C, Vf=4.2V	---	60	---	mA

◆ OUTLINE DIMENSION



◆ BLOCK DIAGRAM & POWER SUPPLY



◆ MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	34.0×34.0×10.0	LC Fluid	TN,STN (Yellow-green,Gray, Blue),FSTN
Viewing Area(W×H)	27.0×12.7	Polarizer	Reflective,Transflective,Transmissive
Dot Size(W×H)	0.50×0.50	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.55×0.55	Display Type	Positive or Negative
Character Size(W×H)	2.70×4.35	Backlight	LED(Optional)
Character Pitch(W×H)	3.10×4.75	Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6A0069 or Equivalent

◆ INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vss	Ground for logic	5	R/W	Read/Write selection(H: R, L: W)
2	Vdd	Power supply for logic	6	E	Enable signal
3	Vo	Power supply for LCD	7~14	DB0~DB7	Data bus lines
4	RS	Register selection(H:Data,L:Instruction)	15/16	A/K	BKL + / BKL -

◆ ELECTRICAL CHARACTERISTICS

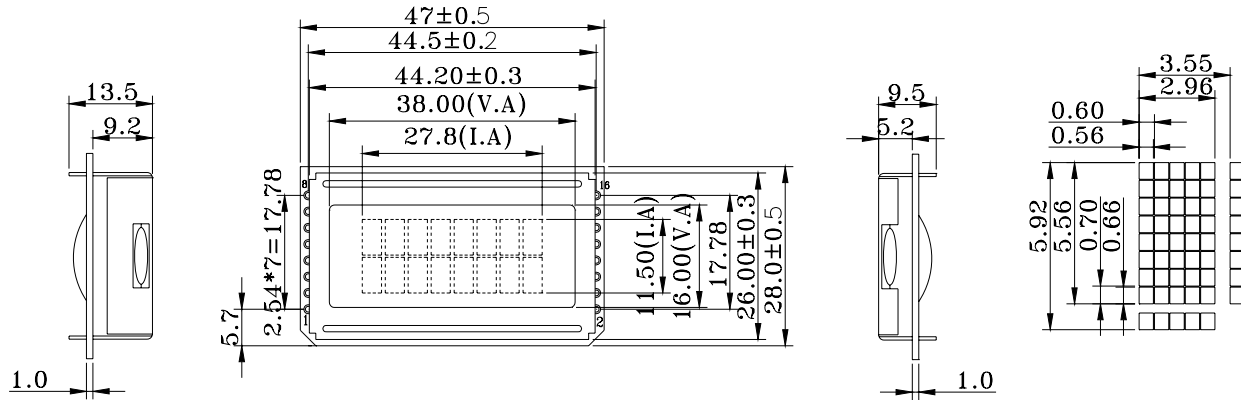
Item	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Operating Voltage	Vdd	Ta=25°C	---	5.0	---	V
Operating Voltage for LCD	Vlcd	Ta=25°C	---	4.5	---	V
Supply Current	Idd	Ta=25°C, Vdd=5.0V	---	2.0	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=200Ω	---	2.1	---	V
Supply Current for LED	If	Ta=25°C, Vf=2.1V	---	15	---	mA

GOLDEN VIEW DISPLAY, INC.

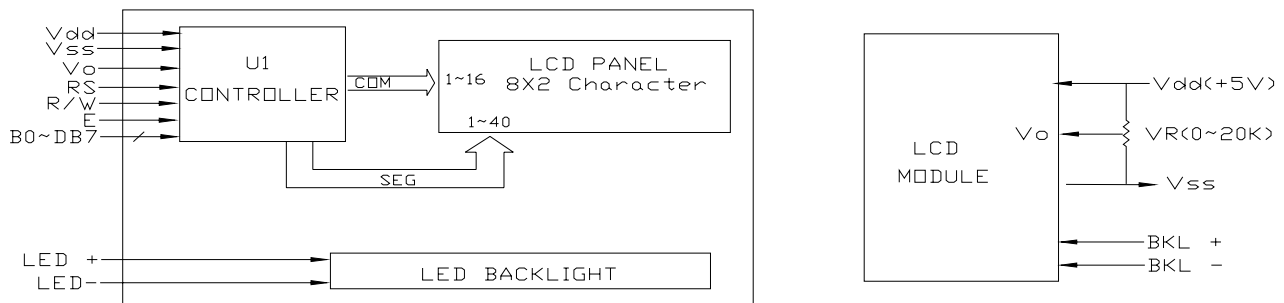
8460 Southwind Bay Circle, Fort Myers, Florida 33908

Phone: (239) 332-8868 Fax: (239) 590-6066 Email: sales@goldenviewdisplay.com

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	47.0×28.0×9.5/13.5	LC Fluid	TN,STN (Yellow-green,Gray, Blue),FSTN
Viewing Area(W×H)	38.0×16.0	Polarizer	Reflective,Transflective,Transmissive
Dot Size(W×H)	0.56×0.66	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.60×0.70	Display Type	Positive or Negative
Character Size(W×H)	2.96×5.56	Backlight	LED(Optional)
Character Pitch(W×H)	3.55× 5.92	Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6A0069 or Equivalent

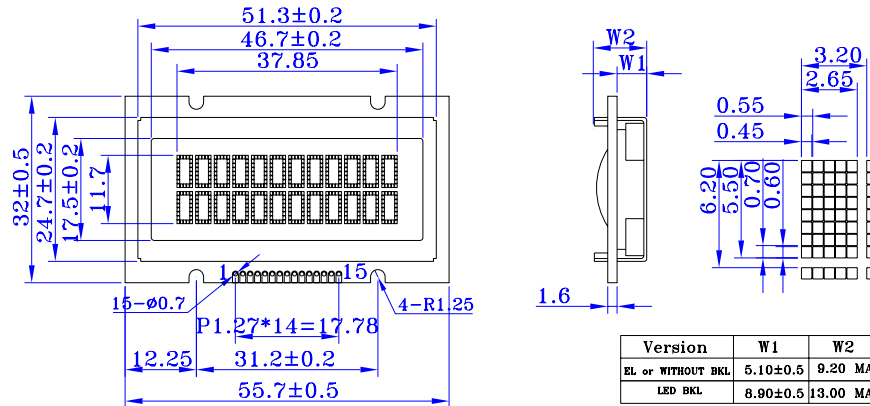
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vss	Ground for logic	6	E	Enable signal
2	Vdd	Power supply for logic	7~14	DB0~DB7	Data bus lines
3	Vo	Power supply for LCD	15	A	BKL +
4	RS	Register selection(H:Data,L:Instruction)	16	K	BKL -
5	R/W	Read/Write selection(H: R, L: W)			

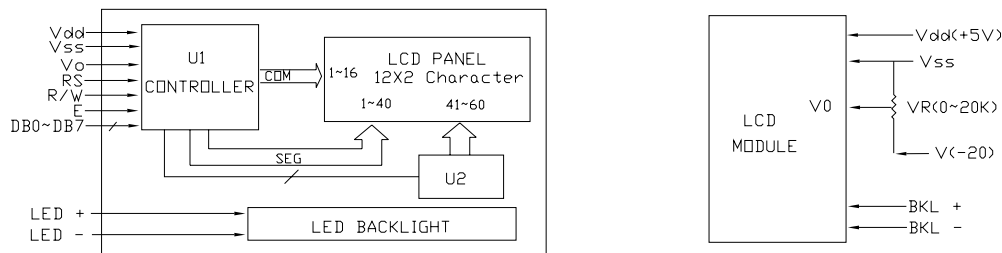
◆ELECTRICAL CHARACTERISTICS

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	---	2.0	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=7.2Ω	---	4.2	---	V
Supply Current for LED	If	Ta=25°C, Vf=4.2V	---	110	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	55.7×32.0×9.2/13.0	LC Fluid	TN,STN (Yellow-green, Gray, Blue),FSTN
Viewing Area(W×H)	46.7×17.5	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.45×0.60	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.55×0.70	Display Type	Positive or Negative
Character Size(W×H)	2.65×5.50	Backlight	LED (Optional)
Character Pitch(W×H)	3.20×6.20	Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6A0069 or Equivalent

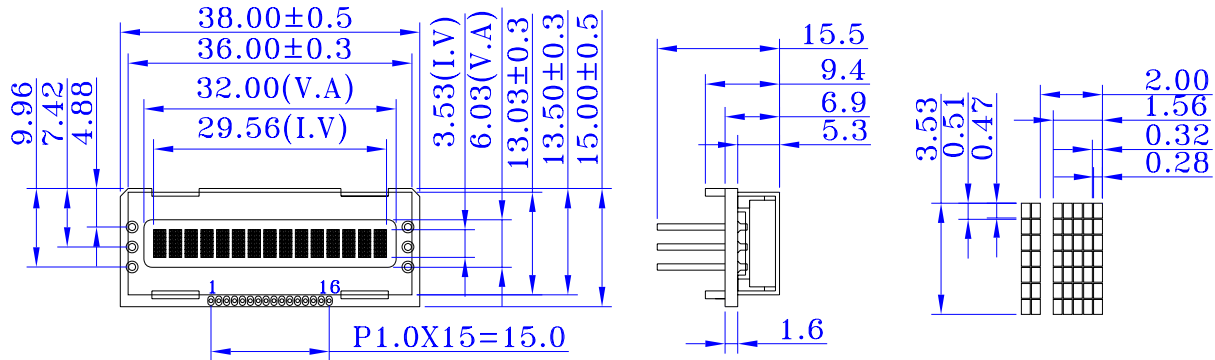
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vss/K	Ground for logic / LED BKL(-)	6	E	Enable signal
2	Vdd	Power supply for logic	7~14	DB0~DB7	Data bus lines
3	Vo	Power supply for LCD	15	A	BKL +
4	RS	Register selection (H:Data, L:Instruction)			
5	R/W	Read/Write selection (H: R, L: W)			

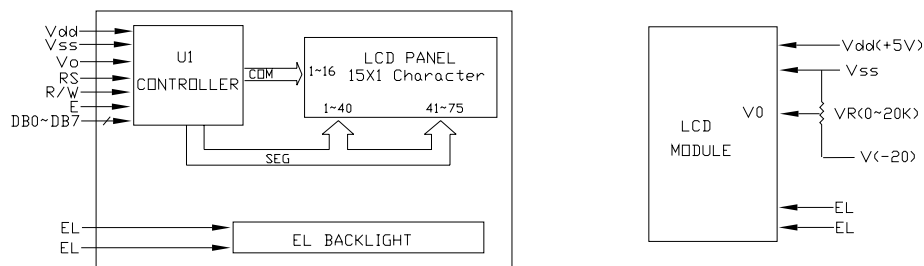
◆ELECTRICAL CHARACTERISTICS

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	---	2.0	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=6.8Ω	---	4.2	---	V
Supply Current for LED	If	Ta=25°C, Vf=4.2V	---	80	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	38.0×15.0×15.5	LC Fluid	TN,STN (Yellow-green, Gray, Blue),FSTN
Viewing Area(W×H)	32.0×6.03	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.28×0.47	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.32×0.51	Display Type	Positive or Negative
Character Size(W×H)	1.56×3.53	Backlight	EL (Optional)
Character Pitch(W×H)	2.00× --	Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6A0069 or Equivalent

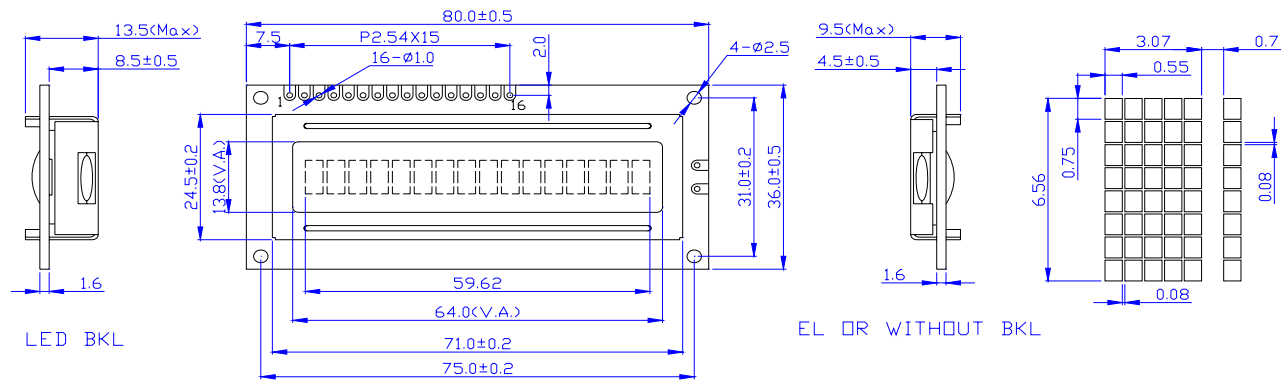
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1~8	DB7~DB0	Data bus lines	13	Vdd	Power supply for logic
9	E	Enable signal	14	Vss	Ground for logic
10	R/W	Read/Write selection (H: R, L: W)	15	AC	EL
11	RS	Register selection (H:Data, L:Instruction)	16	AC	EL
12	Vo	Power supply for LCD			

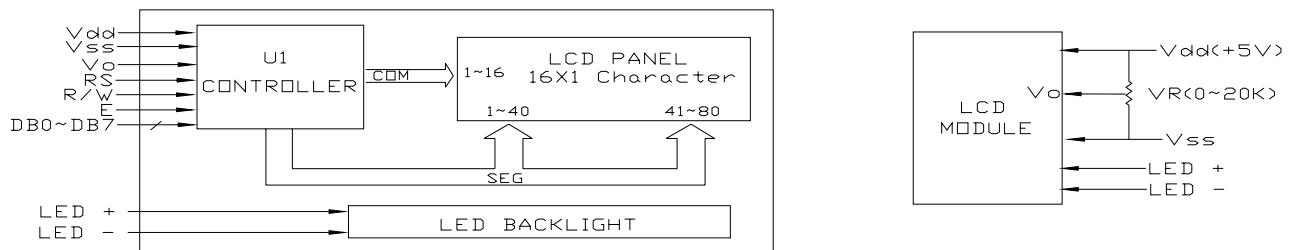
◆ELECTRICAL CHARACTERISTICS

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	---	2.0	3.0	mA
Supply Voltage for EL	Vf	Ta=25°C,	---	110	---	V

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	80.0×36.0×9.5/13.5	LC Fluid	TN,STN (Yellow-green, Gray, Blue),FSTN
Viewing Area(W×H)	64.0×13.8	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.55×0.75	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.63×0.83	Display Type	Positive or Negative
Character Size(W×H)	3.07×6.56	Backlight	LED (Optional)
Character Pitch(W×H)	3.77× --	Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6A0069 or Equivalent

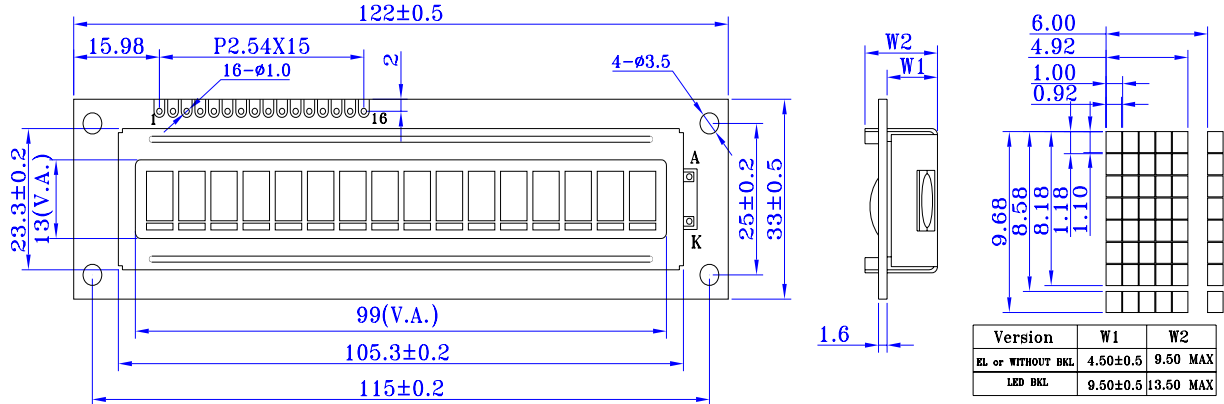
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vss	Ground for logic	6	E	Enable signal
2	Vdd	Power supply for logic	7~14	DB0~DB7	Data bus lines
3	Vo	Power supply for LCD	15	A	BKL +
4	RS	Register selection (H:Data, L:Instruction)	16	K	BKL -
5	R/W	Read/Write selection (H: R, L: W)			

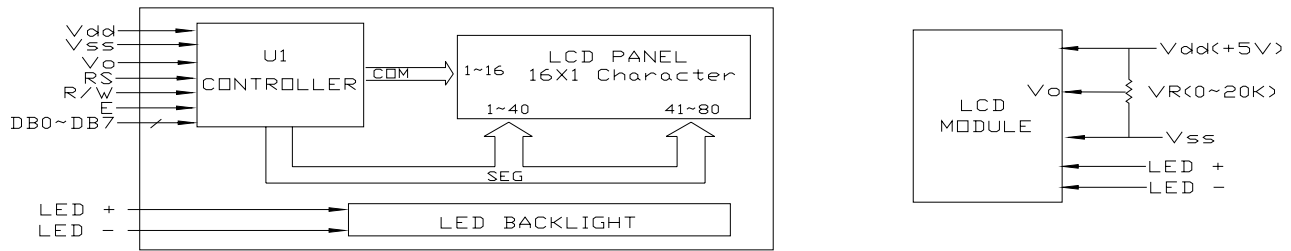
◆ELECTRICAL CHARACTERISTICS

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	---	2.0	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=6.8Ω	---	4.2	---	V
Supply Current for LED	If	Ta=25°C, Vf=4.2V	---	110	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	122.0×33.0×9.5/13.5	LC Fluid	TN,STN (Yellow-green, Gray, Blue),FSTN
Viewing Area(W×H)	99.0×13.0	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.92×1.10	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	1.00×1.18	Display Type	Positive or Negative
Character Size(W×H)	4.92×9.68	Backlight	LED (Optional)
Character Pitch(W×H)	6.0× --	Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6A0069 or Equivalent

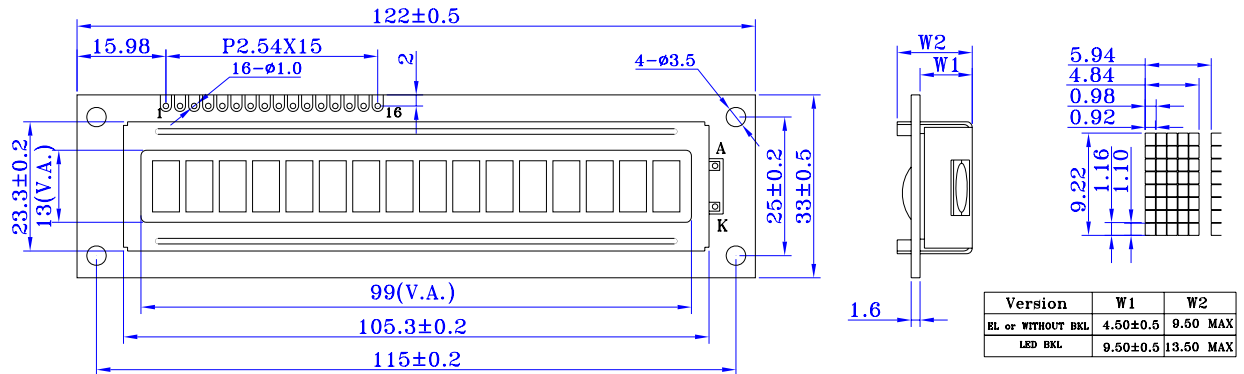
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vss	Ground for logic	6	E	Enable signal
2	Vdd	Power supply for logic	7~14	DB0~DB7	Data bus lines
3	Vo	Power supply for LCD	15	A	BKL +
4	RS	Register selection (H:Data, L:Instruction)	16	K	BKL -
5	R/W	Read/Write selection (H: R, L: W)			

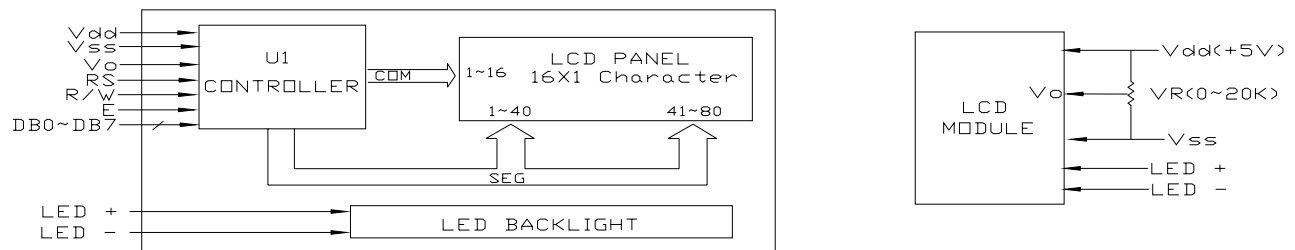
◆ELECTRICAL CHARACTERISTICS

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	---	2.0	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=6.8Ω	---	4.2	---	V
Supply Current for LED	If	Ta=25°C, Vf=4.2V	---	180	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	122.0×33.0×9.5/13.5	LC Fluid	TN,STN (Yellow-green, Gray, Blue),FSTN
Viewing Area(W×H)	99.0×13.0	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.92×1.10	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.98×1.16	Display Type	Positive or Negative
Character Size(W×H)	4.84×9.22	Backlight	LED (Optional)
Character Pitch(W×H)	5.94× --	Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6A0069 or Equivalent

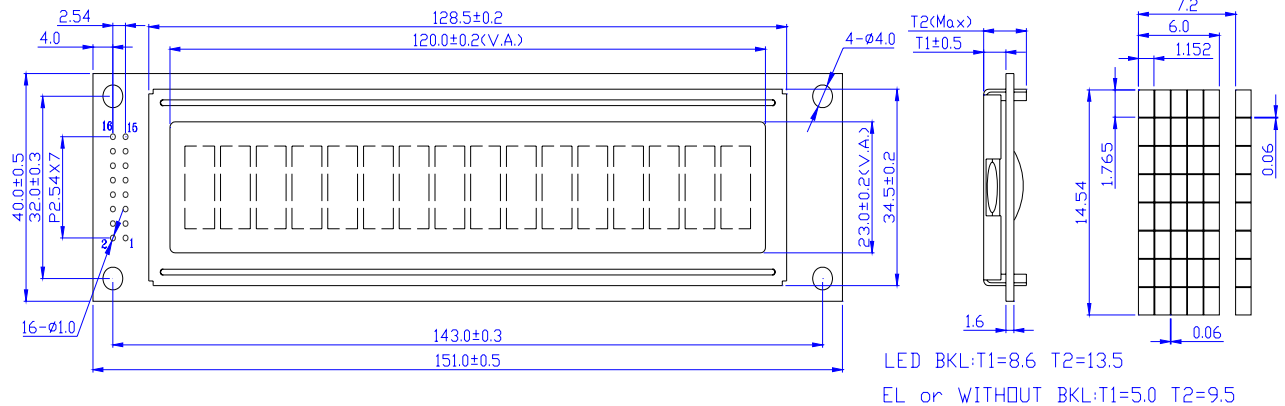
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vss	Ground for logic	6	E	Enable signal
2	Vdd	Power supply for logic	7~14	DB0~DB7	Data bus lines
3	V0	Power supply for LCD	15	A	BKL +
4	RS	Register selection (H:Data, L:Instruction)	16	K	BKL -
5	R/W	Read/Write selection (H: R, L: W)			

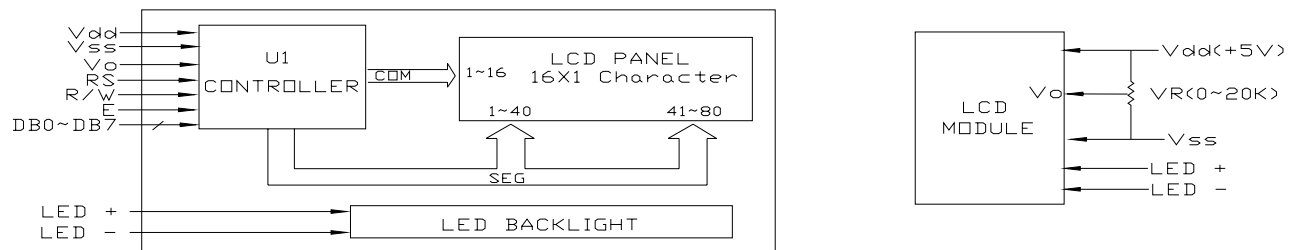
◆ELECTRICAL CHARACTERISTICS

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	---	2.0	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=6.8Ω	---	4.2	---	V
Supply Current for LED	If	Ta=25°C, Vf=4.2V	---	180	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	143.0×40.0×9.5/13.5	LC Fluid	TN,STN (Yellow-green, Gray, Blue),FSTN
Viewing Area(W×H)	120.0×23.0	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	1.152×1.765	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	1.212×1.825	Display Type	Positive or Negative
Character Size(W×H)	6.00×14.54	Backlight	LED (Optional)
Character Pitch(W×H)	7.2× --	Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6A0069 or Equivalent

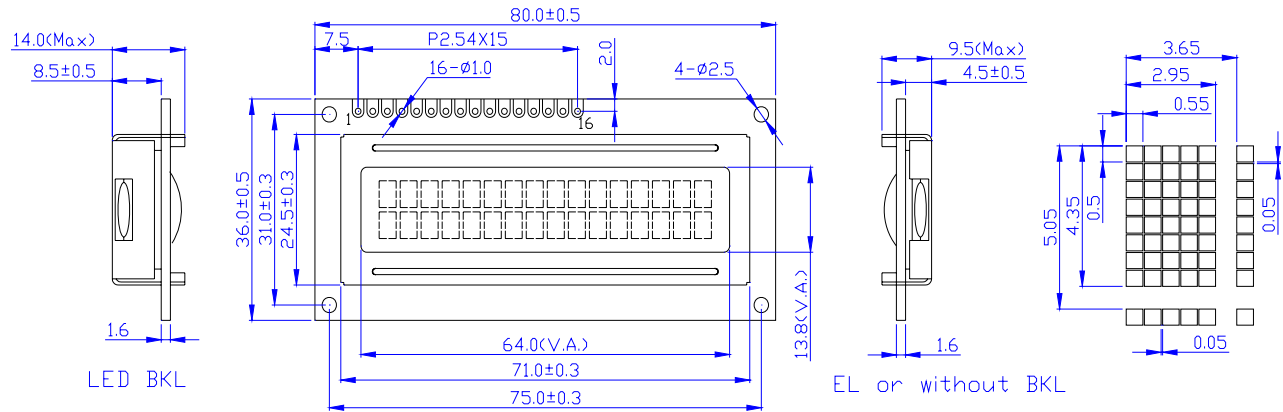
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vss	Ground for logic	6	E	Enable signal
2	Vdd	Power supply for logic	7~14	DB0~DB7	Data bus lines
3	Vo	Power supply for LCD	15	A	BKL +
4	RS	Register selection (H:Data, L:Instruction)	16	K	BKL -
5	R/W	Read/Write selection (H: R, L: W)			

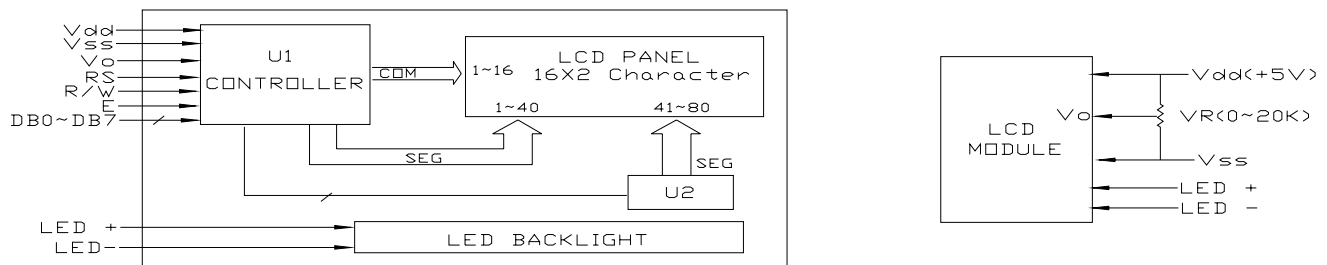
◆ELECTRICAL CHARACTERISTICS

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	---	2.0	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=6.8Ω	---	4.2	---	V
Supply Current for LED	If	Ta=25°C, Vf=4.2V	---	300	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	80.0×36.0×9.5/14.0	LC Fluid	TN, STN (Yellow-green, Gray, Blue), FSTN
Viewing Area(W×H)	64.0×13.8	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.55×0.50	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.60×0.55	Display Type	Positive or Negative
Character Size(W×H)	2.95×4.35	Backlight	LED (Optional)
Character Pitch(W×H)	3.65×5.05	Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6A0069 or Equivalent

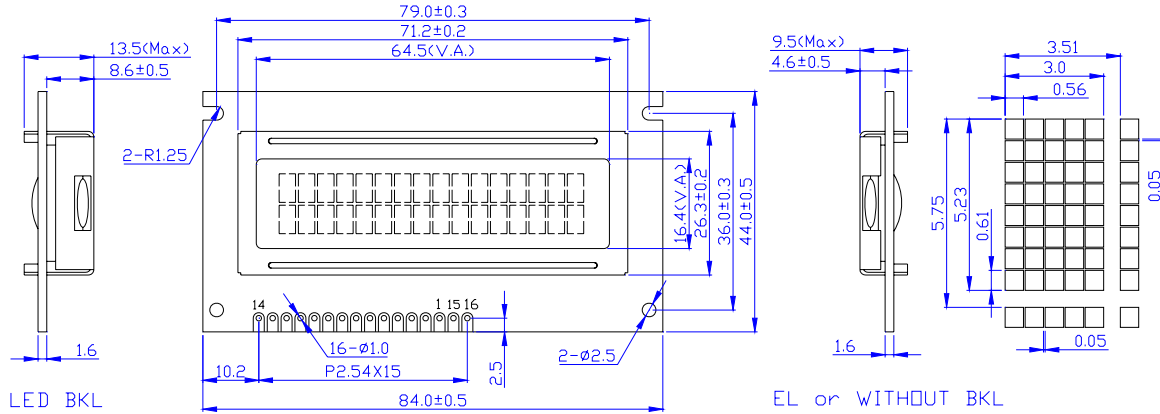
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vss	Ground for logic	6	E	Enable signal
2	Vdd	Power supply for logic	7~14	DB0~DB7	Data bus lines
3	Vo	Power supply for LCD	15	A	BKL +
4	RS	Register selection (H:Data, L:Instruction)	16	K	BKL -
5	R/W	Read/Write selection (H: R, L: W)			

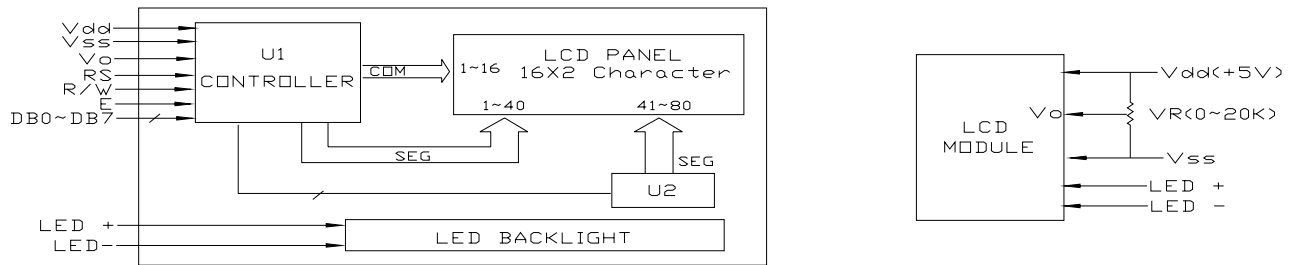
◆ELECTRICAL CHARACTERISTICS

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	---	2.0	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=6.8Ω	---	4.2	---	V
Supply Current for LED	If	Ta=25°C, Vf=4.2V	---	110	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	84.0×44.0×9.5/13.5	LC Fluid	TN, STN (Yellow-green, Gray, Blue), FSTN
Viewing Area(W×H)	64.5×16.4	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.56×0.61	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.61×0.66	Display Type	Positive or Negative
Character Size(W×H)	3.00×5.23	Backlight	LED (Optional)
Character Pitch(W×H)	3.51×5.75	Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6A0069 or Equivalent

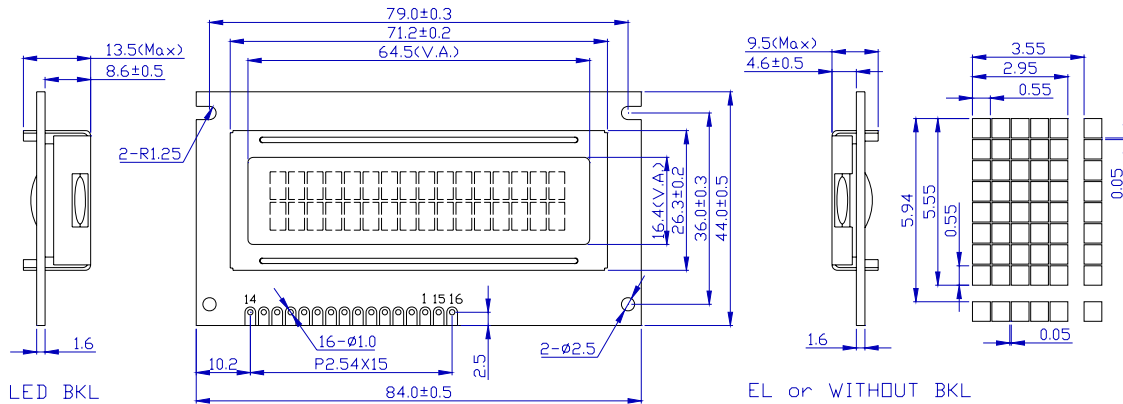
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vss	Ground for logic	6	E	Enable signal
2	Vdd	Power supply for logic	7~14	DB0~DB7	Data bus lines
3	Vo	Power supply for LCD	15	A	BKL +
4	RS	Register selection (H:Data, L:Instruction)	16	K	BKL -
5	R/W	Read/Write selection (H: R, L: W)			

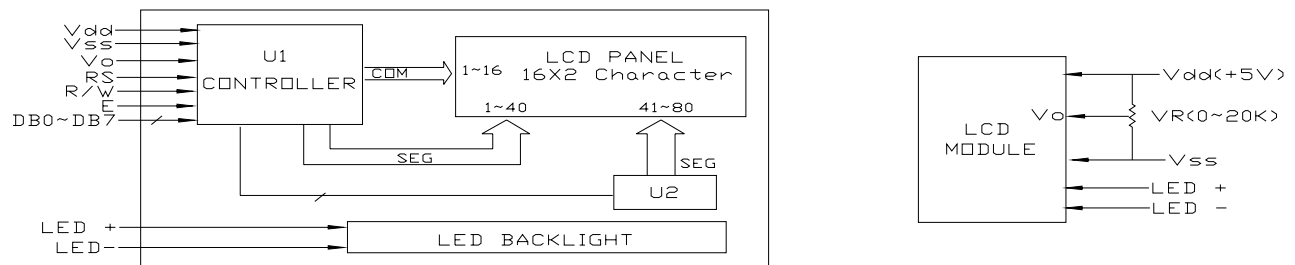
◆ELECTRICAL CHARACTERISTICS

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	---	2.0	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=6.8Ω	---	4.2	---	V
Supply Current for LED	If	Ta=25°C, Vf=4.2V	---	120	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	84.0×44.0×9.5/13.5	LC Fluid	TN, STN (Yellow-green, Gray, Blue), FSTN
Viewing Area(W×H)	64.5×16.4	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.55×0.55	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.60×0.60	Display Type	Positive or Negative
Character Size(W×H)	2.95×5.55	Backlight	LED (Optional)
Character Pitch(W×H)	3.55×5.94	Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6A0069 or Equivalent

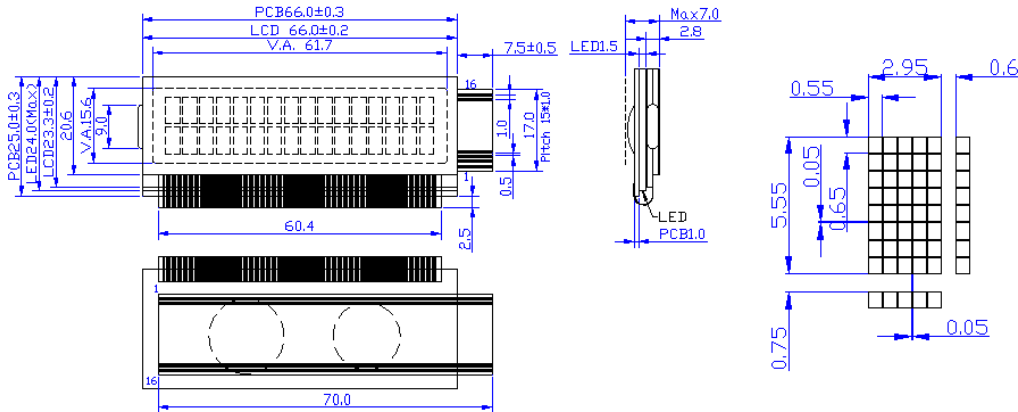
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vss	Ground for logic	6	E	Enable signal
2	Vdd	Power supply for logic	7~14	DB0~DB7	Data bus lines
3	Vo	Power supply for LCD	15	A	BKL +
4	RS	Register selection (H:Data, L:Instruction)	16	K	BKL -
5	R/W	Read/Write selection (H: R, L: W)			

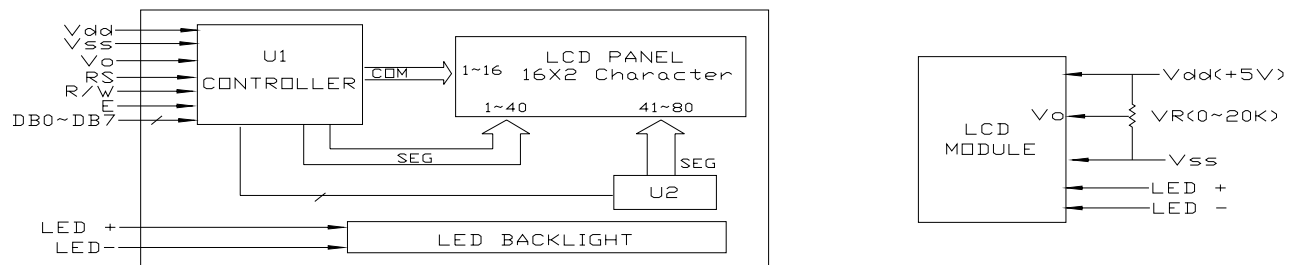
◆ELECTRICAL CHARACTERISTICS

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	---	2.0	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=6.8Ω	---	4.2	---	V
Supply Current for LED	If	Ta=25°C, Vf=4.2V	---	120	---	mA

◆ OUTLINE DIMENSION



◆ BLOCK DIAGRAM & POWER SUPPLY



◆ MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	66.0×25.0×7.0	LC Fluid	STN (Yellow-green, Gray, Blue), FSTN
Viewing Area(W×H)	61.7×15.6	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.55×0.65	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.60×0.70	Display Type	Positive or Negative
Character Size(W×H)	2.95×5.55	Backlight	LED (Optional)
Character Pitch(W×H)	3.55×6.30	Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6A0069 or Equivalent

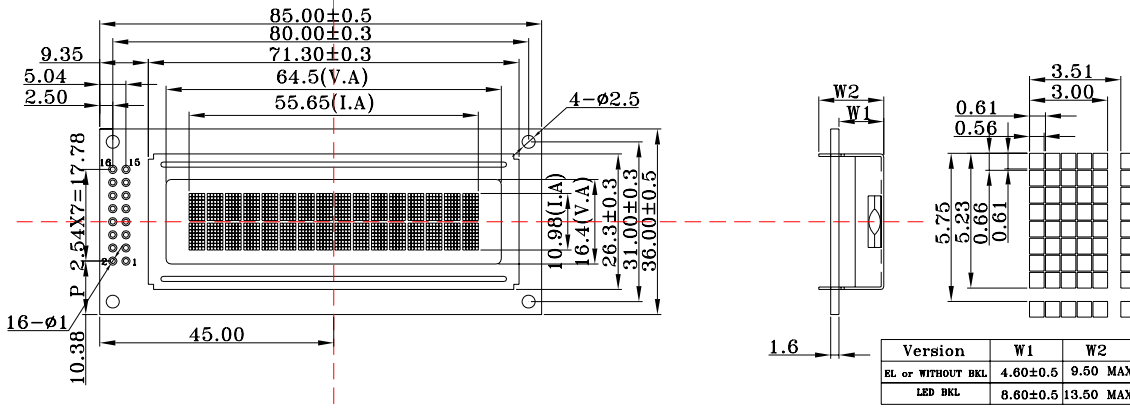
◆ INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vss	Ground for logic	6	E	Enable signal
2	Vdd	Power supply for logic	7~14	DB0~DB7	Data bus lines
3	Vo	Power supply for LCD	15	A	BKL +
4	RS	Register selection (H:Data, L:Instruction)	16	K	BKL -
5	R/W	Read/Write selection (H: R, L: W)			

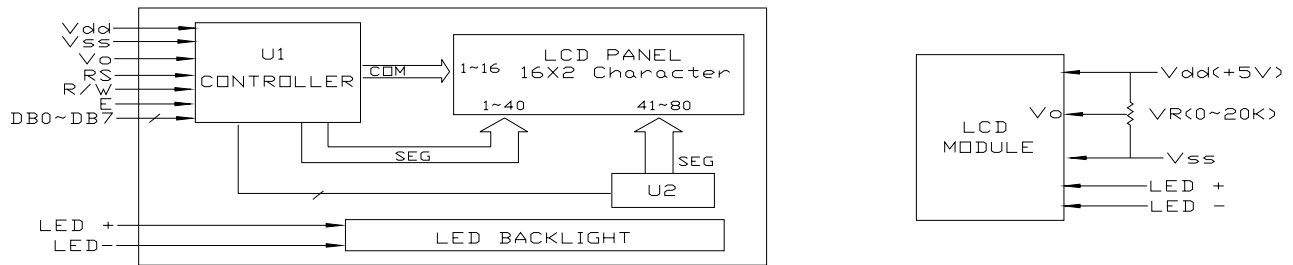
◆ ELECTRICAL CHARACTERISTICS

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	---	2.0	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=6.8Ω	---	4.2	---	V
Supply Current for LED	If	Ta=25°C, Vf=3.2V	---	40	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	85.0×36.0×9.5/13.5	LC Fluid	STN (Yellow-green, Gray, Blue), FSTN
Viewing Area(W×H)	64.5×16.4	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.56×0.61	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.61×0.66	Display Type	Positive or Negative
Character Size(W×H)	3.0×5.23	Backlight	LED (Optional)
Character Pitch(W×H)	3.51×5.75	Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6A0069 or Equivalent

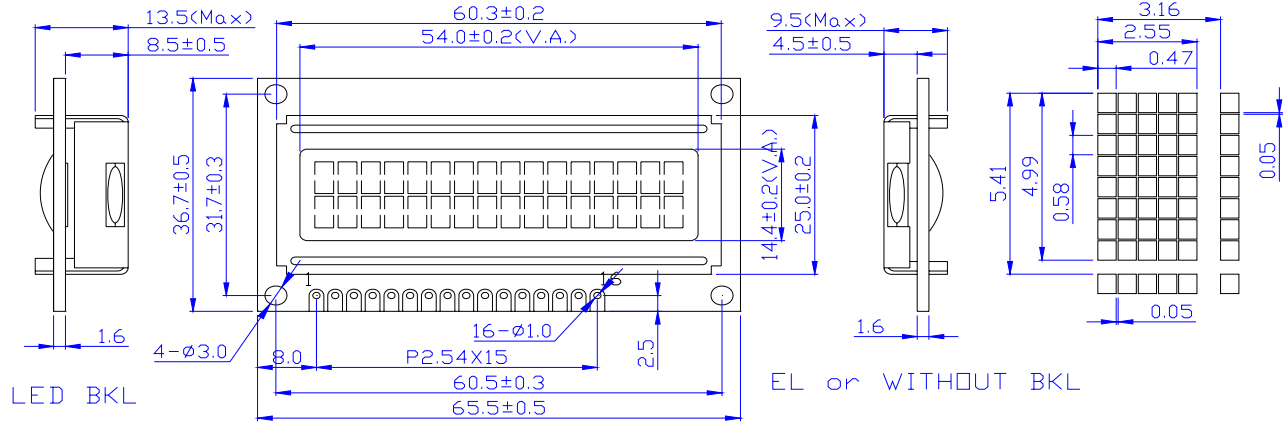
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vss	Ground for logic	6	E	Enable signal
2	Vdd	Power supply for logic	7~14	DB0~DB7	Data bus lines
3	Vo	Power supply for LCD	15	A	BKL +
4	RS	Register selection (H:Data, L:Instruction)	16	K	BKL -
5	R/W	Read/Write selection (H: R, L: W)			

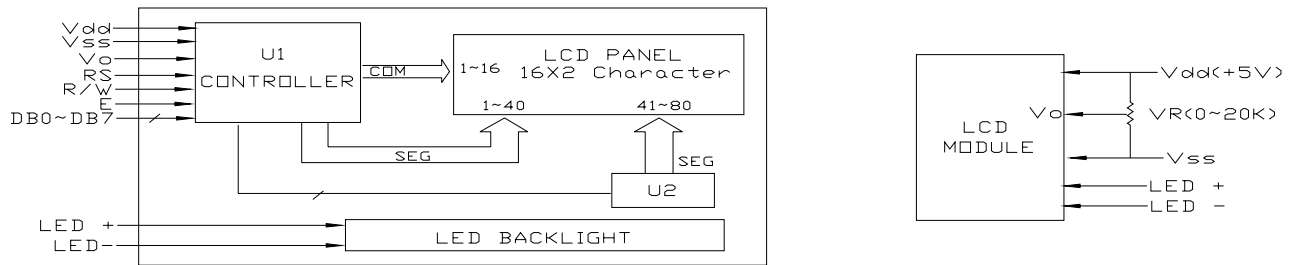
◆ELECTRICAL CHARACTERISTICS

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	---	2.0	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=6.8Ω	---	4.2	---	V
Supply Current for LED	If	Ta=25°C, Vf=4.2V	---	120	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	65.5×36.7×9.5/13.5	LC Fluid	STN (Yellow-green, Gray, Blue), FSTN
Viewing Area(W×H)	54.0×14.4	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.47×0.58	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.52×0.63	Display Type	Positive or Negative
Character Size(W×H)	2.55×4.99	Backlight	LED (Optional)
Character Pitch(W×H)	3.16×5.41	Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6A0069 or Equivalent

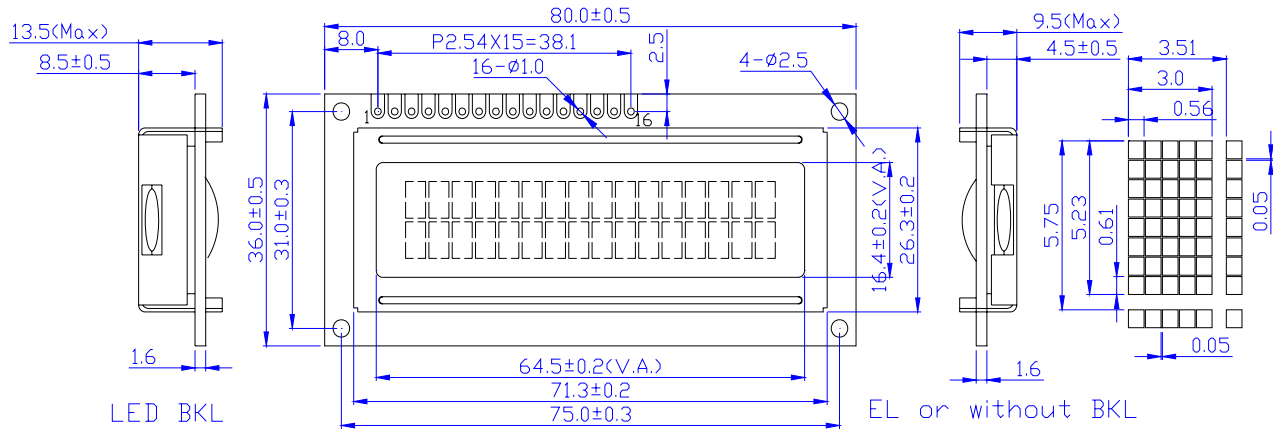
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vss	Ground for logic	6	E	Enable signal
2	Vdd	Power supply for logic	7~14	DB0~DB7	Data bus lines
3	Vo	Power supply for LCD	15	A	BKL +
4	RS	Register selection (H:Data, L:Instruction)	16	K	BKL -
5	R/W	Read/Write selection (H: R, L: W)			

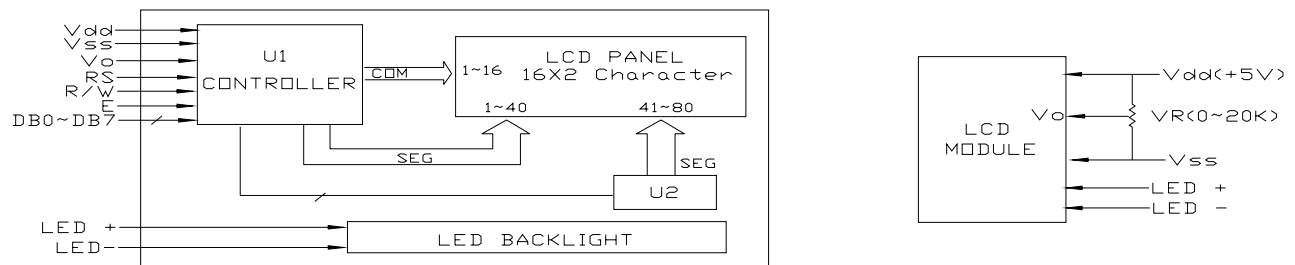
◆ELECTRICAL CHARACTERISTICS

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	---	2.0	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=6.8Ω	---	4.2	---	V
Supply Current for LED	If	Ta=25°C, Vf=4.2V	---	100	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	80.0×36.0×9.5/13.5	LC Fluid	STN (Yellow-green, Gray, Blue), FSTN
Viewing Area(W×H)	64.5×16.4	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.56×0.61	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.61×0.66	Display Type	Positive or Negative
Character Size(W×H)	3.0×5.23	Backlight	LED (Optional)
Character Pitch(W×H)	3.51×5.75	Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6A0069 or Equivalent

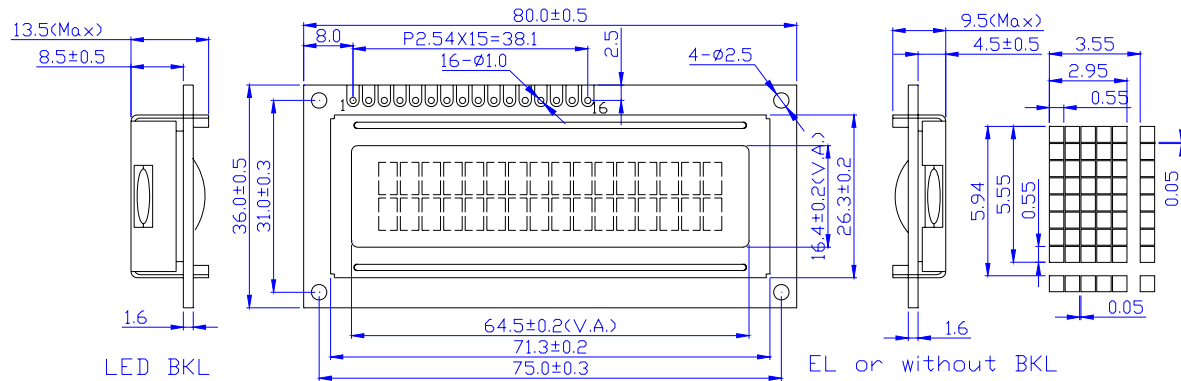
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vss	Ground for logic	6	E	Enable signal
2	Vdd	Power supply for logic	7~14	DB0~DB7	Data bus lines
3	Vo	Power supply for LCD	15	A	BKL +
4	RS	Register selection (H:Data, L:Instruction)	16	K	BKL -
5	R/W	Read/Write selection (H: R, L: W)			

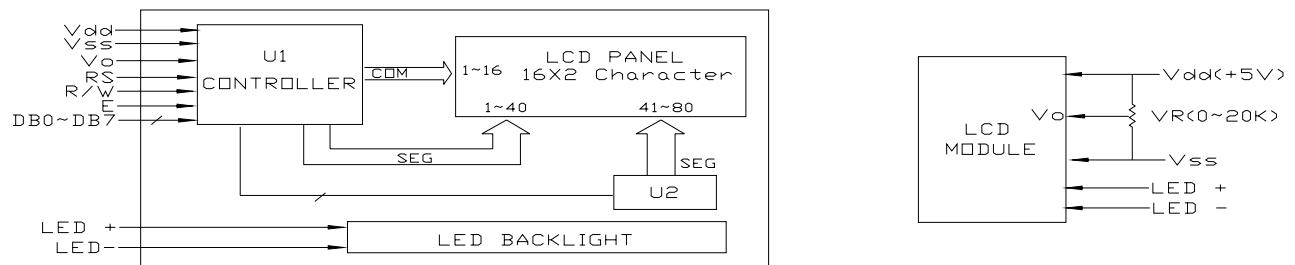
◆ELECTRICAL CHARACTERISTICS

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	---	2.0	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=6.8Ω	---	4.2	---	V
Supply Current for LED	If	Ta=25°C, Vf=4.2V	---	120	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	80.0×36.0×9.5/13.5	LC Fluid	STN (Yellow-green, Gray, Blue), FSTN
Viewing Area(W×H)	64.5×16.4	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.55×0.55	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.60×0.60	Display Type	Positive or Negative
Character Size(W×H)	2.95×5.55	Backlight	LED (Optional)
Character Pitch(W×H)	3.55×5.94	Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6A0069 or Equivalent

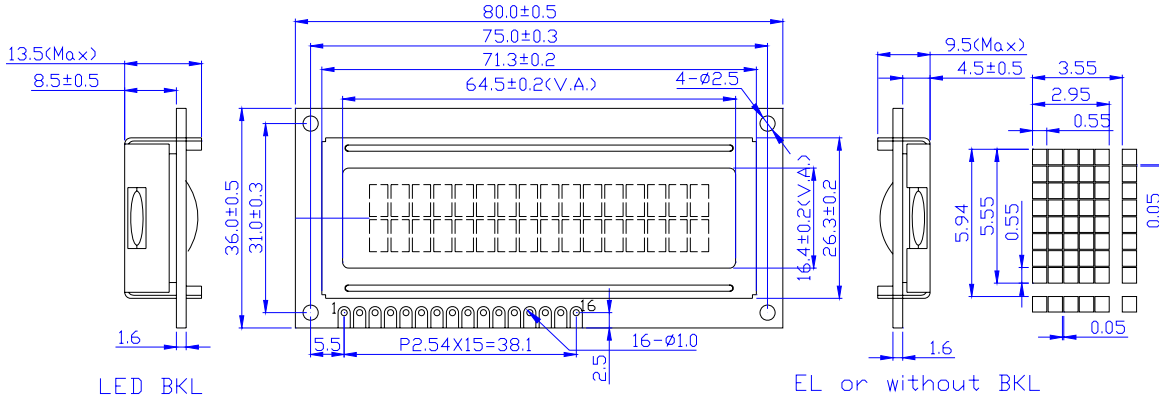
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vss	Ground for logic	6	E	Enable signal
2	Vdd	Power supply for logic	7~14	DB0~DB7	Data bus lines
3	Vo	Power supply for LCD	15	A	BKL +
4	RS	Register selection (H:Data, L:Instruction)	16	K	BKL -
5	R/W	Read/Write selection (H: R, L: W)			

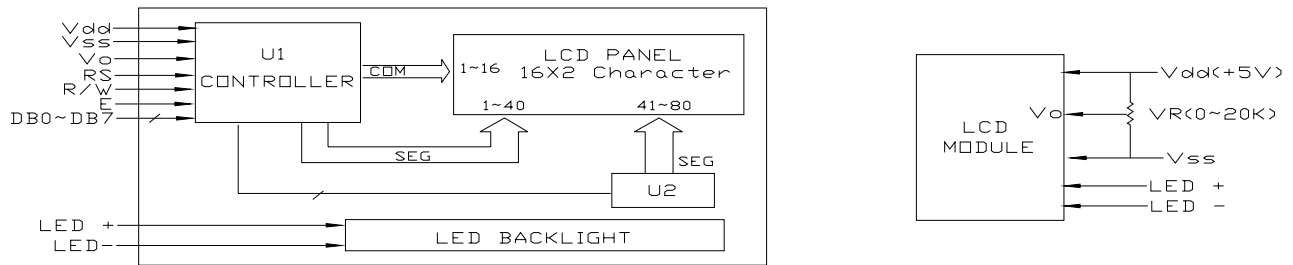
◆ELECTRICAL CHARACTERISTICS

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	---	2.0	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=6.8Ω	---	4.2	---	V
Supply Current for LED	If	Ta=25°C, Vf=4.2V	---	120	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	80.0×36.0×9.5/13.5	LC Fluid	STN (Yellow-green, Gray, Blue), FSTN
Viewing Area(W×H)	64.5×16.4	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.55×0.55	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.60×0.60	Display Type	Positive or Negative
Character Size(W×H)	2.95×5.55	Backlight	LED (Optional)
Character Pitch(W×H)	3.55×5.94	Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6A0069 or Equivalent

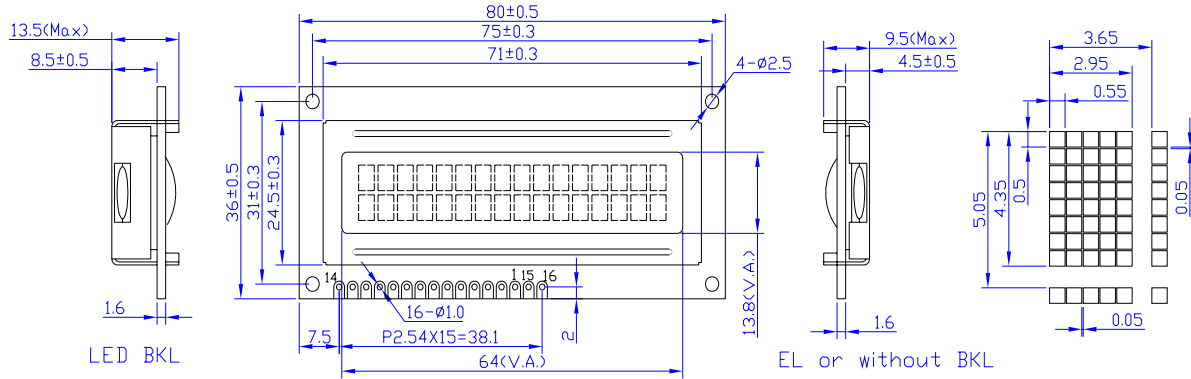
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vss	Ground for logic	6	E	Enable signal
2	Vdd	Power supply for logic	7~14	DB0~DB7	Data bus lines
3	Vo	Power supply for LCD	15	K	BKL -
4	RS	Register selection (H:Data, L:Instruction)	16	A	BKL +
5	R/W	Read/Write selection (H: R, L: W)			

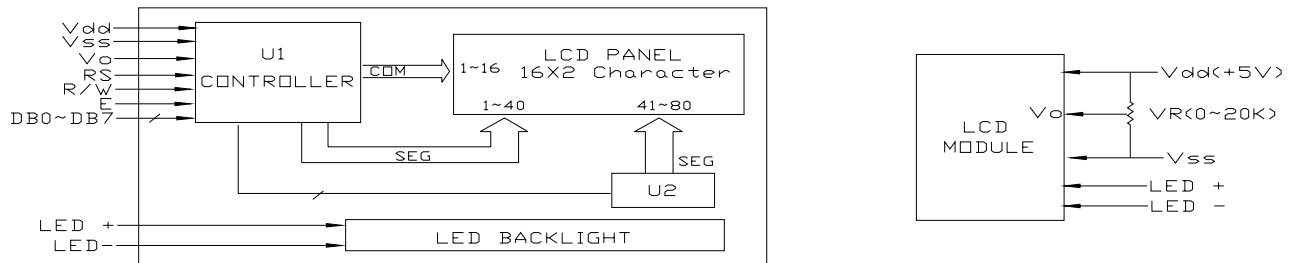
◆ELECTRICAL CHARACTERISTICS

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	---	2.0	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=6.8Ω	---	4.2	---	V
Supply Current for LED	If	Ta=25°C, Vf=4.2V	---	120	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	80.0×36.0×9.5/14	LC Fluid	TN, STN (Yellow-green, Gray, Blue), FSTN
Viewing Area(W×H)	64.0×13.8	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.55×0.50	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.60×0.55	Display Type	Positive or Negative
Character Size(W×H)	2.95×4.35	Backlight	LED (Optional)
Character Pitch(W×H)	3.65×5.05	Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6A0069 or Equivalent

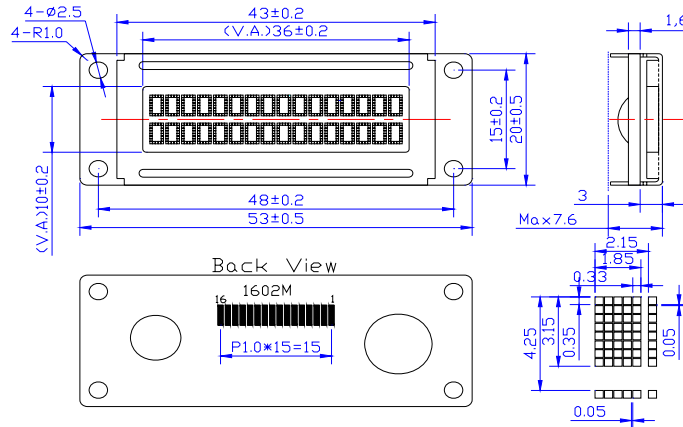
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vss	Ground for logic	6	E	Enable signal
2	Vdd	Power supply for logic	7~14	DB0~DB7	Data bus lines
3	Vo	Power supply for LCD	15	A	BKL +
4	RS	Register selection (H:Data, L:Instruction)	16	K	BKL -
5	R/W	Read/Write selection (H: R, L: W)			

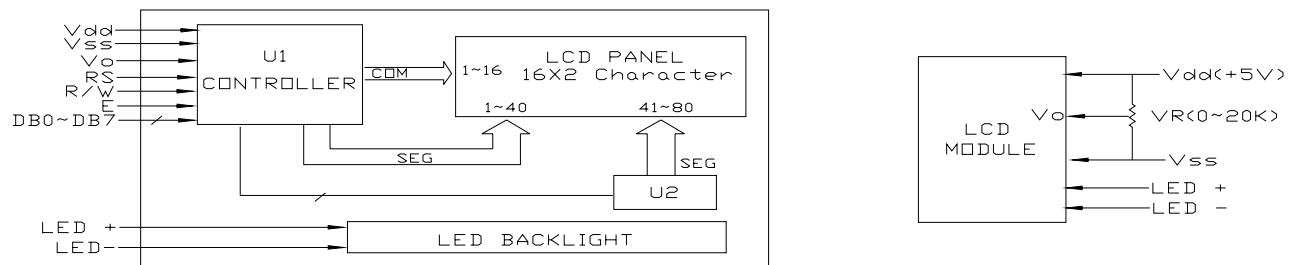
◆ELECTRICAL CHARACTERISTICS

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	---	2.0	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=6.8Ω	---	4.2	---	V
Supply Current for LED	If	Ta=25°C, Vf=4.2V	---	110	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	53.0×20.0×7.6	LC Fluid	TN, STN (Yellow-green, Gray, Blue), FSTN
Viewing Area(W×H)	36×10	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.33×0.35	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.38×0.40	Display Type	Positive or Negative
Character Size(W×H)	1.85×3.15	Backlight	LED (Optional)
Character Pitch(W×H)	2.15×4.25	Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6A0069 or Equivalent

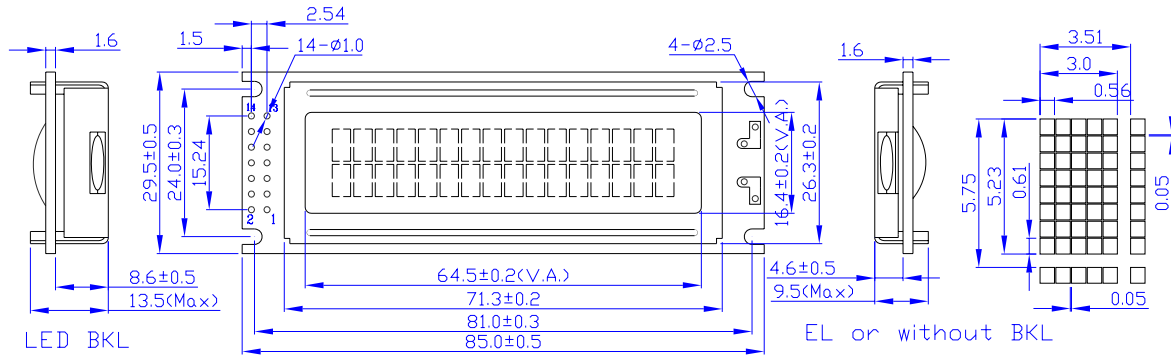
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	V _{SS}	Ground for logic	6	E	Enable signal
2	V _{DD}	Power supply for logic	7~14	DB0~DB7	Data bus lines
3	V _O	Power supply for LCD	15	A	BKL +
4	RS	Register selection (H:Data, L:Instruction)	16	K	BKL -
5	R/W	Read/Write selection (H: R, L: W)			

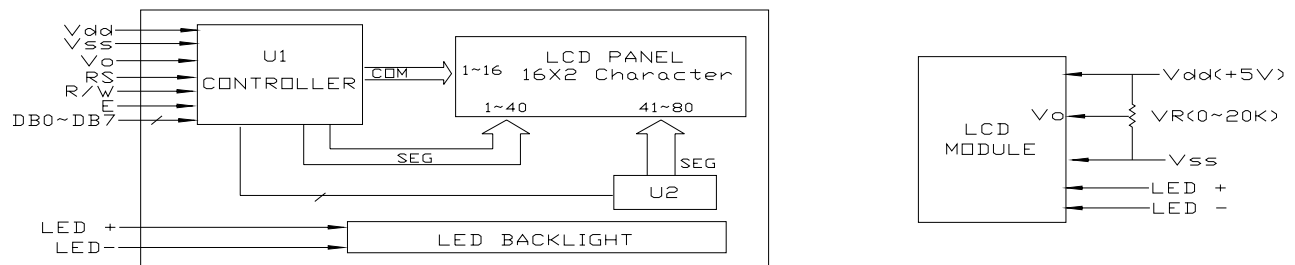
◆ELECTRICAL CHARACTERISTICS

Item	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Operating Voltage	V _{DD}	T _a =25°C	---	5.0	---	V
Operating Voltage for LCD	V _{LCD}	T _a =25°C	---	4.5	---	V
Supply Current	I _{DD}	T _a =25°C, V _{DD} =5.0V	---	2.0	3.0	mA
Supply Voltage for LED	V _f	T _a =25°C, R=6.8Ω	---	4.2	---	V
Supply Current for LED	I _f	T _a =25°C, V _f =4.2V	---	60	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	85.0×29.5×9.5/13.5	LC Fluid	STN (Yellow-green, Gray, Blue), FSTN
Viewing Area(W×H)	64.5×16.4	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.56×0.61	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.61×0.66	Display Type	Positive or Negative
Character Size(W×H)	3.0×5.23	Backlight	LED (A,K can be reversed)
Character Pitch(W×H)	3.51×5.75	Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6A0069 or Equivalent

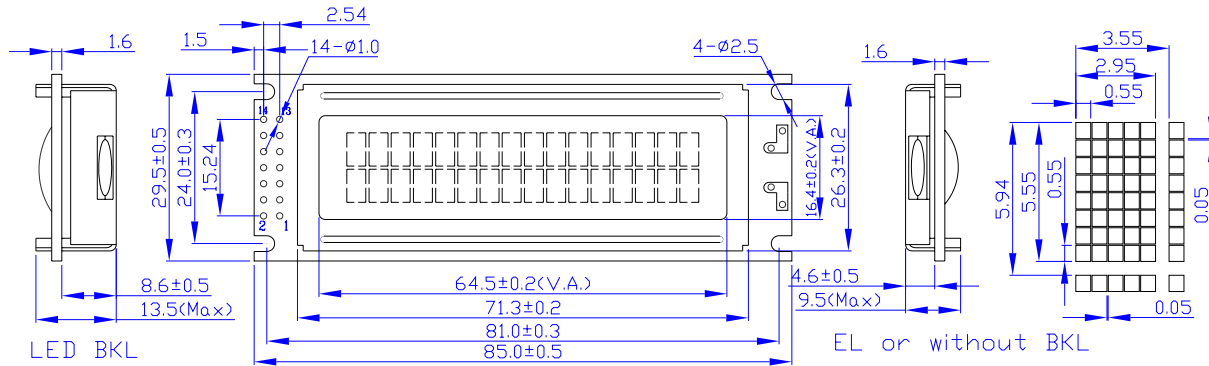
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vdd	Power supply for logic	6	E	Enable signal
2	Vss	Ground for logic	7~14	DB0~DB7	Data bus lines
3	Vo	Power supply for LCD		A	BKL +
4	RS	Register selection (H:Data, L:Instruction)		K	BKL -
5	R/W	Read/Write selection (H: R, L: W)			

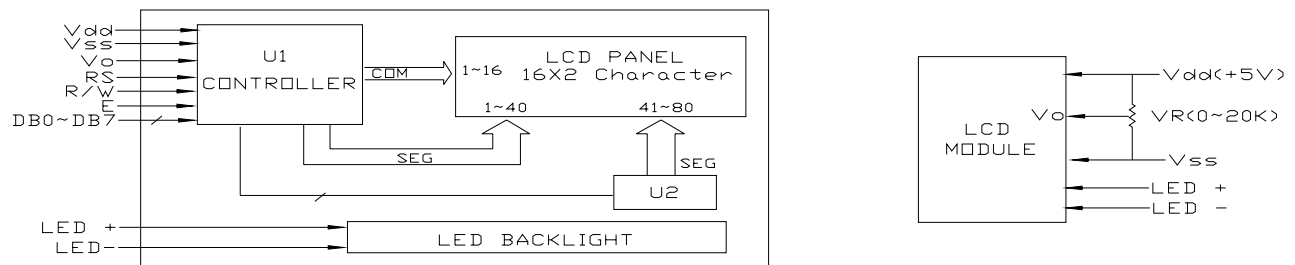
◆ELECTRICAL CHARACTERISTICS

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	---	2.0	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=6.8Ω	---	4.2	---	V
Supply Current for LED	If	Ta=25°C, Vf=4.2V	---	120	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	85.0×29.5×9.5/13.5	LC Fluid	STN (Yellow-green, Gray, Blue), FSTN
Viewing Area(W×H)	64.5×16.4	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.55×0.55	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.60×0.60	Display Type	Positive or Negative
Character Size(W×H)	2.95×5.55	Backlight	LED (A,K can be reversed)
Character Pitch(W×H)	3.55×5.94	Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6A0069 or Equivalent

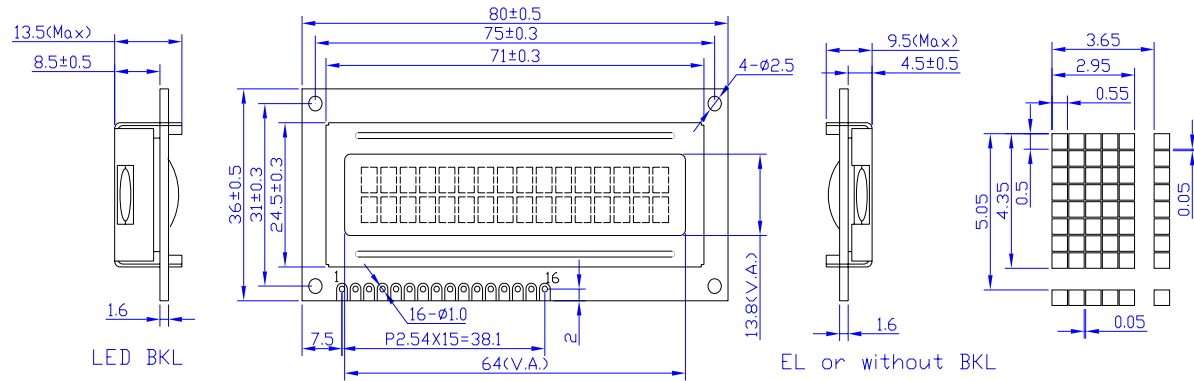
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vdd	Power supply for logic	6	E	Enable signal
2	Vss	Ground for logic	7~14	DB0~DB7	Data bus lines
3	Vo	Power supply for LCD		A	BKL +
4	RS	Register selection (H:Data, L:Instruction)		K	BKL -
5	R/W	Read/Write selection (H: R, L: W)			

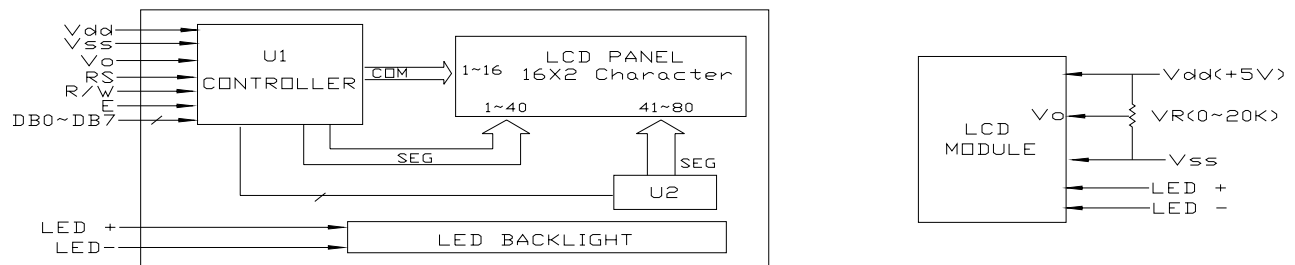
◆ELECTRICAL CHARACTERISTICS

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	---	2.0	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=6.8Ω	---	4.2	---	V
Supply Current for LED	If	Ta=25°C, Vf=4.2V	---	120	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	80.0×36.0×9.5/13.5	LC Fluid	TN, STN (Yellow-green, Gray, Blue), FSTN
Viewing Area(W×H)	64.0×13.8	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.55×0.50	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.60×0.55	Display Type	Positive or Negative
Character Size(W×H)	2.95×4.35	Backlight	LED (Optional)
Character Pitch(W×H)	3.65×5.05	Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6A0069 or Equivalent

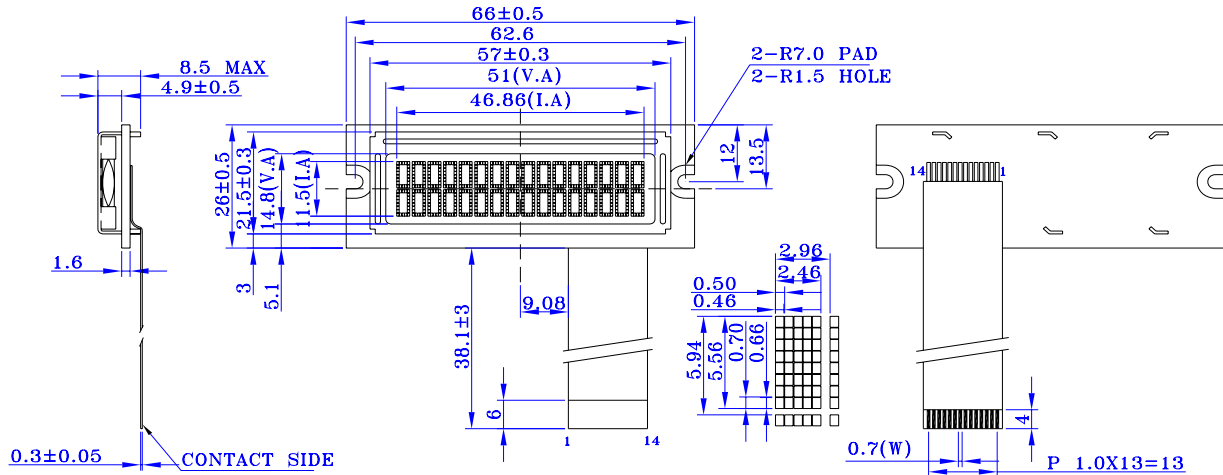
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vss	Ground for logic	6	E	Enable signal
2	Vdd	Power supply for logic	7~14	DB0~DB7	Data bus lines
3	V0	Power supply for LCD	15	A	BKL +
4	RS	Register selection (H:Data, L:Instruction)	16	K	BKL -
5	R/W	Read/Write selection (H: R, L: W)			

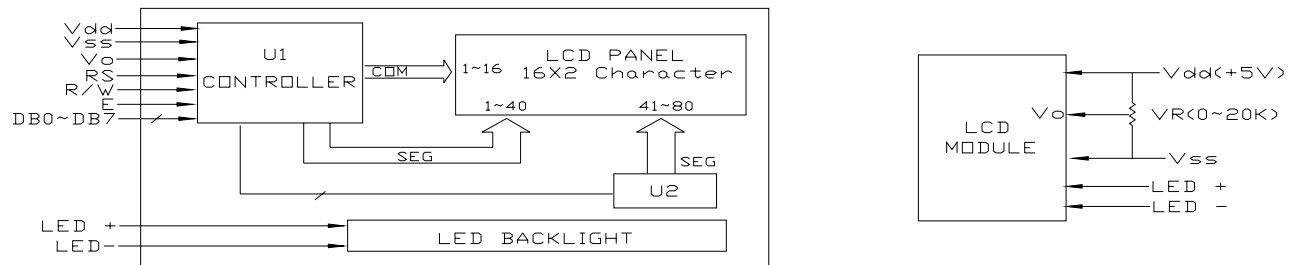
◆ELECTRICAL CHARACTERISTICS

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	---	2.0	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=6.8Ω	---	4.2	---	V
Supply Current for LED	If	Ta=25°C, Vf=4.2V	---	110	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	66.0×26.0×8.5	LC Fluid	TN, STN (Yellow-green, Gray, Blue), FSTN
Viewing Area(W×H)	51.2×14.8	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.46×0.66	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.50×0.70	Display Type	Positive or Negative
Character Size(W×H)	2.46×5.56	Backlight	NC (Optional)
Character Pitch(W×H)	2.96×5.94	Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6A0069 or Equivalent

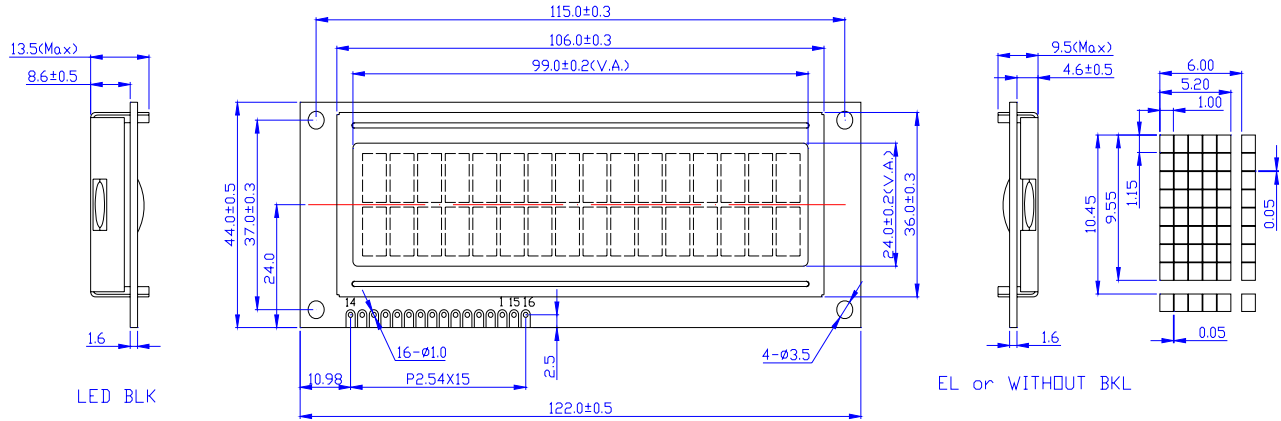
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vo	Power supply for LCD	12	E	Enable signal
2	Vdd	Power supply for logic	13	R/W	Read/Write selection (H: R, L: W)
3	Vss	Ground for logic	14	RS	Register selection (H:Data, L:Instruction)
4~11	DB0~DB7	Data bus lines			

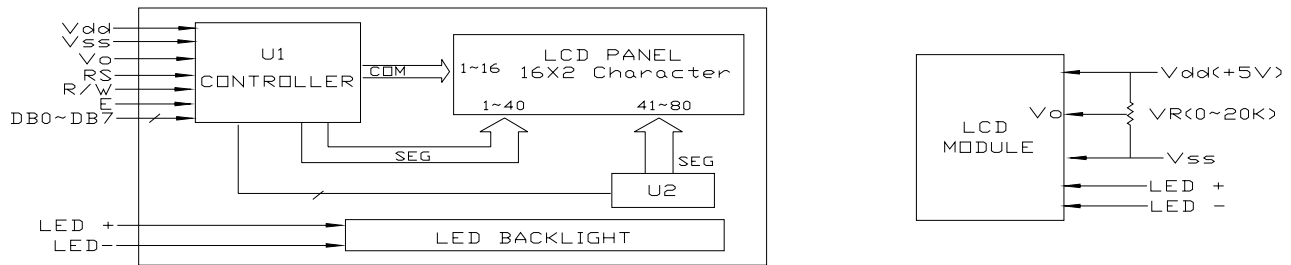
◆ELECTRICAL CHARACTERISTICS

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	---	2.0	3.0	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	122.0×44.0×9.5/13.5	LC Fluid	STN (Yellow-green, Gray, Blue), FSTN
Viewing Area(W×H)	99.0×24.0	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	1.00×1.15	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	1.05×1.20	Display Type	Positive or Negative
Character Size(W×H)	5.20×9.55	Backlight	LED (Optional)
Character Pitch(W×H)	6.0×10.45	Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6A0069 or Equivalent

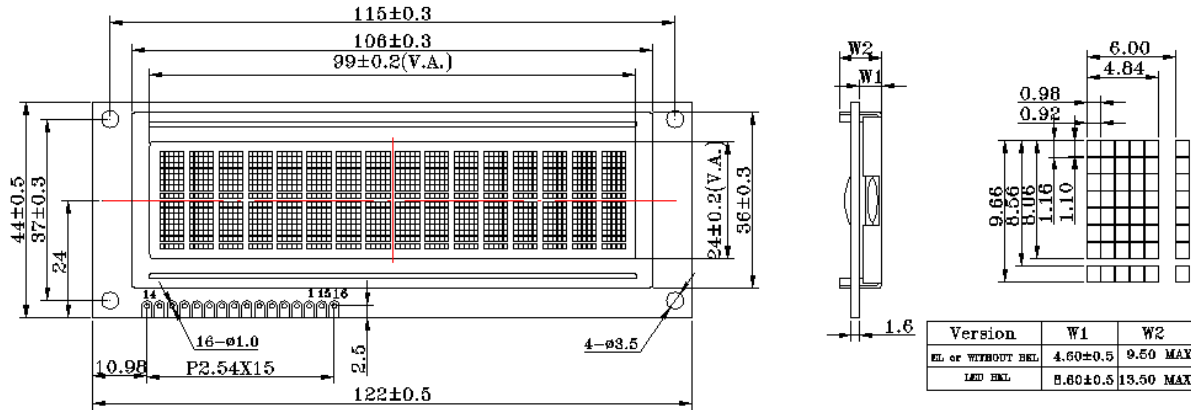
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vss	Ground for logic	6	E	Enable signal
2	Vdd	Power supply for logic (Available for 3V,5V)	7~14	DB0~DB7	Data bus lines
3	Vo	Power supply for LCD	15	A	BKL +
4	RS	Register selection (H:Data, L:Instruction)	16	K	BKL -
5	R/W	Read/Write selection (H: R, L: W)			

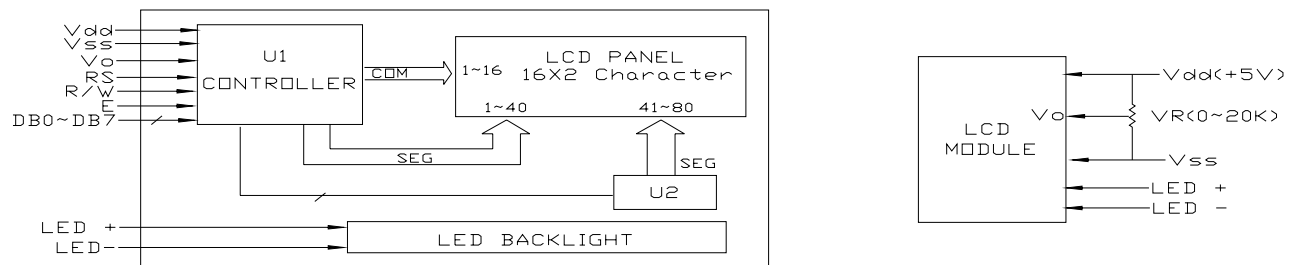
◆ELECTRICAL CHARACTERISTICS

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	---	2.0	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=6.8Ω	---	4.2	---	V
Supply Current for LED	If	Ta=25°C, Vf=4.2V	---	240	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	122.0×44.0×9.5/13.5	LC Fluid	STN (Yellow-green, Gray, Blue), FSTN
Viewing Area(W×H)	99.0×24.0	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.92×1.10	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.98×1.16	Display Type	Positive or Negative
Character Size(W×H)	4.84×9.66	Backlight	LED (Optional)
Character Pitch(W×H)	6.0×10.34	Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6A0069 or Equivalent

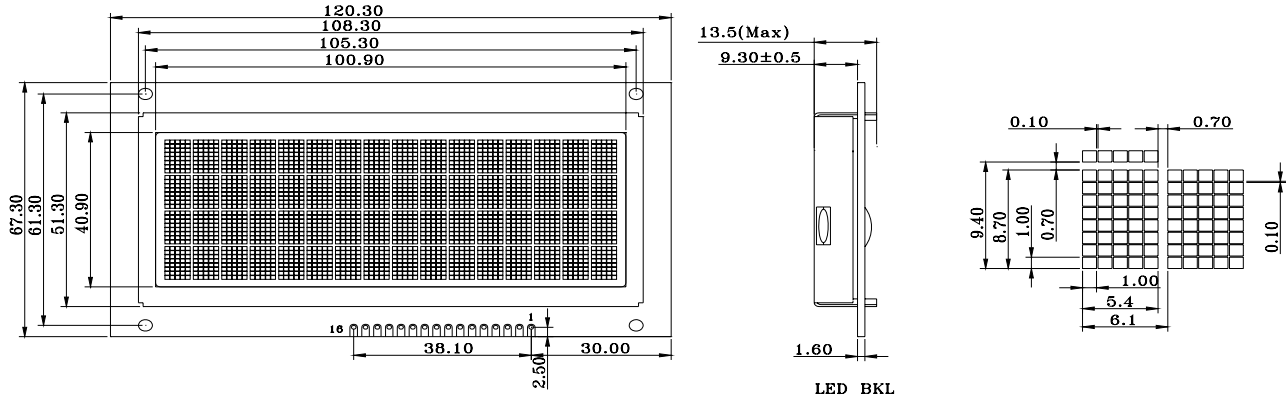
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vss	Ground for logic	6	E	Enable signal
2	Vdd	Power supply for logic	7~14	DB0~DB7	Data bus lines
3	Vo	Power supply for LCD	15	A	BKL +
4	RS	Register selection (H:Data, L:Instruction)	16	K	BKL -
5	R/W	Read/Write selection (H: R, L: W)			

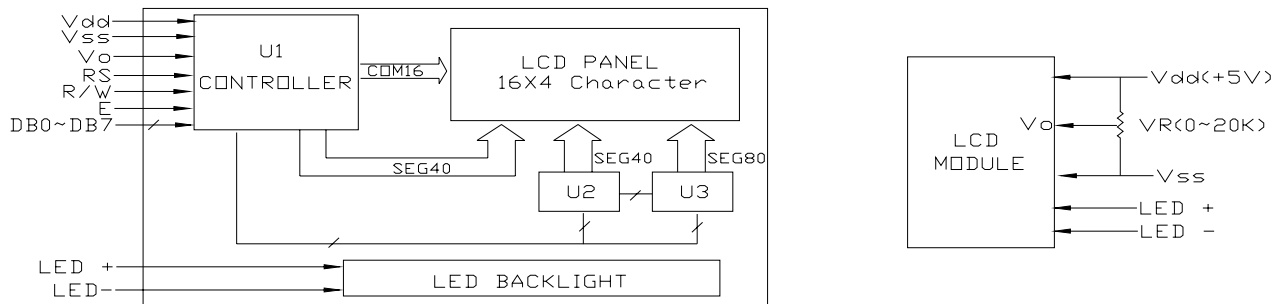
◆ELECTRICAL CHARACTERISTICS

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	---	2.0	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=6.8Ω	---	4.2	---	V
Supply Current for LED	If	Ta=25°C, Vf=4.2V	---	120	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	120.3×67.3×13.5	LC Fluid	TN,STN (Yellow-green,Gray, Blue),FSTN
Viewing Area(W×H)	100.9×40.9	Polarizer	Reflective,Transflective,Transmissive
Dot Size(W×H)	1.00×1.00	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	1.10×1.10	Display Type	Positive or Negative
Character Size(W×H)	5.40×8.70	Backlight	LED(Optional)
Character Pitch(W×H)	6.10×9.40	Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6A0069 or Equivalent

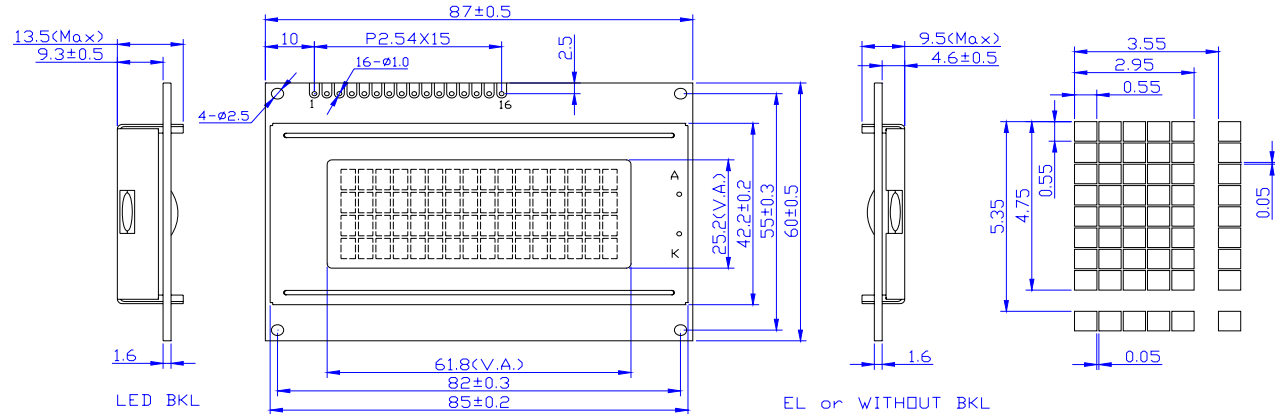
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vss	Ground for logic	6	E	Enable signal
2	Vdd	Power supply for logic	7~14	DB0~DB7	Data bus lines
3	Vo	Power supply for LCD	15	A	BKL +
4	RS	Register selection(H:Data,L:Instruction)	16	K	BKL -
5	R/W	Read/Write selection(H: R, L: W)			

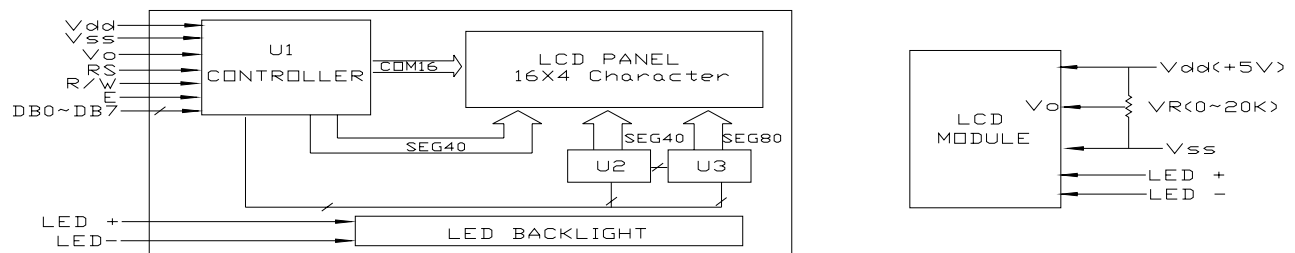
◆ELECTRICAL CHARACTERISTICS

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	---	2.0	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=2Ω	---	4.2	---	V
Supply Current for LED	If	Ta=25°C, Vf=4.2V	---	540	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	87.0×60.0×9.5/13.5	LC Fluid	STN (Yellow-green, Gray, Blue), FSTN
Viewing Area(W×H)	61.8×25.2	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.55×0.55	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.60×0.60	Display Type	Positive or Negative
Character Size(W×H)	2.95×4.75	Backlight	LED (Optional)
Character Pitch(W×H)	3.55×5.35	Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6A0069 or Equivalent

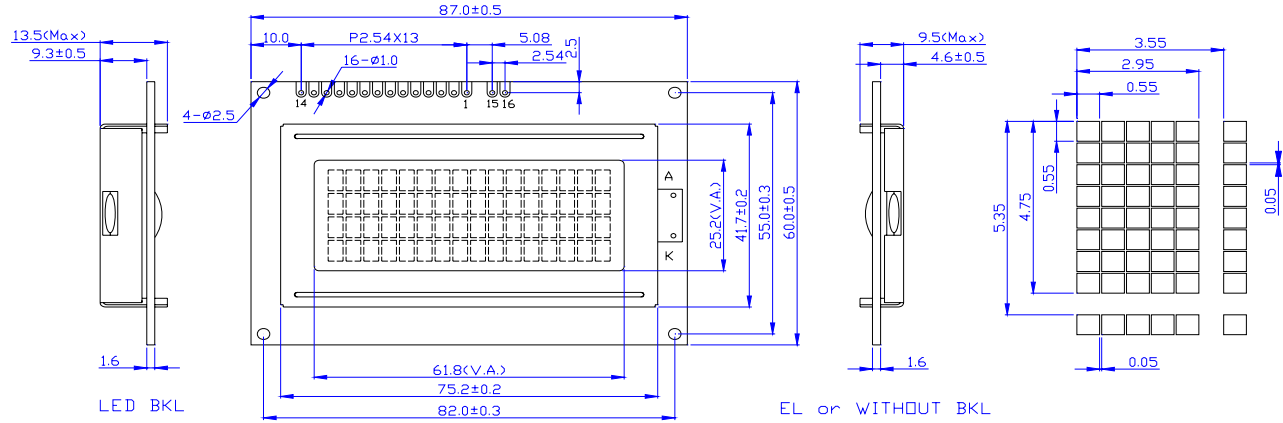
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vss	Ground for logic	6	E	Enable signal
2	Vdd	Power supply for logic	7~14	DB0~DB7	Data bus lines
3	Vo	Power supply for LCD	15	A	BKL +
4	RS	Register selection (H:Data, L:Instruction)	16	K	BKL -
5	R/W	Read/Write selection (H: R, L: W)			

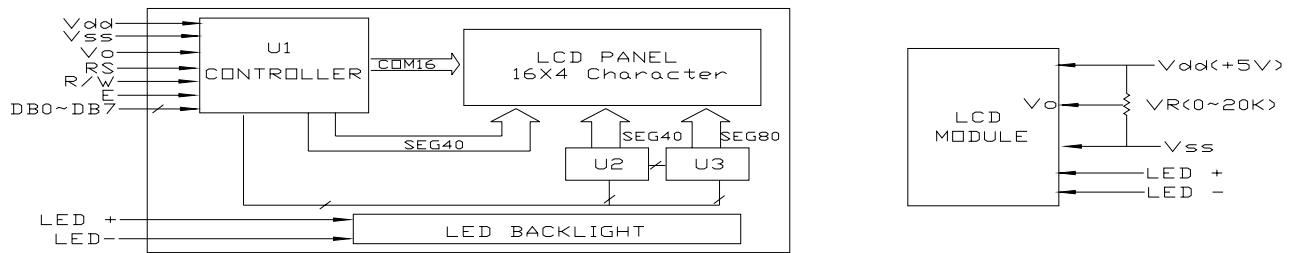
◆ELECTRICAL CHARACTERISTICS

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	---	2.0	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=6.8Ω	---	4.2	---	V
Supply Current for LED	If	Ta=25°C, Vf=4.2V	---	220	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	87.0×60.0×9.5/13.5	LC Fluid	STN (Yellow-green, Gray, Blue), FSTN
Viewing Area(W×H)	61.8×25.2	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.55×0.55	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.60×0.60	Display Type	Positive or Negative
Character Size(W×H)	2.95×4.75	Backlight	LED (Optional)
Character Pitch(W×H)	3.55×5.35	Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6A0069 or Equivalent

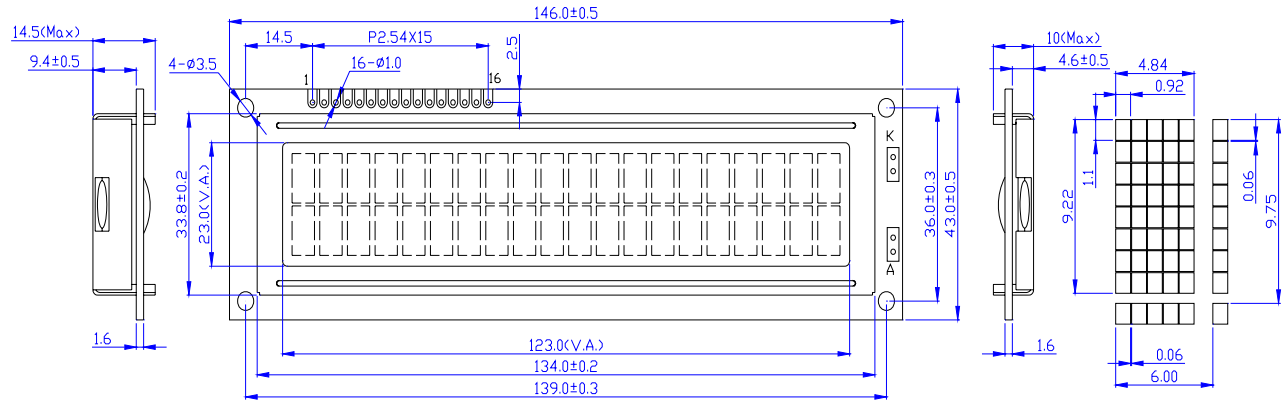
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vss	Ground for logic	6	E	Enable signal
2	Vdd	Power supply for logic	7~14	DB0~DB7	Data bus lines
3	Vo	Power supply for LCD	15	A	BKL +
4	RS	Register selection (H:Data, L:Instruction)	16	K	BKL -
5	R/W	Read/Write selection (H: R, L: W)			

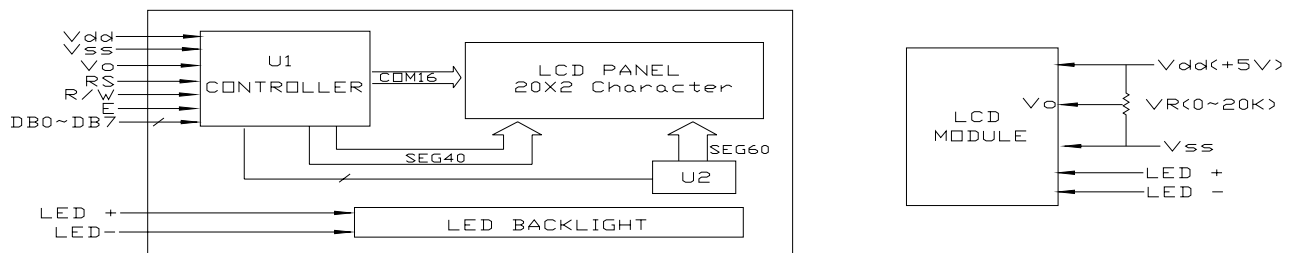
◆ELECTRICAL CHARACTERISTICS

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	---	2.0	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=6.8Ω	---	4.2	---	V
Supply Current for LED	If	Ta=25°C, Vf=4.2V	---	220	---	mA

◆ OUTLINE DIMENSION



◆ BLOCK DIAGRAM & POWER SUPPLY



◆ MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	146.0×43.0×10/14.5	LC Fluid	STN (Yellow-green, Gray, Blue), FSTN
Viewing Area(W×H)	123.0×23.0	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.92×1.10	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.98×1.16	Display Type	Positive or Negative
Character Size(W×H)	4.84×9.22	Backlight	LED (Optional)
Character Pitch(W×H)	6.0×9.75	Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6A0069 or Equivalent

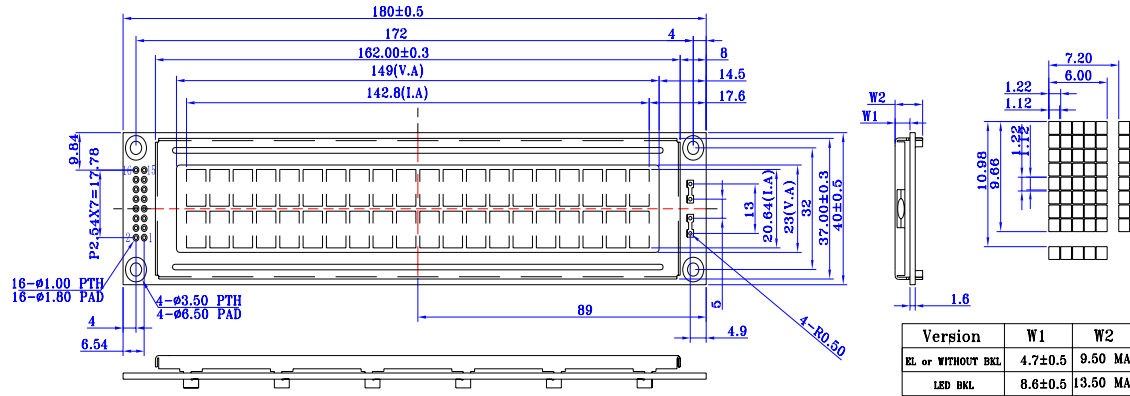
◆ INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	V _{SS}	Ground for logic	6	E	Enable signal
2	V _{DD}	Power supply for logic	7~14	DB0~DB7	Data bus lines
3	V _O	Power supply for LCD	15	A	BKL +
4	RS	Register selection (H:Data, L:Instruction)	16	K	BKL -
5	R/W	Read/Write selection (H: R, L: W)			

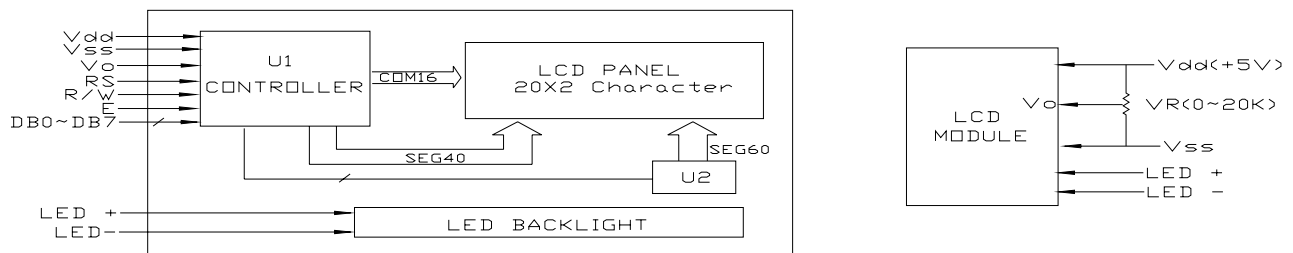
◆ ELECTRICAL CHARACTERISTICS

Item	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Operating Voltage	V _{DD}	T _a =25°C	---	5.0	---	V
Operating Voltage for LCD	V _{LCD}	T _a =25°C	---	4.5	---	V
Supply Current	I _{DD}	T _a =25°C, V _{DD} =5.0V	---	2.0	3.0	mA
Supply Voltage for LED	V _F	T _a =25°C, R=6.8Ω	---	4.2	---	V
Supply Current for LED	I _F	T _a =25°C, V _F =4.2V	---	250	---	mA

◆ OUTLINE DIMENSION



◆ BLOCK DIAGRAM & POWER SUPPLY



◆ MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	180.0×40.0×9.5/13.5	LC Fluid	STN (Yellow-green, Gray, Blue), FSTN
Viewing Area(W×H)	149.0×23.0	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	1.12×1.12	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	1.22×1.22	Display Type	Positive or Negative
Character Size(W×H)	6.00×9.66	Backlight	LED (Optional)
Character Pitch(W×H)	7.20×10.98	Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6A0069 or Equivalent

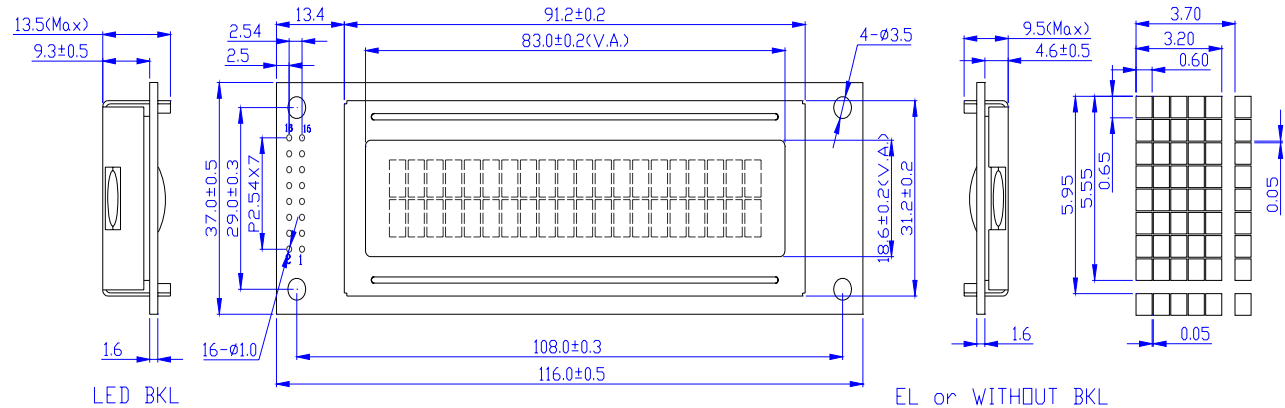
◆ INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vss	Ground for logic	6	E	Enable signal
2	Vdd	Power supply for logic	7~14	DB0~DB7	Data bus lines
3	Vo	Power supply for LCD	15	A	BKL +
4	RS	Register selection (H:Data, L:Instruction)	16	K	BKL -
5	R/W	Read/Write selection (H: R, L: W)			

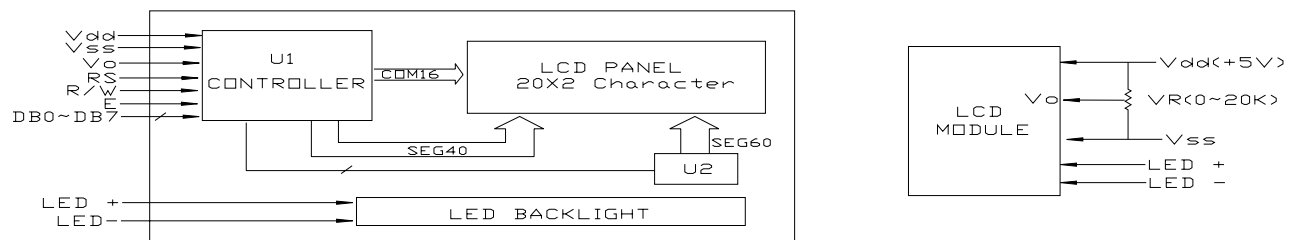
◆ ELECTRICAL CHARACTERISTICS

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	---	2.0	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=6.8Ω	---	4.2	---	V
Supply Current for LED	If	Ta=25°C, Vf=4.2V	---	500	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	116.0×37.0×9.5/13.5	LC Fluid	STN (Yellow-green, Gray, Blue), FSTN
Viewing Area(W×H)	83.0×18.6	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.60×0.65	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.65×0.70	Display Type	Positive or Negative
Character Size(W×H)	3.2×5.55	Backlight	LED (Optional)
Character Pitch(W×H)	3.7×5.95	Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6A0069 or Equivalent

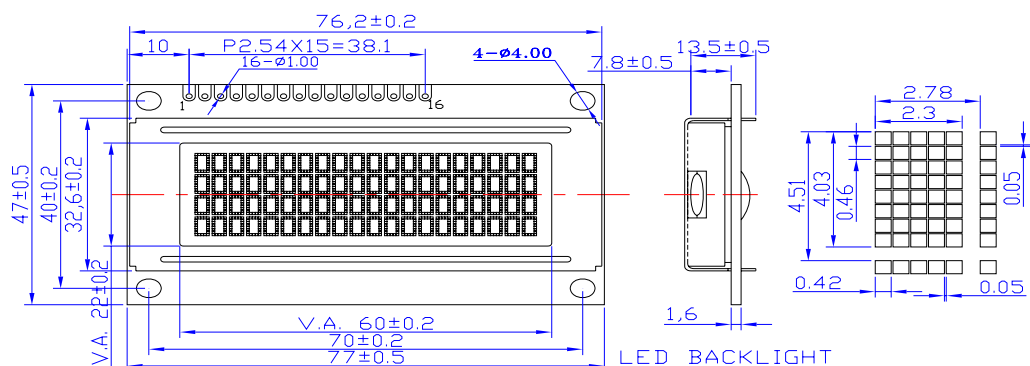
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vss	Ground for logic	6	E	Enable signal
2	Vdd	Power supply for logic	7~14	DB0~DB7	Data bus lines
3	Vo	Power supply for LCD	15	A	BKL +
4	RS	Register selection (H:Data, L:Instruction)	16	K	BKL -
5	R/W	Read/Write selection (H: R, L: W)			

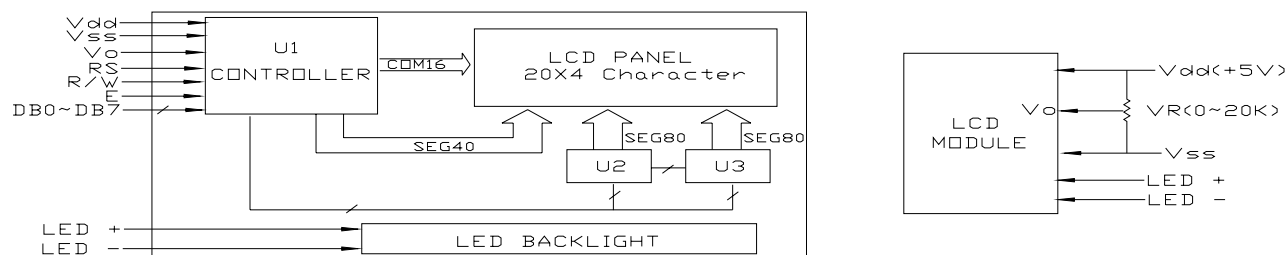
◆ELECTRICAL CHARACTERISTICS

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	---	2.0	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=6.8Ω	---	4.2	---	V
Supply Current for LED	If	Ta=25°C, Vf=4.2V	---	200	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	77.0×47.0×13.5	LC Fluid	STN (Yellow-green, Gray, Blue), FSTN
Viewing Area(W×H)	60.0×22.0	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.42×0.46	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.47×0.51	Display Type	Positive or Negative
Character Size(W×H)	2.3×4.03	Backlight	LED (Optional)
Character Pitch(W×H)	2.78×4.51	Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6A0069 or Equivalent

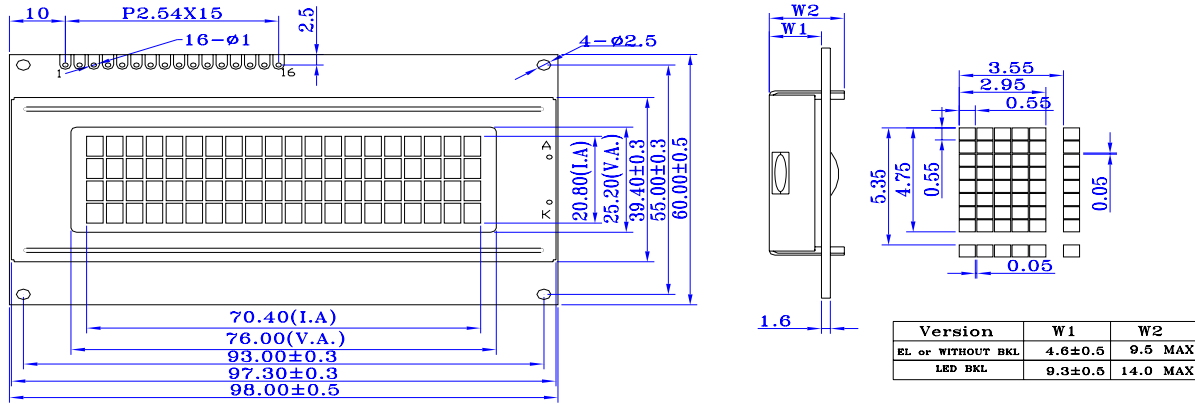
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vss	Ground for logic	6	E	Enable signal
2	Vdd	Power supply for logic	7~14	DB0~DB7	Data bus lines
3	Vo	Power supply for LCD	15	A	BKL +
4	RS	Register selection (H:Data, L:Instruction)	16	K	BKL -
5	R/W	Read/Write selection (H: R, L: W)			

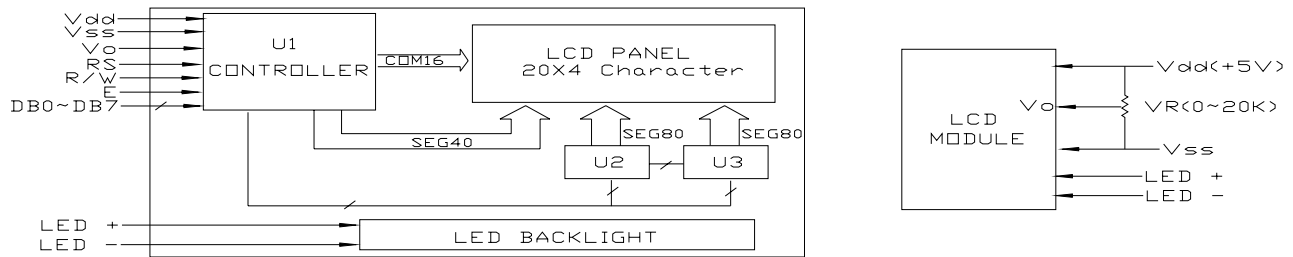
◆ELECTRICAL CHARACTERISTICS

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	---	2.0	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=6.8Ω	---	4.2	---	V
Supply Current for LED	If	Ta=25°C, Vf=4.2V	---	240	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	98.0×60.0×9.5/14.0	LC Fluid	STN (Yellow-green, Gray, Blue), FSTN
Viewing Area(W×H)	76.0×25.2	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.55×0.55	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.60×0.60	Display Type	Positive or Negative
Character Size(W×H)	2.95×4.75	Backlight	LED (Optional)
Character Pitch(W×H)	3.55×5.35	Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6A0069 or Equivalent

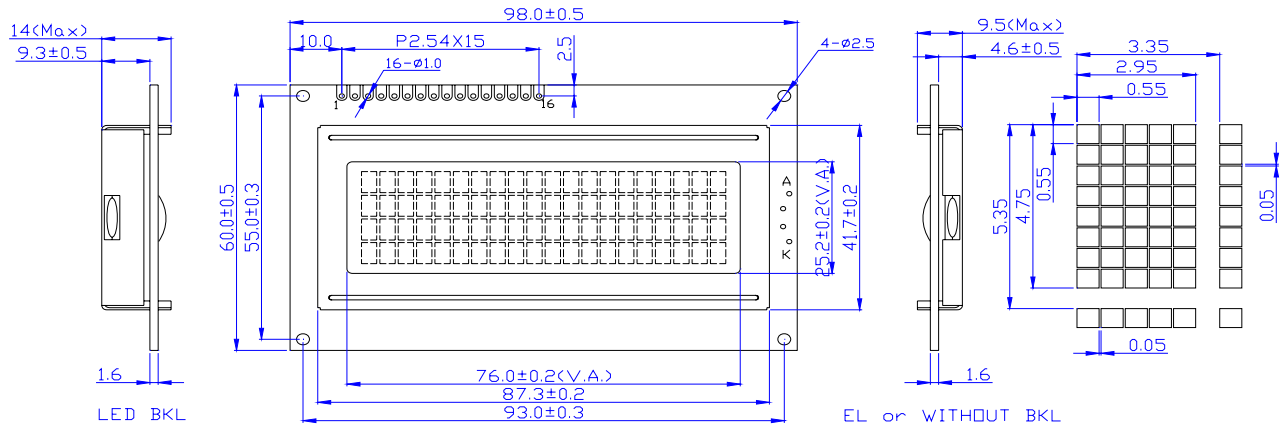
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vss	Ground for logic	6	E	Enable signal
2	Vdd	Power supply for logic	7~14	DB0~DB7	Data bus lines
3	Vo	Power supply for LCD	15	A	BKL +
4	RS	Register selection (H:Data, L:Instruction)	16	K	BKL -
5	R/W	Read/Write selection (H: R, L: W)			

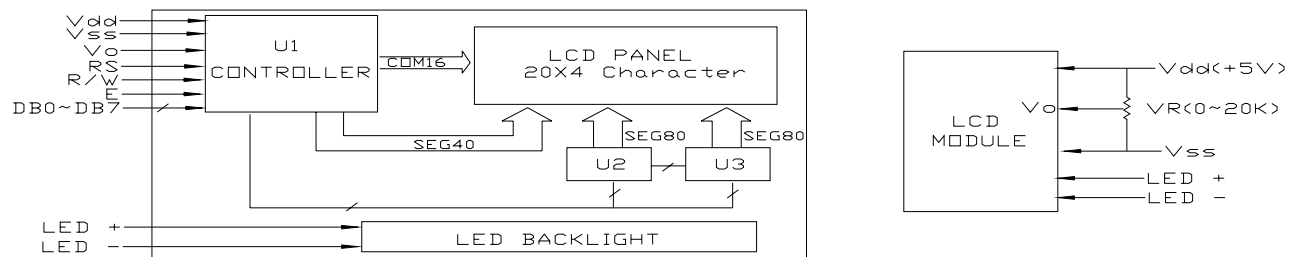
◆ELECTRICAL CHARACTERISTICS

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	---	2.0	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=6.8Ω	---	4.2	---	V
Supply Current for LED	If	Ta=25°C, Vf=4.2V	---	240	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	98.0×60.0×9.5/14.0	LC Fluid	STN (Yellow-green, Gray, Blue), FSTN
Viewing Area(W×H)	78.0×25.2	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.55×0.55	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.60×0.60	Display Type	Positive or Negative
Character Size(W×H)	2.95×4.75	Backlight	LED (Optional)
Character Pitch(W×H)	3.35×5.35	Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6A0069 or Equivalent

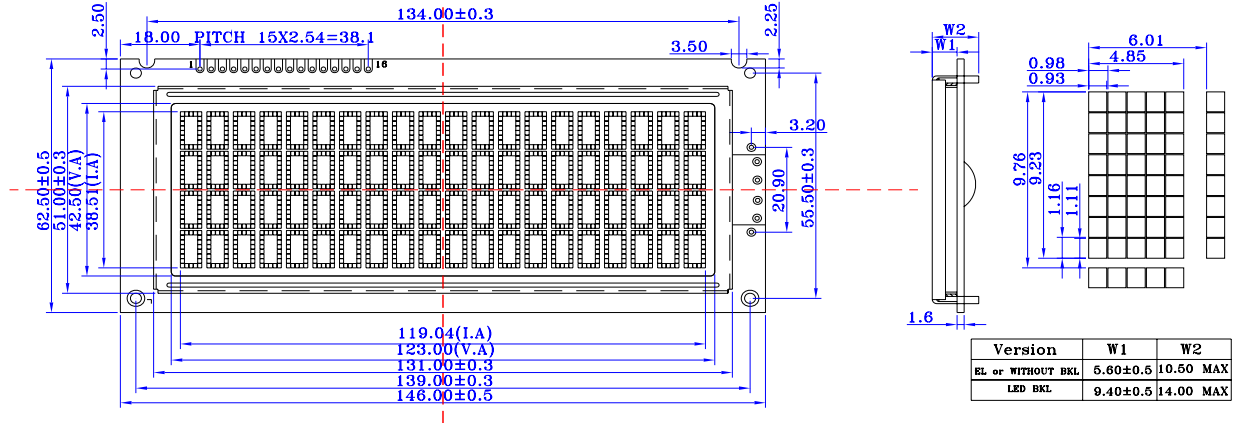
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vss	Ground for logic	6	E	Enable signal
2	Vdd	Power supply for logic	7~14	DB0~DB7	Data bus lines
3	Vo	Power supply for LCD	15	A	BKL +
4	RS	Register selection (H:Data, L:Instruction)	16	K	BKL -
5	R/W	Read/Write selection (H: R, L: W)			

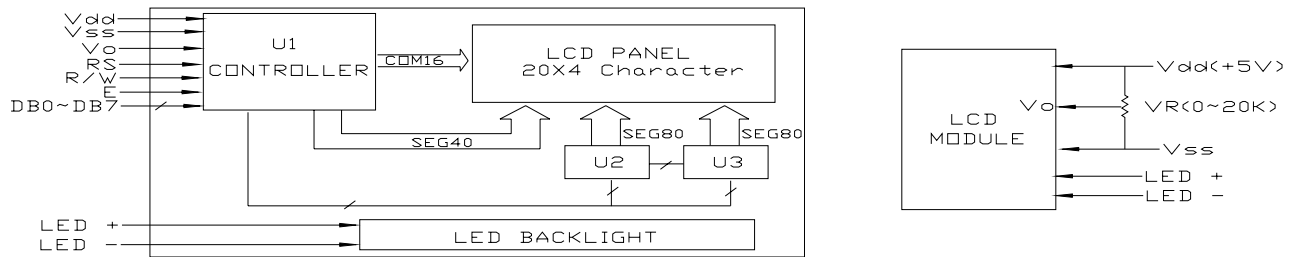
◆ELECTRICAL CHARACTERISTICS

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	---	2.0	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=6.8Ω	---	4.2	---	V
Supply Current for LED	If	Ta=25°C, Vf=4.2V	---	240	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	146.0×62.5×10.5/14.0	LC Fluid	STN (Yellow-green, Gray, Blue), FSTN
Viewing Area(W×H)	123.0×42.5	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.93×1.11	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.98×1.16	Display Type	Positive or Negative
Character Size(W×H)	4.85×9.23	Backlight	LED (Optional)
Character Pitch(W×H)	6.01×9.76	Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6A0069 or Equivalent

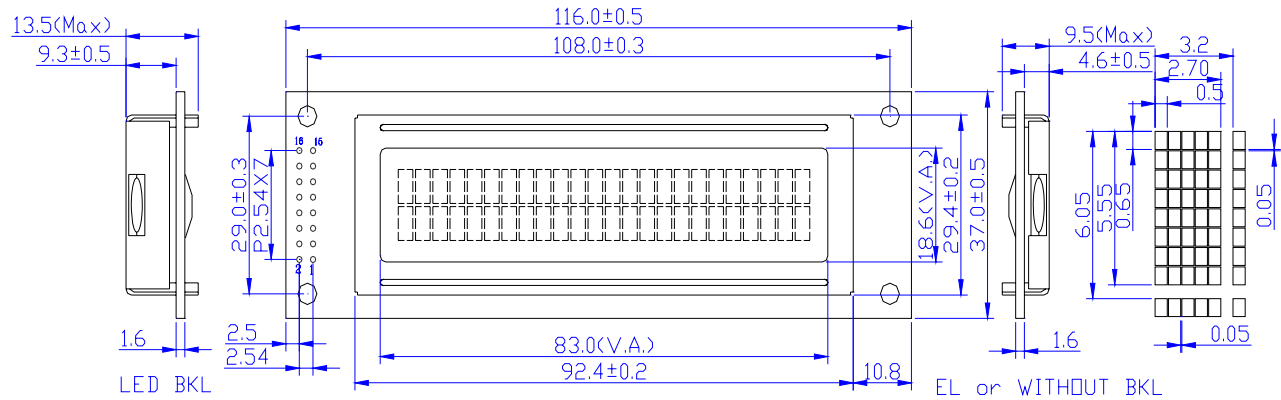
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vss	Ground for logic	6	E	Enable signal
2	Vdd	Power supply for logic	7~14	DB0~DB7	Data bus lines
3	Vo	Power supply for LCD	15	A	BKL +
4	RS	Register selection (H:Data, L:Instruction)	16	K	BKL -
5	R/W	Read/Write selection (H: R, L: W)			

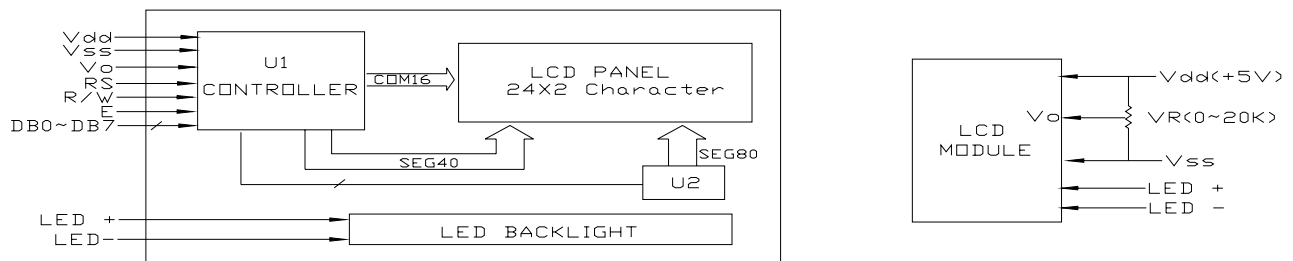
◆ELECTRICAL CHARACTERISTICS

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	---	2.0	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=3.6Ω	---	4.2	---	V
Supply Current for LED	If	Ta=25°C, Vf=4.2V	---	530	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	116.0×37.0×9.5/14.0	LC Fluid	STN (Yellow-green, Gray, Blue), FSTN
Viewing Area(W×H)	83.0×18.6	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.50×0.65	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.55×0.70	Display Type	Positive or Negative
Character Size(W×H)	2.70×5.55	Backlight	LED (Optional)
Character Pitch(W×H)	3.2×6.05	Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6A0069 or Equivalent

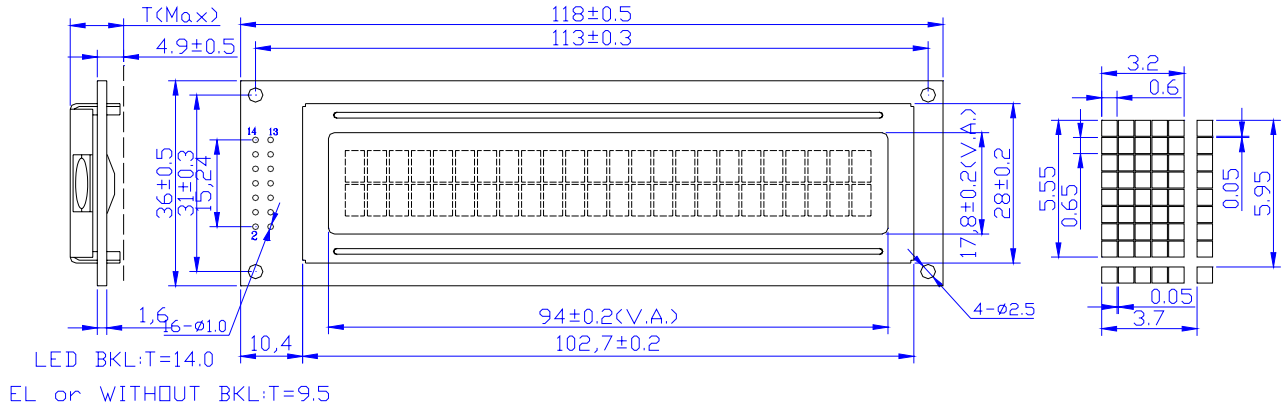
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vss	Ground for logic	6	E	Enable signal
2	Vdd	Power supply for logic	7~14	DB0~DB7	Data bus lines
3	Vo	Power supply for LCD	15	A	BKL +
4	RS	Register selection (H:Data, L:Instruction)	16	K	BKL -
5	R/W	Read/Write selection (H: R, L: W)			

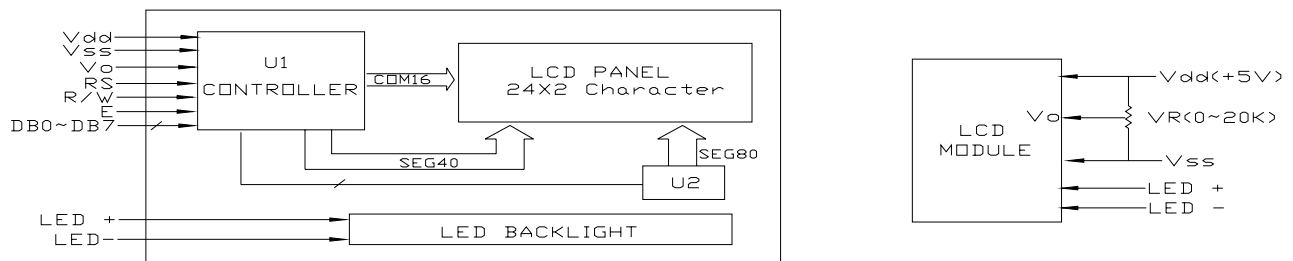
◆ELECTRICAL CHARACTERISTICS

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	---	2.0	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=6.8Ω	---	4.2	---	V
Supply Current for LED	If	Ta=25°C, Vf=4.2V	---	200	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	118.0×36.0×9.5/14.0	LC Fluid	STN (Yellow-green, Gray, Blue), FSTN
Viewing Area(W×H)	94×17.8	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.60×0.65	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.65×0.70	Display Type	Positive or Negative
Character Size(W×H)	3.20×5.55	Backlight	LED (Optional)
Character Pitch(W×H)	3.7×5.95	Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6A0069 or Equivalent

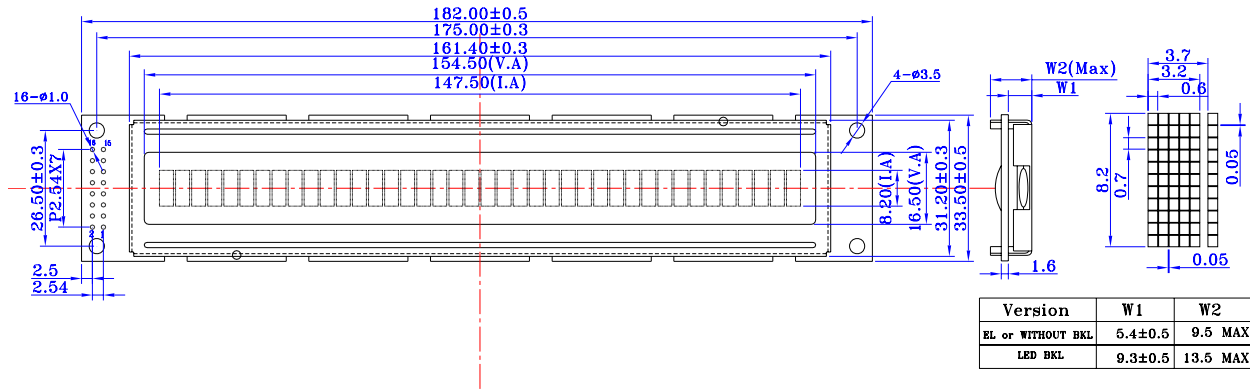
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vss	Ground for logic	6	E	Enable signal
2	Vdd	Power supply for logic	7~14	DB0~DB7	Data bus lines
3	Vo	Power supply for LCD		A	BKL +
4	RS	Register selection (H:Data, L:Instruction)		K	BKL -
5	R/W	Read/Write selection (H: R, L: W)			

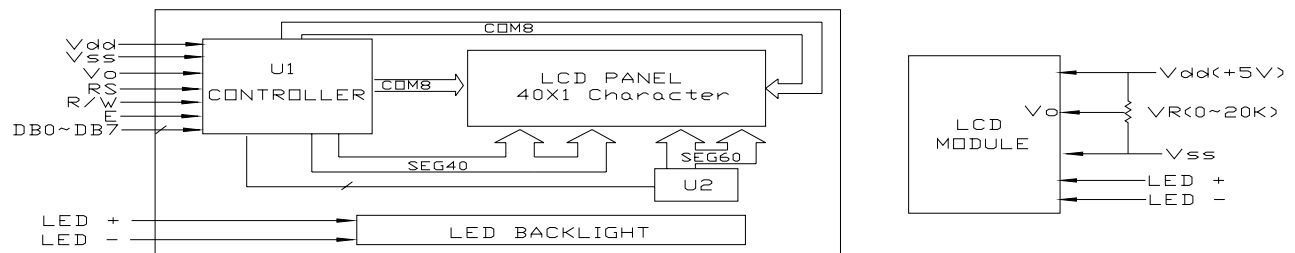
◆ELECTRICAL CHARACTERISTICS

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	---	2.0	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=6.8Ω	---	4.2	---	V
Supply Current for LED	If	Ta=25°C, Vf=4.2V	---	200	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	182.0×33.5×9.5/13.5	LC Fluid	STN (Yellow-green, Gray, Blue), FSTN
Viewing Area(W×H)	154.5×16.5	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.60×0.70	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.70×0.75	Display Type	Positive or Negative
Character Size(W×H)	3.20×8.2	Backlight	LED (Optional)
Character Pitch(W×H)	3.7×---	Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6A0069 or Equivalent

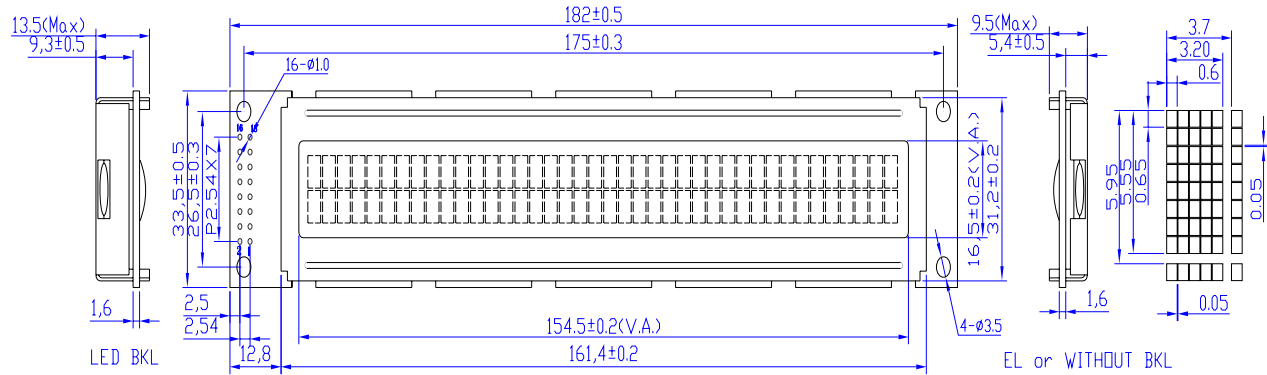
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vss	Ground for logic	6	E	Enable signal
2	Vdd	Power supply for logic	7~14	DB0~DB7	Data bus lines
3	V0	Power supply for LCD	15	A	BKL +
4	RS	Register selection (H:Data, L:Instruction)	16	K	BKL -
5	R/W	Read/Write selection (H: R, L: W)			

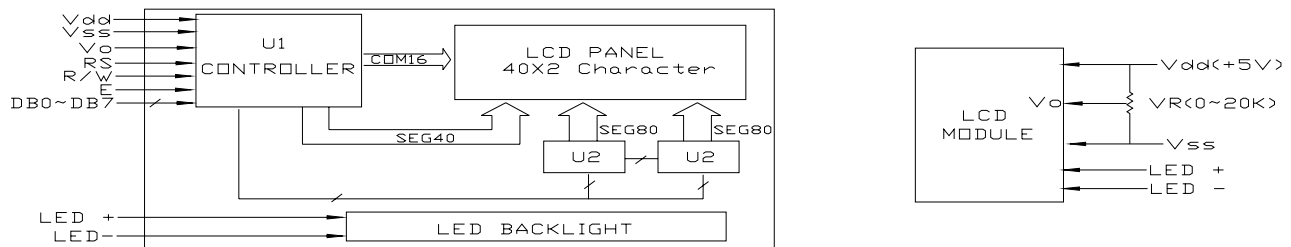
◆ELECTRICAL CHARACTERISTICS

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	---	2.0	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=6.8Ω	---	4.2	---	V
Supply Current for LED	If	Ta=25°C, Vf=4.2V	---	320	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	182.0×33.5×9.5/13.5	LC Fluid	STN (Yellow-green, Gray, Blue), FSTN
Viewing Area(W×H)	154.5×16.5	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.60×0.65	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.65×0.70	Display Type	Positive or Negative
Character Size(W×H)	3.20×5.55	Backlight	LED (Optional)
Character Pitch(W×H)	3.7×5.95	Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6A0069 or Equivalent

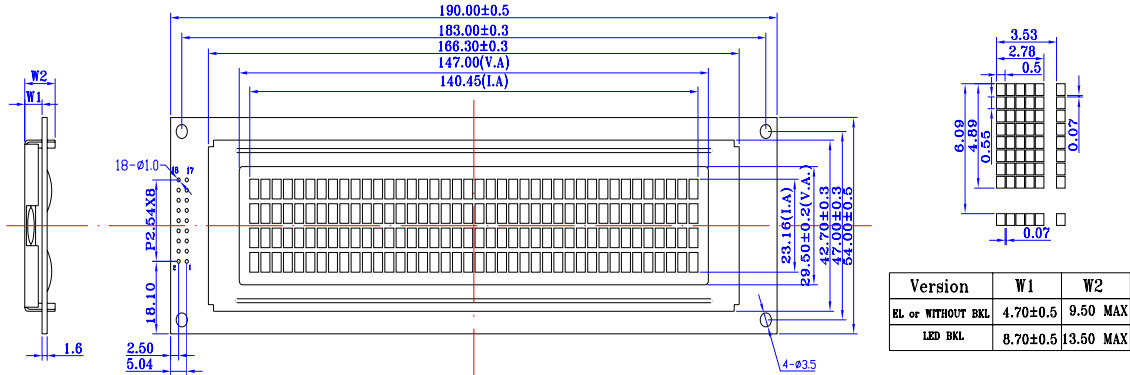
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vss	Ground for logic	6	E	Enable signal
2	Vdd	Power supply for logic	7~14	DB0~DB7	Data bus lines
3	Vo	Power supply for LCD	15	A	BKL +
4	RS	Register selection (H:Data, L:Instruction)	16	K	BKL -
5	R/W	Read/Write selection (H: R, L: W)			

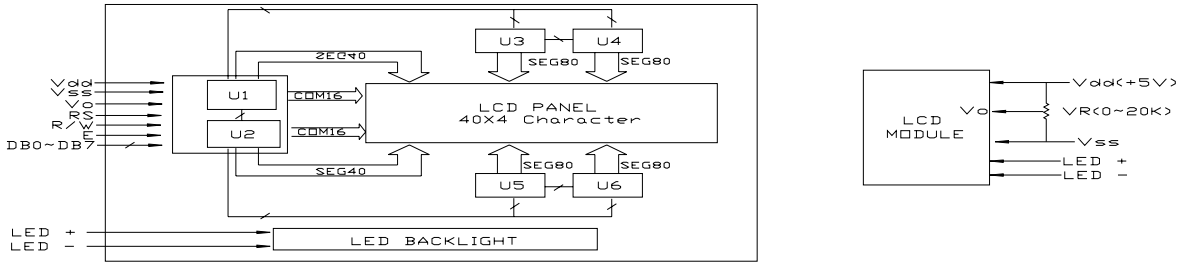
◆ELECTRICAL CHARACTERISTICS

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	---	2.0	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=6.8 Ω	---	4.2	---	V
Supply Current for LED	If	Ta=25°C, Vf=4.2V	---	280	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	190.0×54.0×9.5/13.5	LC Fluid	STN (Yellow-green, Gray, Blue), FSTN
Viewing Area(W×H)	147.0×29.5	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.50×0.55	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.57×0.62	Display Type	Positive or Negative
Character Size(W×H)	2.78×4.89	Backlight	LED (Optional)
Character Pitch(W×H)	3.53×6.09	Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6A0069 or Equivalent

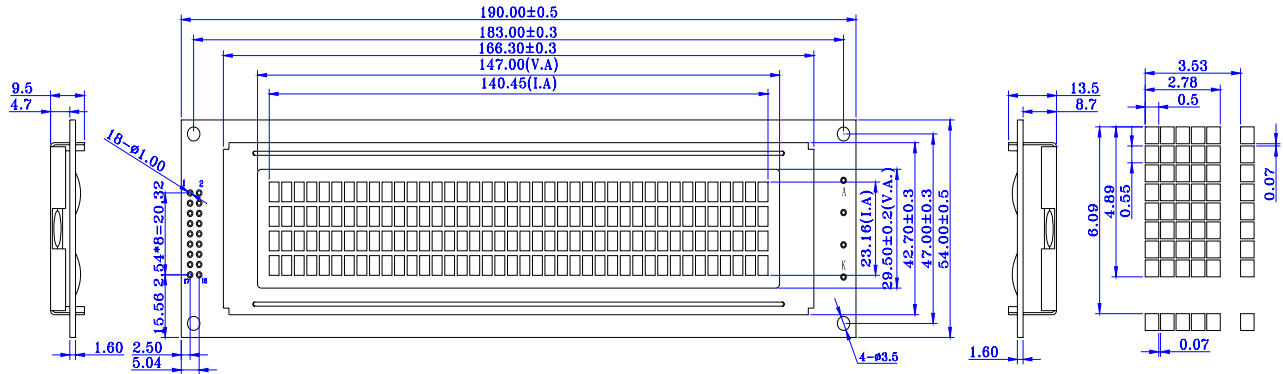
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vss	Ground for logic	7	E2	E2 Enable signal
2	Vdd	Power supply for logic	8~15	DB0~DB7	Data bus lines
3	Vo	Power supply for LCD	16	VEE	Negative voltage output
4	RS	Register selection (H:Data, L:Instruction)	17	A	BKL +
5	R/W	Read/Write selection (H: R, L: W)	18	K	BKL -
6	E1	E1 Enable signal			

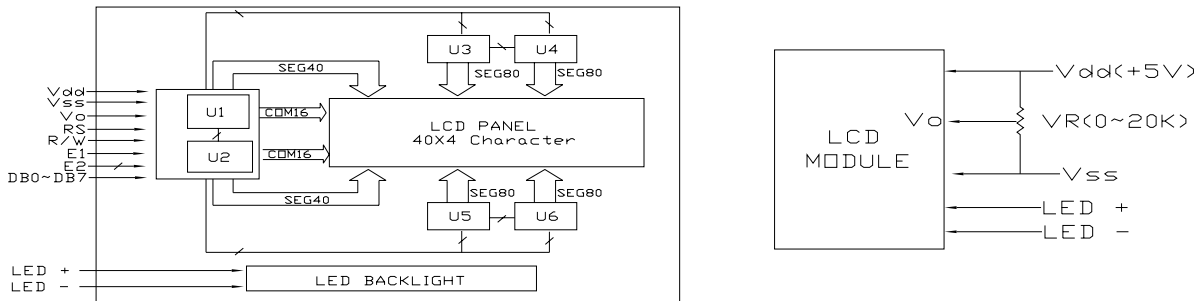
◆ELECTRICAL CHARACTERISTICS

Item	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Operating Voltage	Vdd	Ta=25°C	---	5.0	---	V
Operating Voltage for LCD	Vled	Ta=25°C	---	4.5	---	V
Supply Current	Idd	Ta=25°C, Vdd=5.0V	---	3.5	5.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=6.8Ω	---	4.2	---	V
Supply Current for LED	If	Ta=25°C, Vf=4.2V	---	500	---	mA

◆ OUTLINE DIMENSION



◆ BLOCK DIAGRAM & POWER SUPPLY



◆ MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	190.0×54.0×9.5/13.5	LC Fluid	TN,STN (Yellow-green,Gray, Blue),FSTN
Viewing Area(W×H)	147.0×29.5	Polarizer	Reflective,Transflective,Transmissive
Dot Size(W×H)	0.50×0.55	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.57×0.62	Display Type	Positive or Negative
Character Size(W×H)	2.78×4.89	Backlight	LED(Optional)
Character Pitch(W×H)	3.53×6.09	Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6A0069 or Equivalent

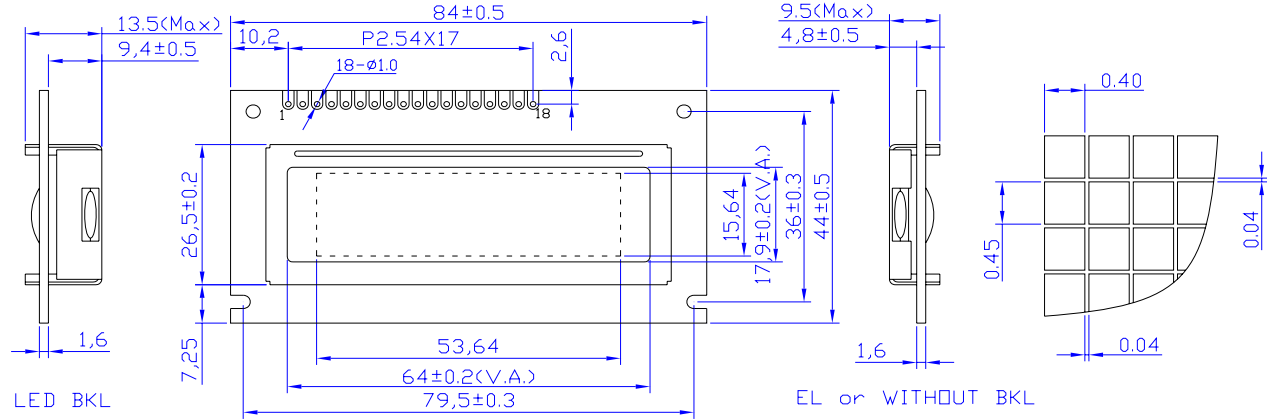
◆ INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1~8	DB7-DB0	Data bus lines	14	Vdd	Power supply for logic
9	E1	E1 Enable signal	15	E2	E2 Enable signal
10	R/W	Read/Write selection(H: R, L: W)	16	VEE	Negative voltage output
11	RS	Register selection(H:Data,L:Instruction)	17	A	BKL +
12	Vo	Power supply for LCD	18	K	BKL -
13	Vss	Ground for logic			

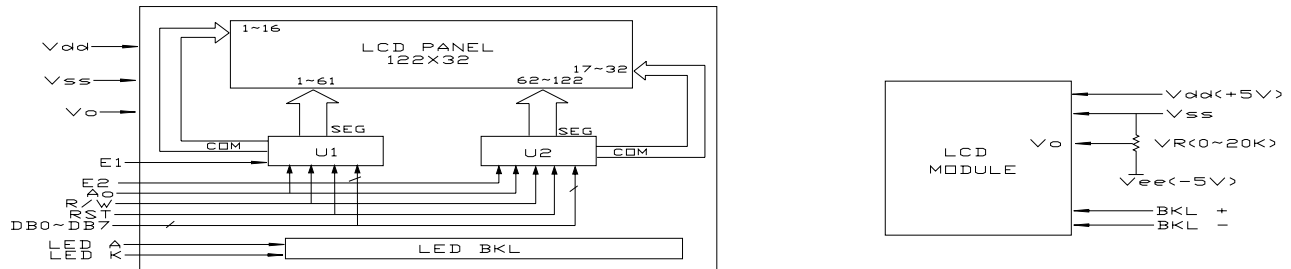
◆ ELECTRICAL CHARACTERISTICS

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	---	2.0	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=2Ω	---	4.2	---	V
Supply Current for LED	If	Ta=25°C, Vf=4.2V	---	1000	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	84.0×44.0×9.5/13.5	LC Fluid	STN (Yellow-green, Gray, Blue), FSTN
Viewing Area(W×H)	64.0×17.9	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.40×0.45	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.44×0.49	Display Type	Positive or Negative
Dots×Dots	122×32	Backlight	LED (Optional)
		Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	SED1520 or Equivalent

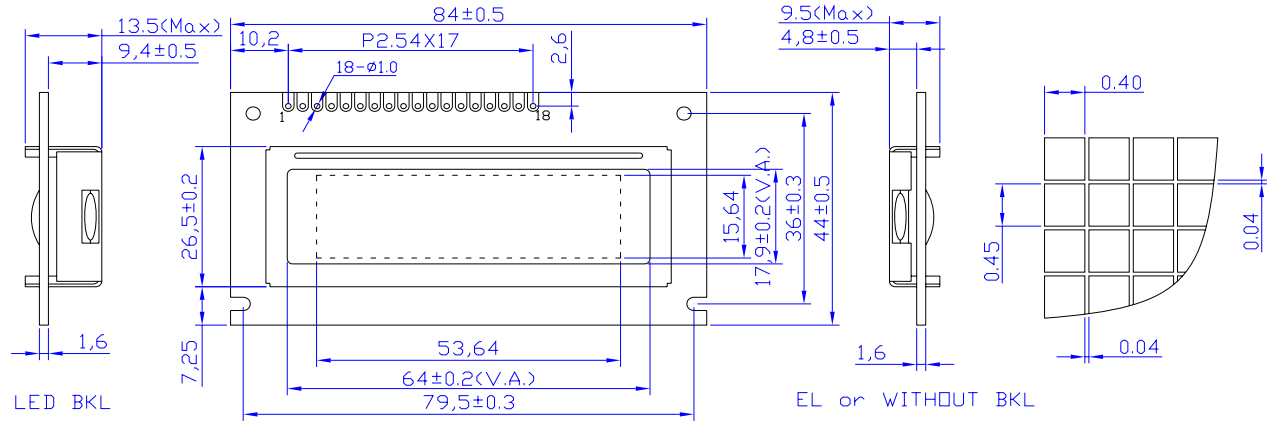
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vss	Ground for logic	7	R/W	Read/Write selection (H: R, L: W)
2	Vdd	Power supply for logic	8	Ao	Register selection (H:Data, L:Instruction)
3	Vo	Power supply for LCD	9~16	DB0~DB7	Data bus lines
4	/RST	Reset signal	17	A	BKL +
5	E1	Enable signal for IC1	18	K	BKL -
6	E2	Enable signal for IC2			

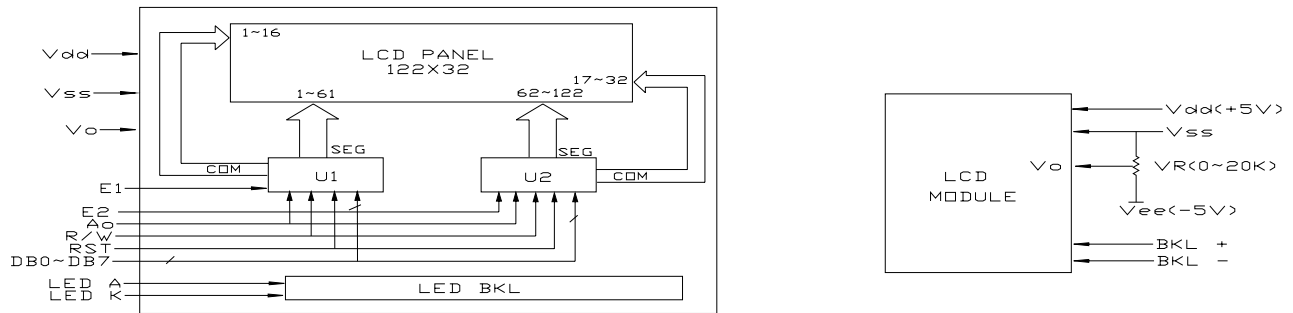
◆ELECTRICAL CHARACTERISTICS

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	---	6.5	---	V
Supply Current	Idd	Ta=25°C, Vdd=5.0V	---	2.5	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=6.8Ω	---	4.2	---	V
Supply Current for LED	If	Ta=25°C, Vf=4.2V	---	120	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	84.0×44.0×9.5/13.5	LC Fluid	STN (Yellow-green, Gray, Blue), FSTN
Viewing Area(W×H)	64.0×17.9	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.40×0.45	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.44×0.49	Display Type	Positive or Negative
Dots×Dots	122×32	Backlight	LED (Optional)
		Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	ST7920 or Equivalent

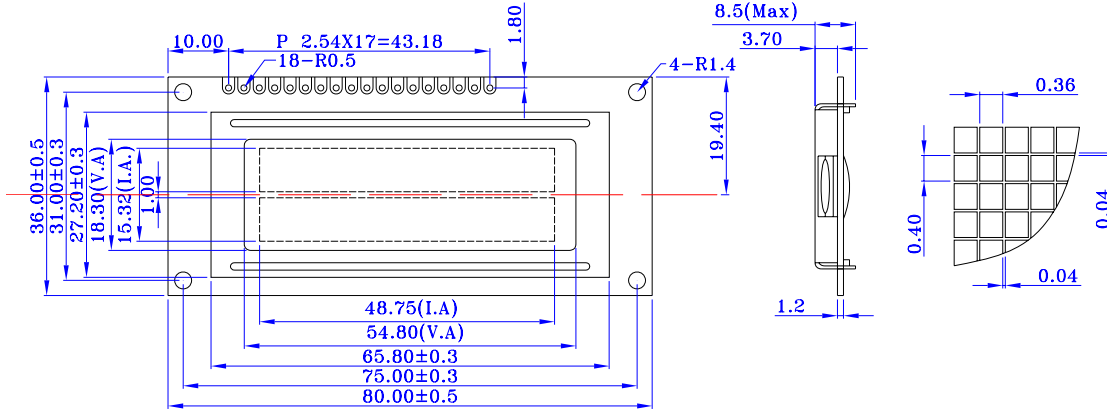
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vss	Ground for logic	6	E	Enable signal
2	Vdd	Power supply for logic	7~14	DB0~DB7	Data bus lines
3	Vo	Power supply for LCD	15	A	BKL +
4	RS	Register selection (H:Data, L:Instruction)	16	K	BKL -
5	R/W	Read/Write selection (H: R, L: W)			

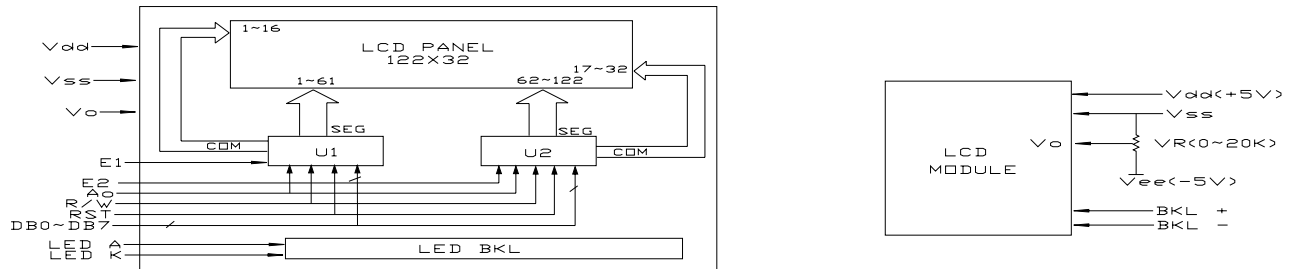
◆ELECTRICAL CHARACTERISTICS

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	---	6.5	---	V
Supply Current	Idd	Ta=25°C, Vdd=5.0V	---	2.5	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=6.8Ω	---	4.2	---	V
Supply Current for LED	If	Ta=25°C, Vf=4.2V	---	120	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	80×36×8.5	LC Fluid	STN (Yellow-green, Gray, Blue), FSTN
Viewing Area(W×H)	54.8×18.3	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.36×0.40	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.40×0.44	Display Type	Positive or Negative
Dots×Dots	122×32	Backlight	LED,EL (Optional)
		Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	SED1520 or Equivalent

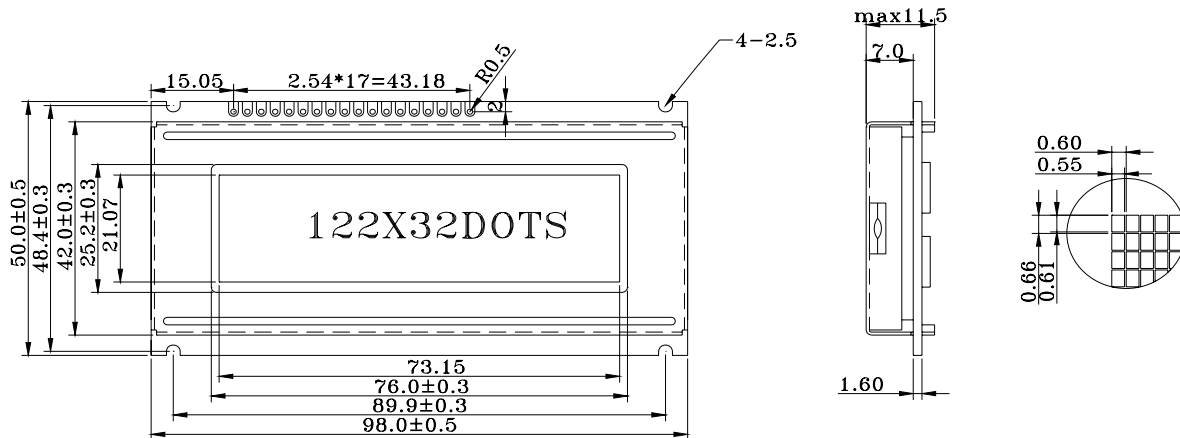
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vdd	Power supply for logic	7	R/W	Read/Write selection (H: R, L: W)
2	Vss	Ground for logic	8~15	DB0~DB7	Data bus lines
3	Vo	Power supply for LCD	16	Ao	Register selection (H:Data, L:Instruction)
4	/RST	Reset signal	17	A	BKL +
5	E1	Enable signal for IC1	18	K	BKL -
6	E2	Enable signal for IC2			

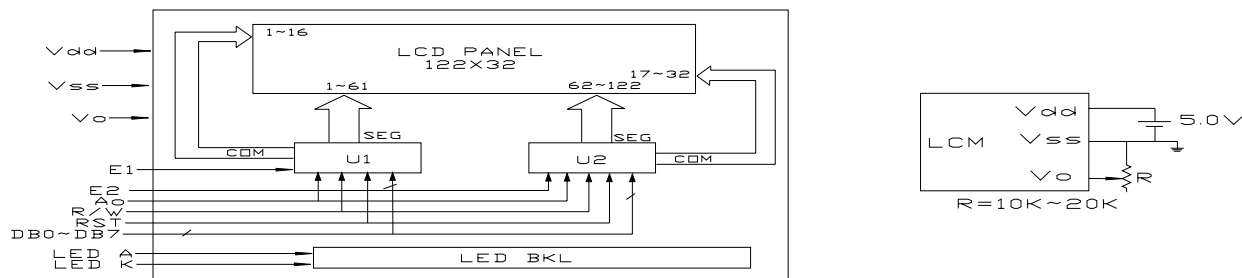
◆ELECTRICAL CHARACTERISTICS

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, f=400Hz	---	110	---	Vpp
Supply Current for LED	If	Ta=25°C, Vpp=110V	---	70	---	mA

◆ OUTLINE DIMENSION



◆ BLOCK DIAGRAM & POWER SUPPLY



◆ MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	98.0×50.0×11.5	LC Fluid	TN,STN (Yellow-green,Gray, Blue),FSTN
Viewing Area(W×H)	76.0×25.2	Polarizer	Reflective,Transflective,Transmissive
Dot Size(W×H)	0.55×0.61	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.60×0.66	Display Type	Positive or Negative
Dots×Dots	122×32	Backlight	LED(Optional)
		Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	SED1520 or Equivalent

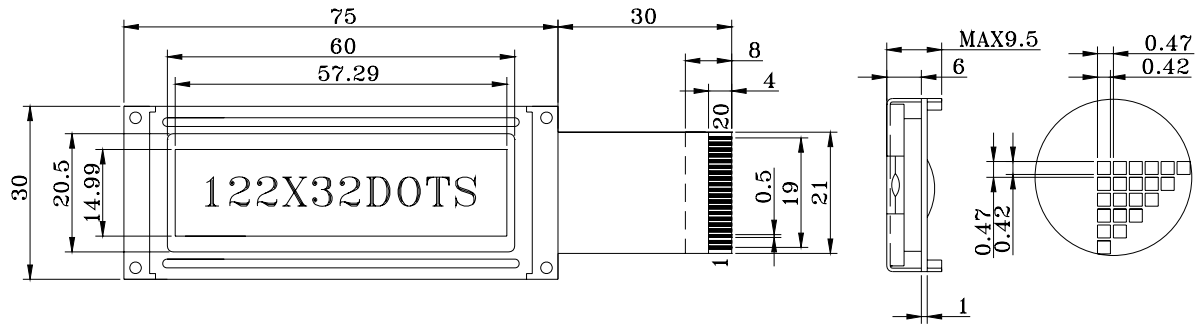
◆ INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vss	Ground for logic	6	E1	Chip selection for U1
2	Vdd	Power supply for logic	7	E2	Chip selection for U2
3	VEE	Power supply for LCD	8	/RES	RESET
4	Ao	H: Data L: Instruction Code	9~16	DB0~DB7	Data bus lines
5	R/W	H: Read L: Write	17/18	A/K	BKL + / BKL -

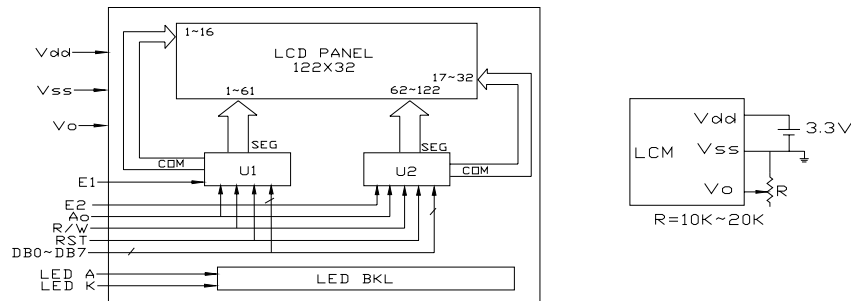
◆ ELECTRICAL CHARACTERISTICS

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	---	2.0	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=20Ω	---	3.2	---	V
Supply Current for LED	If	Ta=25°C, Vf=4.2V	---	90	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	75.0×30.0×MAX9.5	LC Fluid	TN,STN (Yellow-green,Gray, Blue),FSTN
Viewing Area(W×H)	60.0×20.5	Polarizer	Reflective,Transflective,Transmissive
Dot Size(W×H)	0.42×0.42	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.47×0.47	Display Type	Positive or Negative
Dot×Dot	122×32	Backlight	LED(Optional)
		Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	SED1520 or Equivalent

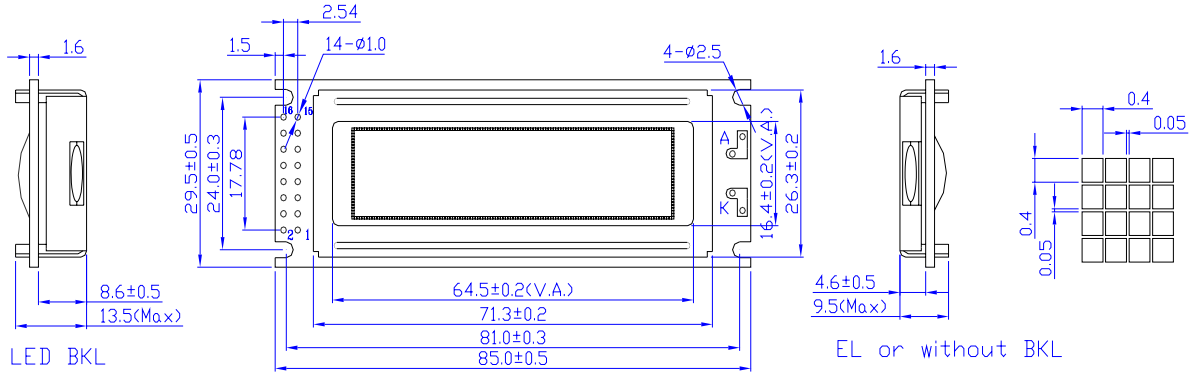
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vss	Ground for logic	7	R/W	H: Read L: Write
2	Vdd	Power supply for logic	8	Ao	H: Data L: Instruction Code
3	Vo	Power supply for LCD	9~16	DB0~DB7	Data bus lines
4	/RST	Reset signal	17	A	BKL +
5	E1	Chip selection for U1	18	K	BKL -
6	E2	Chip selection for U2			

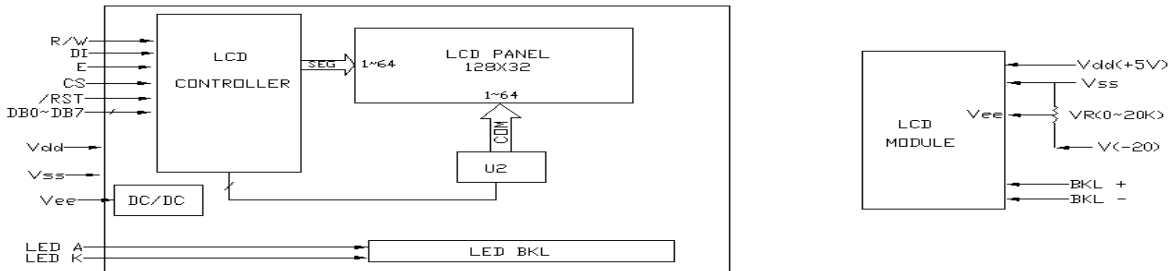
◆ELECTRICAL CHARACTERISTICS

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	---	2.0	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=47Ω	---	4.5	---	V
Supply Current for LED	If	Ta=25°C, Vf=4.2V	---	40	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	85.0×29.5×9.5/13.5	LC Fluid	STN (Yellow-green, Gray, Blue), FSTN
Viewing Area(W×H)	64.5×16.4	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.40×0.40	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.45×0.45	Display Type	Positive or Negative
Dots×Dots	128×32	Backlight	LED (Optional)
		Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6B0108 or Equivalent

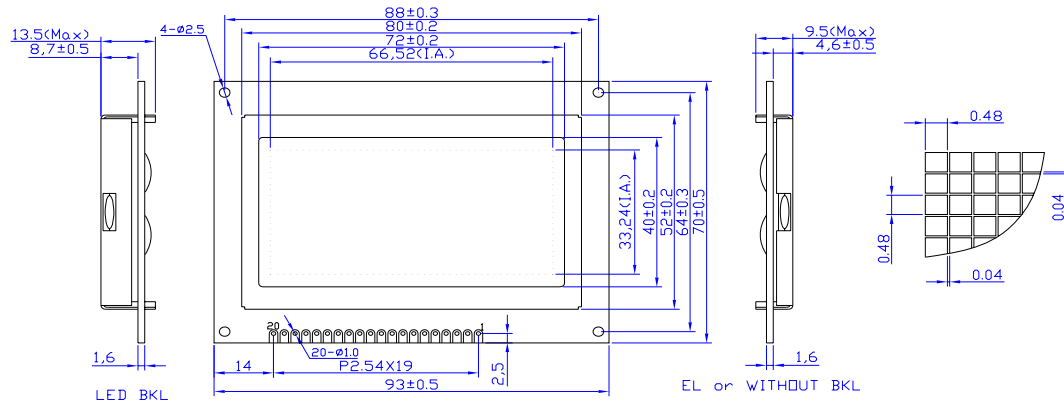
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vss	Ground for logic	7	CS	Enable signal for chip
2	Vdd	Power supply for logic	8~15	DB0~DB7	Data bus lines
3	Vee	Negative voltage output	16	RST	Reset signal
4	D/I	H/L Register select signal		A	BKL +
5	R/W	Read/Write selection (H: R, L: W)		K	BKL -
6	E	Enable signal			

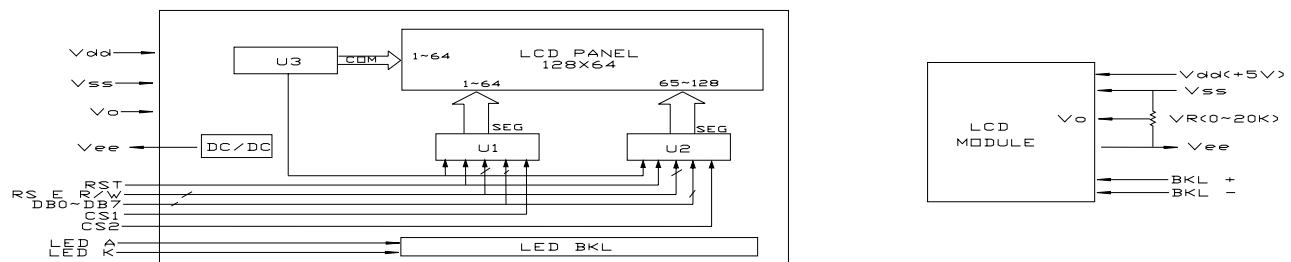
◆ELECTRICAL CHARACTERISTICS

Item	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Operating Voltage	Vdd	Ta=25°C	---	5.0	---	V
Operating Voltage for LCD	Vled	Ta=25°C	---	10.5	---	V
Supply Current	Idd	Ta=25°C, Vdd=5.0V	---	2.5	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=6.8Ω	---	4.2	---	Vpp
Supply Current for LED	If	Ta=25°C, Vf=4.2V	---	120	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	93.0×70.0×9.5/13.5	LC Fluid	STN (Yellow-green, Gray, Blue), FSTN
Viewing Area(W×H)	72.0×40.0	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.48×0.48	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.52×0.52	Display Type	Positive or Negative
Dots×Dots	128×64	Backlight	LED (Optional)
		Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6B0108 or Equivalent

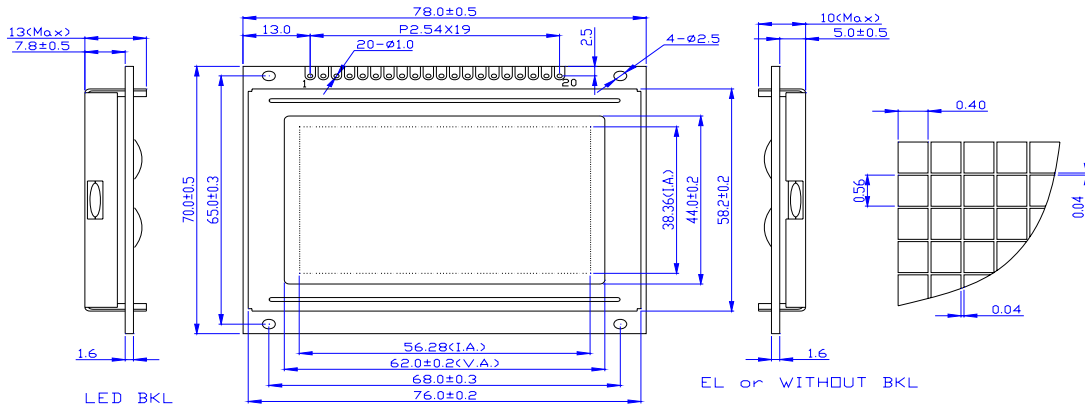
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vss	Ground for logic	15	CS1	Enable signal for IC1
2	Vdd	Power supply for logic	16	CS2	Enable signal for IC2
3	Vo	Power supply for LCD	17	RST	Reset signal
4	RS	Register selection (H:Data, L:Instruction)	18	Vee	Negative voltage output
5	R/W	Read/Write selection (H: R, L: W)	19	A	BKL +
6	E	Enable signal	20	K	BKL -
7~14	DB0~DB7	Data bus lines			

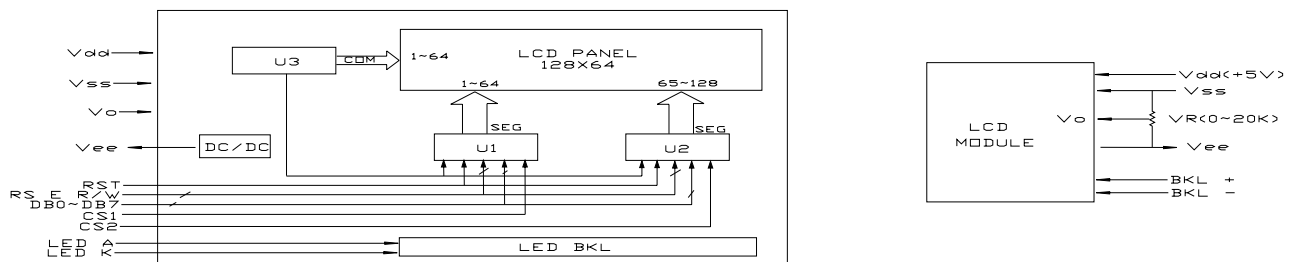
◆ELECTRICAL CHARACTERISTICS

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	---	10.5	---	V
Supply Current	Idd	Ta=25°C, Vdd=5.0V	---	2.5	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=6.8Ω	---	4.2	---	Vpp
Supply Current for LED	If	Ta=25°C, Vf=4.2V	---	300	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	78.0×70.0×10.0/13.0	LC Fluid	STN (Yellow-green, Gray, Blue), FSTN
Viewing Area(W×H)	62.0×44.0	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.40×0.56	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.44×0.60	Display Type	Positive or Negative
Dots×Dots	128×64	Backlight	LED (Optional)
		Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6B0108 or Equivalent

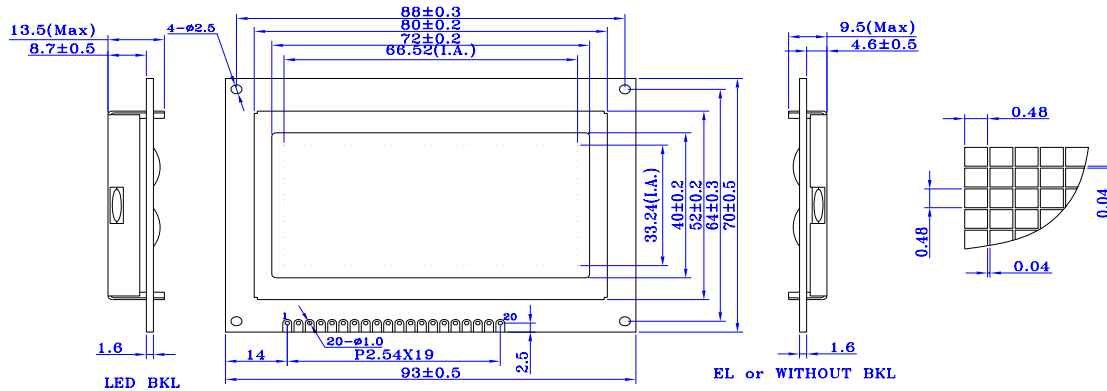
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	/CS1	Enable signal for IC1	8	E	Enable signal
2	/CS2	Enable signal for IC2	9~16	DB0~DB7	Data bus lines
3	Vss	Ground for logic	17	RST	Reset signal
4	Vdd	Power supply for logic	18	Vee	Negative voltage output
5	V0	Power supply for LCD	19	A	BKL +
6	D/I	Register selection (H:Data, L:Instruction)	20	K	BKL -
7	R/W	Read/Write selection (H: R, L: W)			

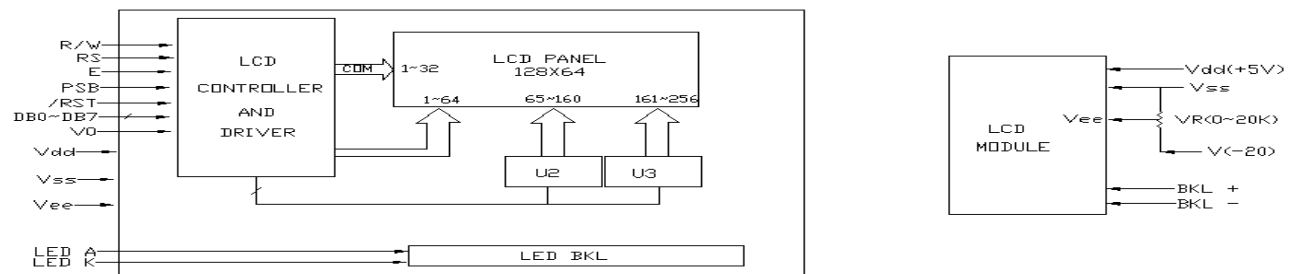
◆ELECTRICAL CHARACTERISTICS

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	---	10.5	---	V
Supply Current	Idd	Ta=25°C, Vdd=5.0V	---	2.5	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=6.8Ω	---	4.2	---	V
Supply Current for LED	If	Ta=25°C, Vf=4.2V	---	300	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	93.0×70.0×9.5/13.5	LC Fluid	STN (Yellow-green, Gray, Blue), FSTN
Viewing Area(W×H)	72.0×40.0	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.48×0.48	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.52×0.52	Display Type	Positive or Negative
Dots×Dots	128×64	Backlight	LED (Optional)
		Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	ST7920 or Equivalent

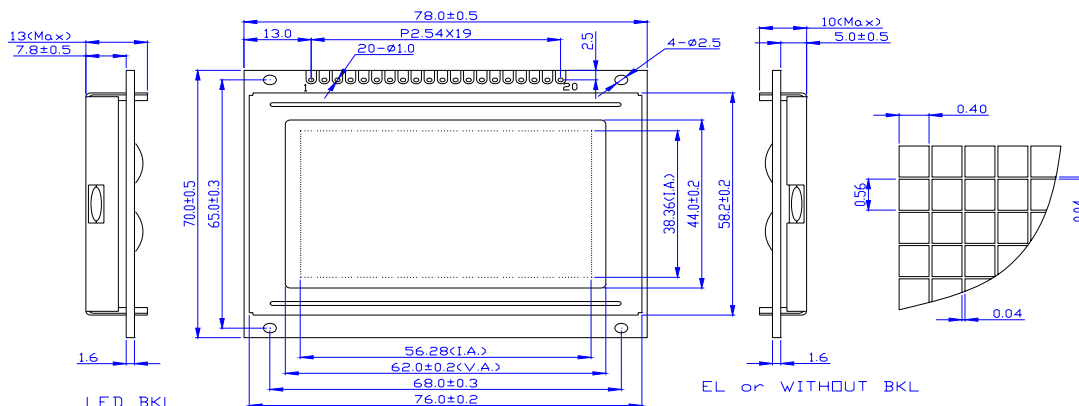
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vss	Ground for logic	15	PSB	Interface selection
2	Vdd	Power supply for logic	16	NC	
3	Vo	Power supply for LCD	17	/RST	Reset signal
4	RS	Register selection (H:Data, L:Instruction)	18	Vee	Negative voltage output
5	R/W	Read/Write selection (H: R, L: W)	19	A	BKL +
6	E	Enable signal	20	K	BKL -
7~14	DB0~DB7	Data bus lines			

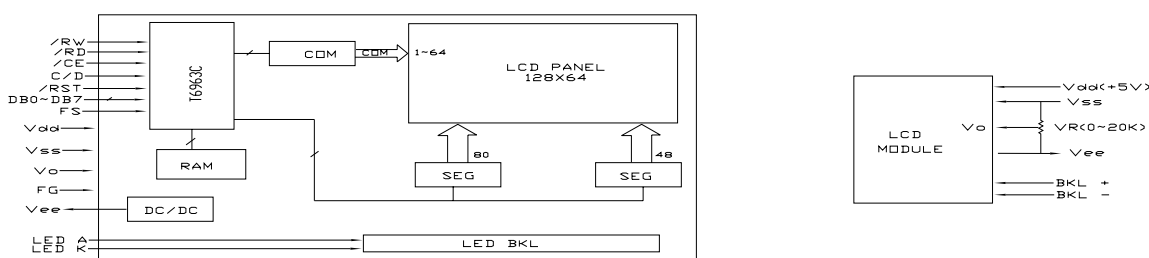
◆ELECTRICAL CHARACTERISTICS

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	---	10.5	---	V
Supply Current	Idd	Ta=25°C, Vdd=5.0V	---	2.5	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=6.8Ω	---	4.2	---	V
Supply Current for LED	If	Ta=25°C, Vf=4.2V	---	300	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	78.0×70.0×10.0/13.0	LC Fluid	STN (Yellow-green, Gray, Blue), FSTN
Viewing Area(W×H)	62.0×44.0	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.40×0.56	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.44×0.60	Display Type	Positive or Negative
Dots×Dots	128×64	Backlight	LED (Optional)
		Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	T6963C or Equivalent

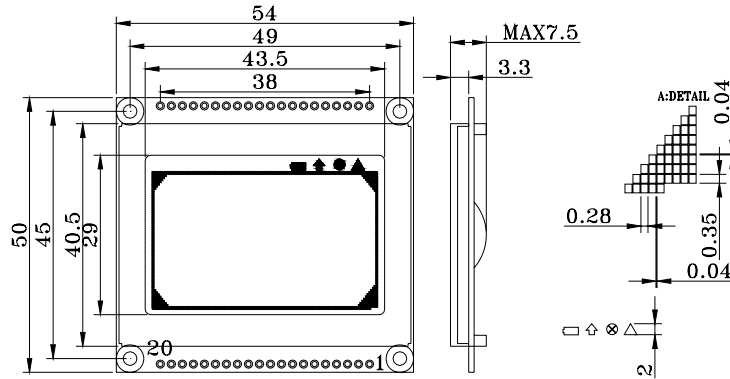
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	FG	Frame ground	8	C/D	Register selection (H:Data,
2	Vss	Ground for logic	9	/RST	Reset signal
3	Vdd	Power supply for logic	10~17	DB0~DB7	Data bus lines
4	Vee	Power supply for LCD	18	FS	Font selection
5	/WR	Write enable	19	A	BKL +
6	/RD	Read enable	20	K	BKL -
7	/CE	Enable signal for IC			

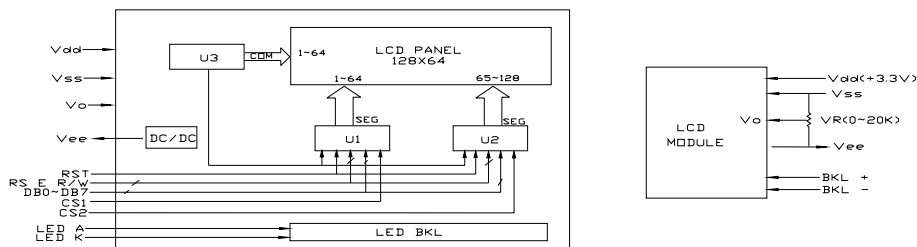
◆ELECTRICAL CHARACTERISTICS

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	---	10.5	---	V
Supply Current	Idd	Ta=25°C, Vdd=5.0V	---	2.5	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=6.8Ω	---	4.2	---	V
Supply Current for LED	If	Ta=25°C, Vf=4.2V	---	300	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	54.0×50.0×MAX7.5	LC Fluid	TN,STN (Yellow-green,Gray)
Viewing Area(W×H)	43.5×29.0	Polarizer	Reflective,Transflective,Transmissive
Dot Size(W×H)	0.28×0.25	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.32×0.29	Display Type	Positive or Negative
Dot×Dot	128×64	Backlight	LED(Optional)
		Operating Temp.	0℃~50℃ or -20℃~70℃
		Controller	S6B0108 or Equivalent

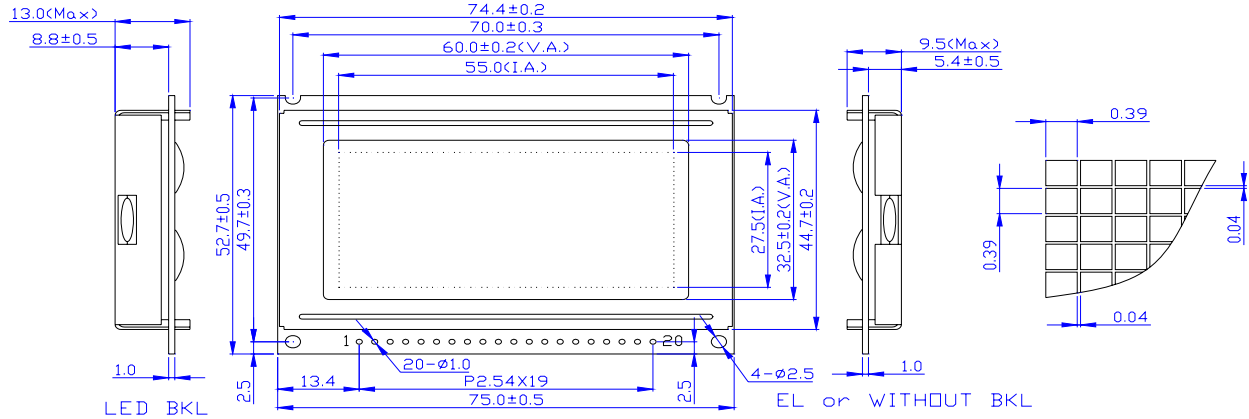
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vss	Ground for logic	7~14	DB0~DB7	Data bus lines
2	Vdd	Power supply for logic	15	CS1	Chip(IC1) selection,CS1=1
3	Vo	Power supply for LCD	16	CS2	Chip(IC2) selection,CS2=1
4	RS	Register selection(H:Data,L:Instruction)	17	RST	Reset signal
5	R/W	Read/Write selection(H: R, L: W)	18	Vee	Negative Voltage
6	E	Enable signal	19/20	SW/NC	Power Supply

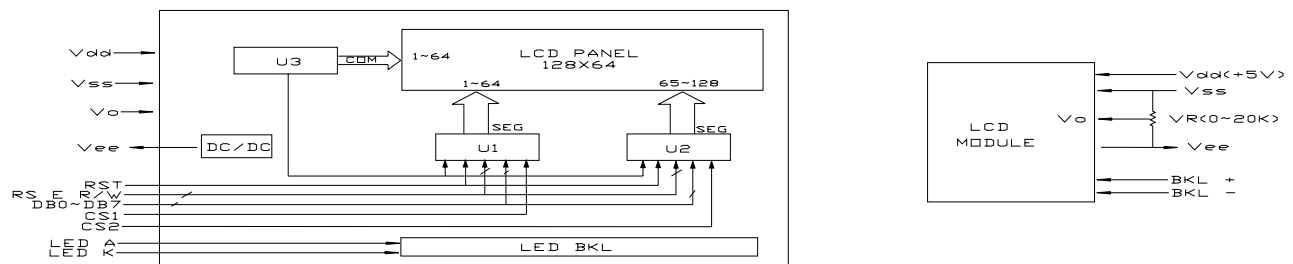
◆ELECTRICAL CHARACTERISTICS

Item	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Operating Voltage	Vdd	Ta=25℃	---	5.0	---	V
Operating Voltage for LCD	Vlcd	Ta=25℃	---	4.5	---	V
Supply Current	Idd	Ta=25℃, Vdd=5.0V	---	3.0	5.0	mA
Supply Voltage for EL	Vf	Ta=25℃,	---	4.5	---	V
Supply Current for EL	If	Ta=25℃, Vf=100V (AC)	---	20	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	75.0×52.7×9.5/13.0	LC Fluid	STN (Yellow-green, Gray, Blue), FSTN
Viewing Area(W×H)	60.0×32.5	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.39×0.39	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.43×0.43	Display Type	Positive or Negative
Dots×Dots	128×64	Backlight	LED (Optional)
		Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6B0108 or Equivalent

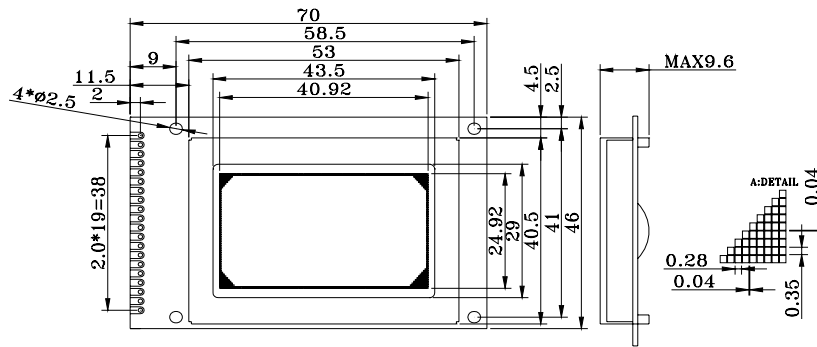
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vdd	Power supply for logic	15	R/W	Read/Write selection (H: R, L: W)
2	Vss	Ground for logic	16	D/I	Register selection (H:Data, L:Instruction)
3	Vo	Power supply for LCD	17	E	Enable signal
4~11	DB0~DB7	Data bus lines	18	Vee	Negative voltage output
12	/CS1	Enable signal for IC1	19	A	BKL +
13	/CS2	Enable signal for IC2	20	K	BKL -
14	RST	Reset signal			

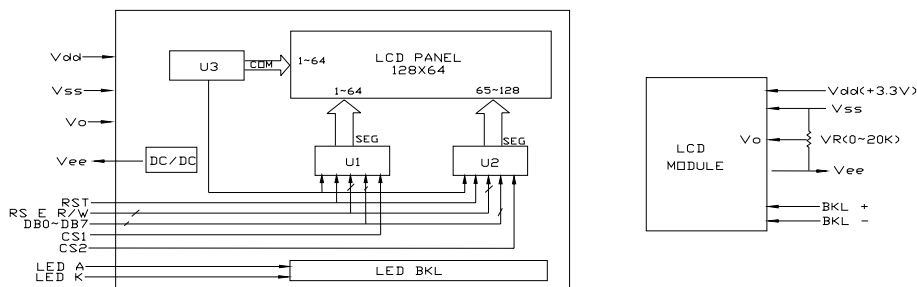
◆ELECTRICAL CHARACTERISTICS

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	---	10.5	---	V
Supply Current	Idd	Ta=25°C, Vdd=5.0V	---	2.5	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=6.8Ω	---	4.2	---	V
Supply Current for LED	If	Ta=25°C, Vf=4.2V	---	240	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	70.0×46.0×MAX9.6	LC Fluid	TN,STN (Yellow-green,Gray, Blue),FSTN
Viewing Area(W×H)	43.5×29.0	Polarizer	Reflective,Transflective,Transmissive
Dot Size(W×H)	0.28×0.25	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.32×0.29	Display Type	Positive or Negative
Dot×Dot	128×64	Backlight	LED(Optional)
		Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6B0108 or Equivalent

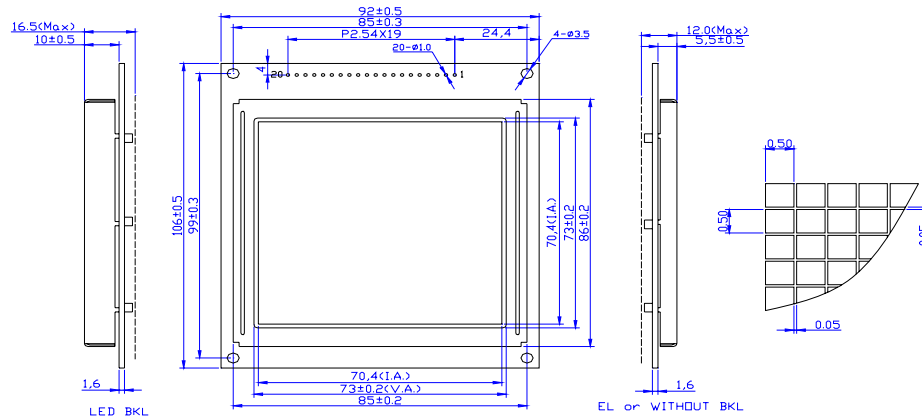
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vss	Ground for logic	7~14	DB0~DB7	Data bus lines
2	Vdd	Power supply for logic	15	CS1	Chip(IC1) selection,CS1=1
3	Vo	Power supply for LCD	16	CS2	Chip(IC2) selection,CS2=1
4	RS	Register selection(H:Data,L:Instruction)	17	RST	Reset signal
5	R/W	Read/Write selection(H: R, L: W)	18	Vee	Negative Voltage
6	E	Enable signal	19/20	LEDA/LEDK	Power Supply

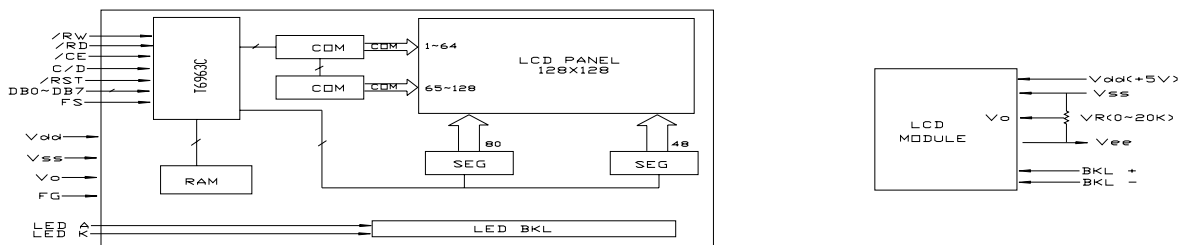
◆ELECTRICAL CHARACTERISTICS

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	---	3.0	5.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=47Ω	---	4.2	---	V
Supply Current for LED	If	Ta=25°C, Vf=3.2V	---	40	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	92.0×106.0×12/16.5	LC Fluid	STN (Yellow-green, Gray, Blue), FSTN
Viewing Area(W×H)	73.0×73.0	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.50×0.50	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.55×0.55	Display Type	Positive or Negative
Dots×Dots	128×128	Backlight	LED (Optional)
		Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	T6963C or Equivalent

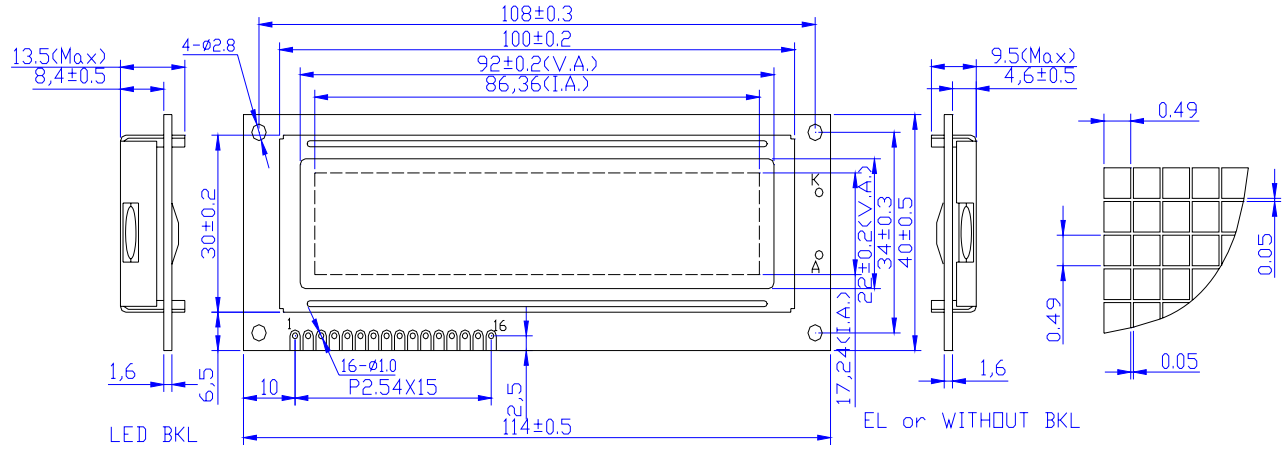
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	FG	Frame ground	8	C/D	Register selection (H:Data, L:Instruction)
2	Vss	Ground for logic	9	/RST	Reset signal
3	Vdd	Power supply for logic	10~17	DB0~DB7	Data bus lines
4	Vee	Power supply for LCD	18	FS	Font selection
5	/WR	Write enable	19	A	BKL +
6	/RD	Read enable	20	K	BKL -
7	/CE	Enable signal for IC			

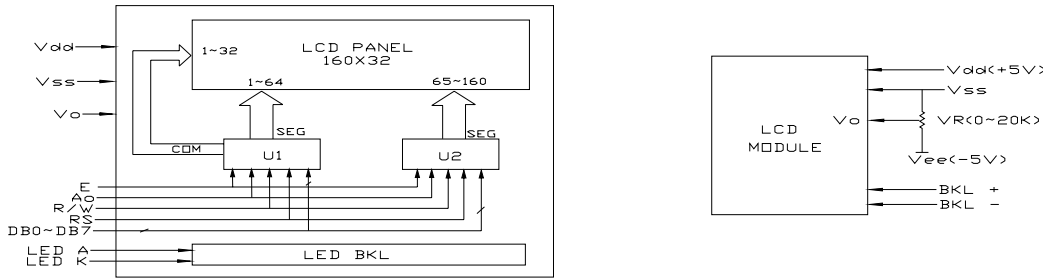
◆ELECTRICAL CHARACTERISTICS

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	---	12.0	---	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	---	350	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	114.0×40.0×9.5/13.5	LC Fluid	STN (Yellow-green, Gray, Blue), FSTN
Viewing Area(W×H)	92.0×22.0	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.49×0.49	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.54×0.54	Display Type	Positive or Negative
Dots×Dots	160×32	Backlight	LED (Optional)
		Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	ST7920 or Equivalent

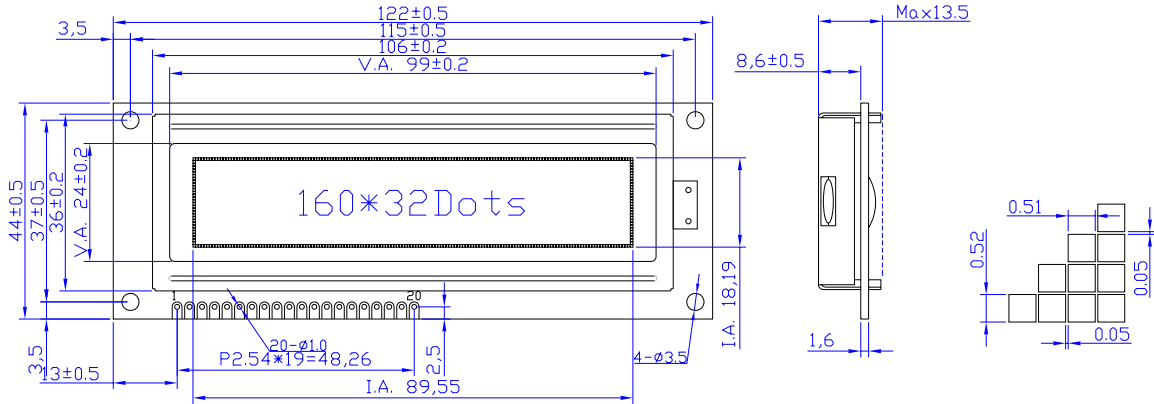
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vss	Ground for logic	6	E	Enable signal
2	Vdd	Power supply for logic	7~14	DB0~DB7	Data bus lines
3	Vo	Power supply for LCD	15	A	BKL +
4	RS	Register selection (H:Data, L:Instruction)	16	K	BKL -
5	R/W	Read/Write selection (H: R, L: W)			

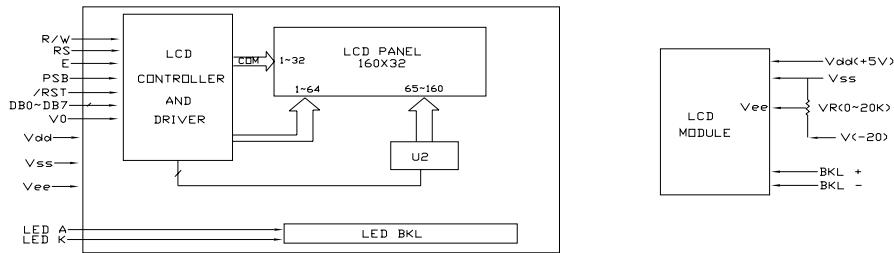
◆ELECTRICAL CHARACTERISTICS

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	---	6.5	---	V
Supply Current	Idd	Ta=25°C, Vdd=5.0V	---	2.0	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=6.8Ω	---	4.2	---	V
Supply Current for LED	If	Ta=25°C, Vf=4.2V	---	240	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	122.0X44.0×13.5	LC Fluid	STN (Yellow-green, Gray, Blue), FSTN
Viewing Area(W×H)	99.0×24.0	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.51×0.52	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.56×0.57	Display Type	Positive or Negative
Dots×Dots	160×32	Backlight	LED (Optional)
		Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	ST7920 or Equivalent

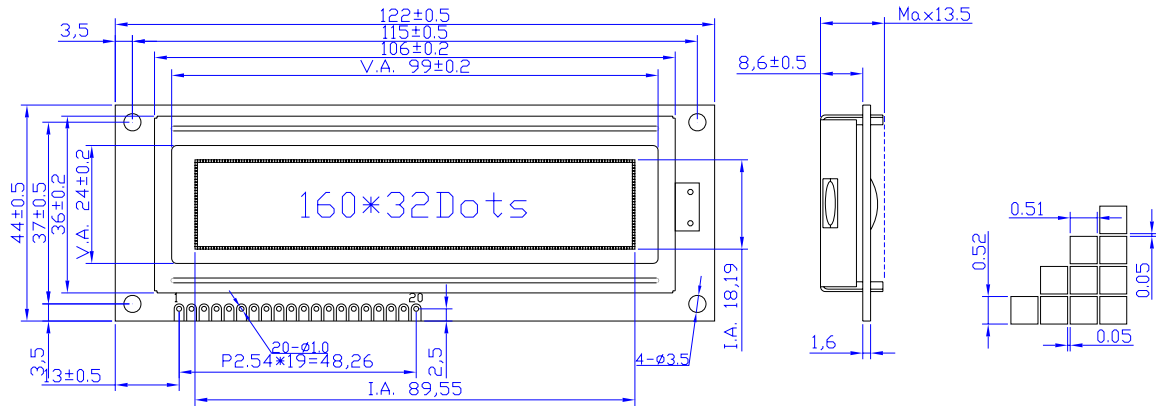
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	K	BKL -	15	Vdd	Power supply for logic
2	A	BKL +	16	Vss	Ground for logic
3~10	DB7~DB0	Data bus lines	17	PSB	Interface selection
11	E	Enable signal	18	RES	Reset signal
12	R/W	Read/Write selection (H: R, L: W)	19	NC	
13	RS	Register selection (H:Data, L:Instruction)	20	VEE	Negative voltage output
14	Vo	Power supply for LCD			

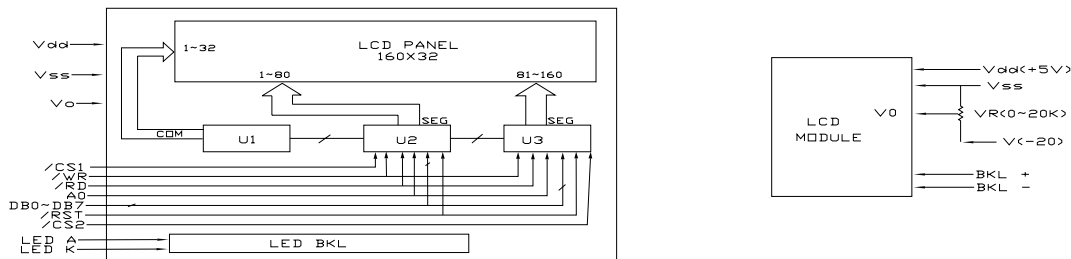
◆ELECTRICAL CHARACTERISTICS

Item	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Operating Voltage	Vdd	Ta=25°C	---	5.0	---	V
Operating Voltage for LCD	Vled	Ta=25°C	---	6.5	---	V
Supply Current	Idd	Ta=25°C, Vdd=5.0V	---	2.0	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=6.8Ω	---	4.2	---	V
Supply Current for LED	If	Ta=25°C, Vf=4.2V	---	240	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	122.0X44.0×13.5	LC Fluid	STN (Yellow-green, Gray, Blue), FSTN
Viewing Area(W×H)	99.0×24.0	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.51×0.52	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.56×0.57	Display Type	Positive or Negative
Dots×Dots	160×32	Backlight	LED (Optional)
		Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	SED1521 or Equivalent

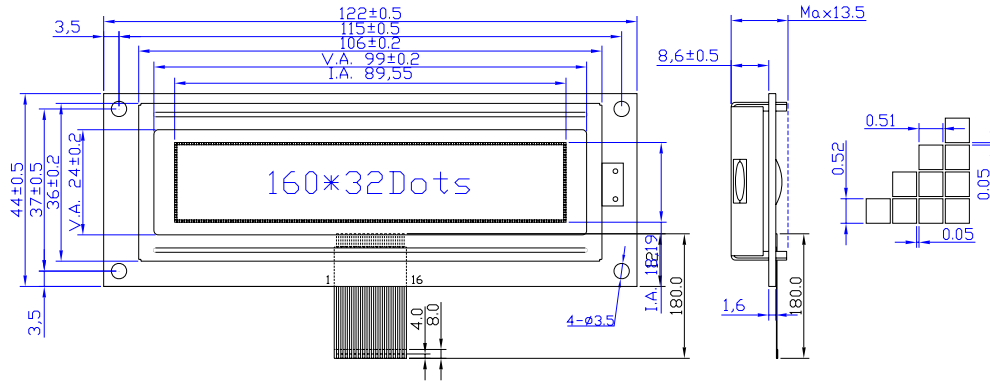
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	A0	H/L Register select signal	8~15	DB0~DB7	Data bus lines
2	/CS2	Enable signal for IC2	16	RST	Reset signal
3	/CS1	Enable signal for IC1	17	VEE	Negative voltage output
4	/RD	Read signal	18	NC	Nc connector
5	/WR	Write signal	19	A	BKL +
6	VDD	Power supply for logic	20	K	BKL -
7	VSS	GND			

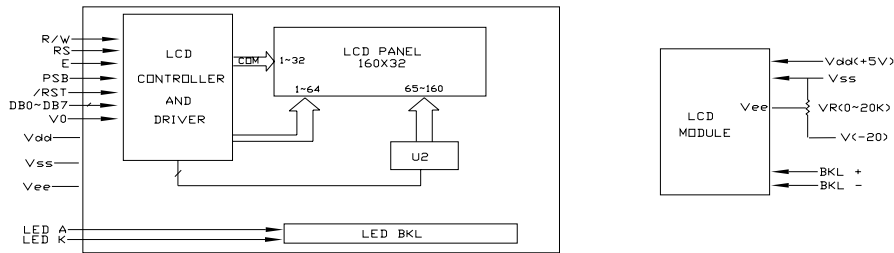
◆ELECTRICAL CHARACTERISTICS

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	---	6.5	---	V
Supply Current	Idd	Ta=25°C, Vdd=5.0V	---	2.0	3.0	mA
Supply Voltage for LED	Vf	Ta=25°C, R=6.8Ω	---	4.2	---	V
Supply Current for LED	If	Ta=25°C, Vf=4.2V	---	240	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	122.0X44.0×13.5	LC Fluid	STN (Yellow-green, Gray, Blue), FSTN
Viewing Area(W×H)	99.0×24.0	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.51×0.52	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.56×0.57	Display Type	Positive or Negative
Dots×Dots	160×32	Backlight	LED (Optional)
		Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	ST7920 or Equivalent

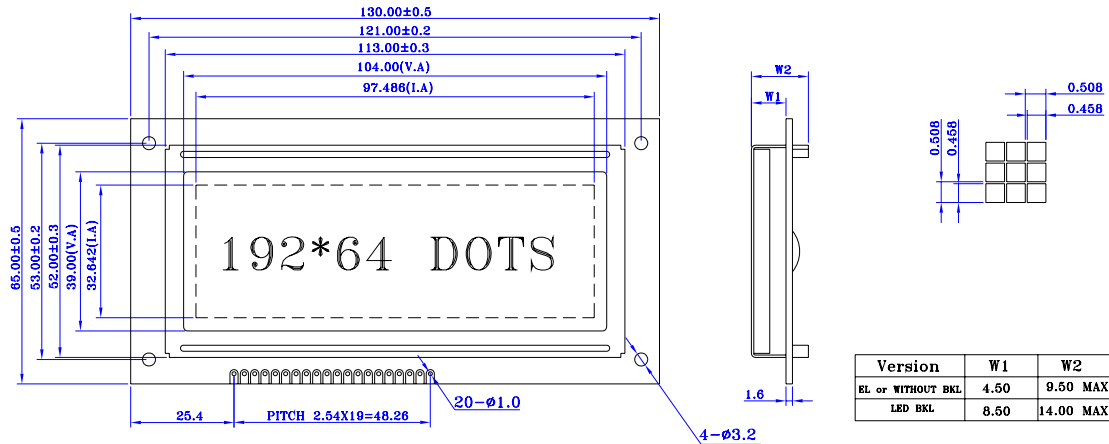
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1 / 32	V _{ss}	Ground for logic	15/18	A	BKL +
2 / 31	V _{dd}	Power supply for logic	16/17	K	BKL -
3 / 30	V _o	Power supply for LCD	33	VEE	Negative voltage output
4 / 29	RS	Register selection (H:Data, L:Instruction)	34	RES	Reset signal
5 / 28	R/W	Read/Write selection (H: R, L: W)	35	NC	
6 / 27	E	Enable signal	436	PSB	Interface selection
7~14 / 26~19	DB0~DB7	Data bus lines			

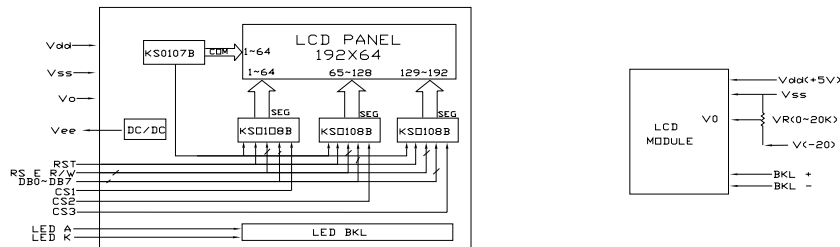
◆ELECTRICAL CHARACTERISTICS

Item	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Operating Voltage	V _{dd}	T _a =25°C	---	5.0	---	V
Operating Voltage for LCD	V _{lcd}	T _a =25°C	---	6.5	---	V
Supply Current	I _{dd}	T _a =25°C, V _{dd} =5.0V	---	2.0	3.0	mA
Supply Voltage for LED	V _f	T _a =25°C, R=6.8Ω	---	4.2	---	V
Supply Current for LED	I _f	T _a =25°C, V _f =4.2V	---	300	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	130.0×65.0×9.5/14.0	LC Fluid	STN (Yellow-green, Gray, Blue), FSTN
Viewing Area(W×H)	104.0×39.0	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.458×0.458	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.508×0.508	Display Type	Positive or Negative
Dots×Dots	192×64	Backlight	LED (Optional)
		Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6B0108 or Equivalent

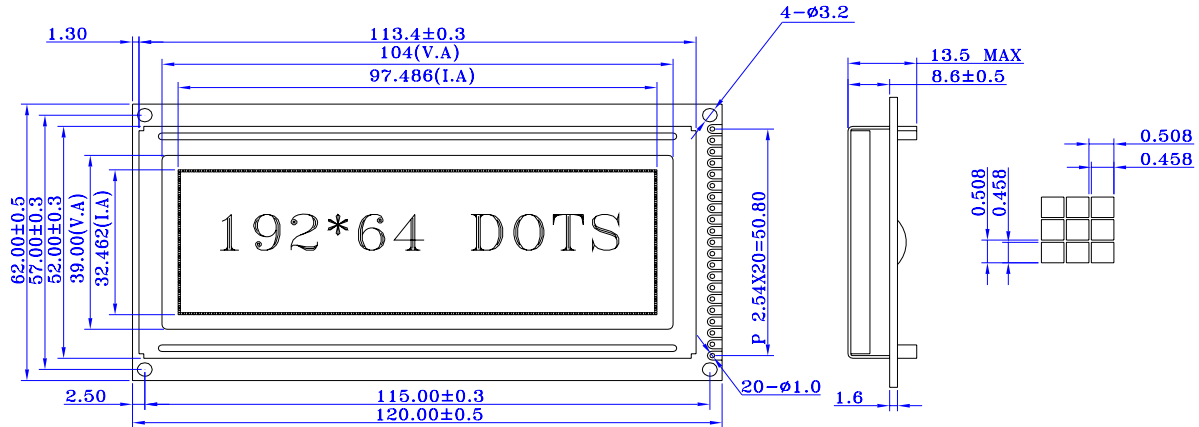
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vss/K	Ground for logic/ BKL -	15	CS1	Enable signal for IC1
2	Vdd	Power supply for logic	16	/RES	Reset signal
3	Vo	Power supply for LCD	17	CS2	Enable signal for IC2
4	RS	Register selection (H:Data, L:Instruction)	18	CS3	Enable signal for IC3
5	R/W	Read/Write selection (H: R, L: W)	19	VEE	Negative voltage output
6	E	Enable signal	20	A	BKL +
7~14	DB0~DB7	Data bus lines			

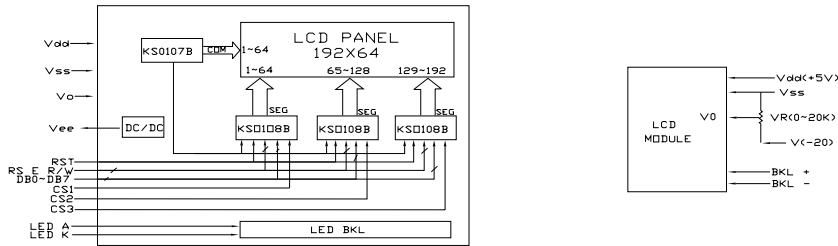
◆ELECTRICAL CHARACTERISTICS

Item	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Operating Voltage	Vdd	Ta=25°C	---	5.0	---	V
Operating Voltage for LCD	Vled	Ta=25°C	---	10.5	---	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	---	480	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	120.0×62.0×9.5/14.0	LC Fluid	STN (Yellow-green, Gray, Blue), FSTN
Viewing Area(W×H)	104.0×39.0	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.458×0.458	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.508×0.508	Display Type	Positive or Negative
Dots×Dots	192×64	Backlight	LED (Optional)
		Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6B0108 or Equivalent

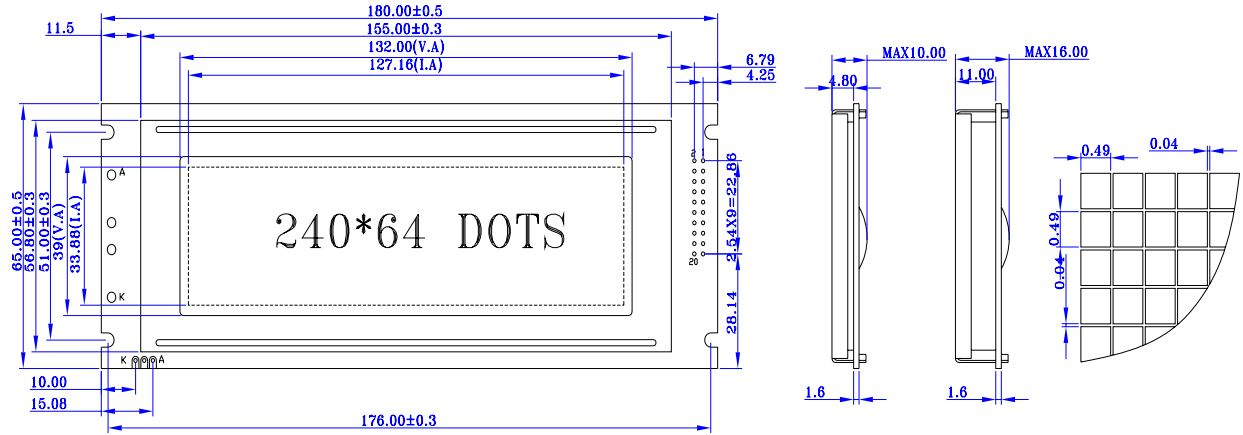
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vss	Ground for logic	8~15	DB0~DB7	Data bus lines
2	Vdd	Power supply for logic	16	CS1	Enable signal for IC1
3	Vo	Power supply for LCD	17	CS2	Enable signal for IC2
4	VEE	Negative voltage output	18	CS3	Enable signal for IC3
5	RS	Register selection (H:Data, L:Instruction)	19	/RES	Reset signal
6	R/W	Read/Write selection (H: R, L: W)	20	A	BKL +
7	E	Enable signal	21	K	BKL -

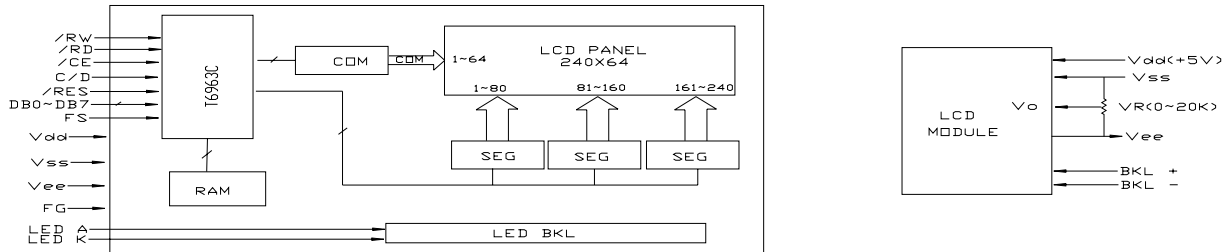
◆ELECTRICAL CHARACTERISTICS

Item	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Operating Voltage	Vdd	Ta=25°C	---	5.0	---	V
Operating Voltage for LCD	Vled	Ta=25°C	---	10.5	---	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	---	480	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	180.0×65.0×10.5/16.0	LC Fluid	STN (Yellow-green, Gray, Blue), FSTN
Viewing Area(W×H)	132.0×39.0	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.49×0.49	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.53×0.53	Display Type	Positive or Negative
Dots×Dots	240×64	Backlight	LED, CCFL, EL (Optional)
		Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	T6963C or Equivalent

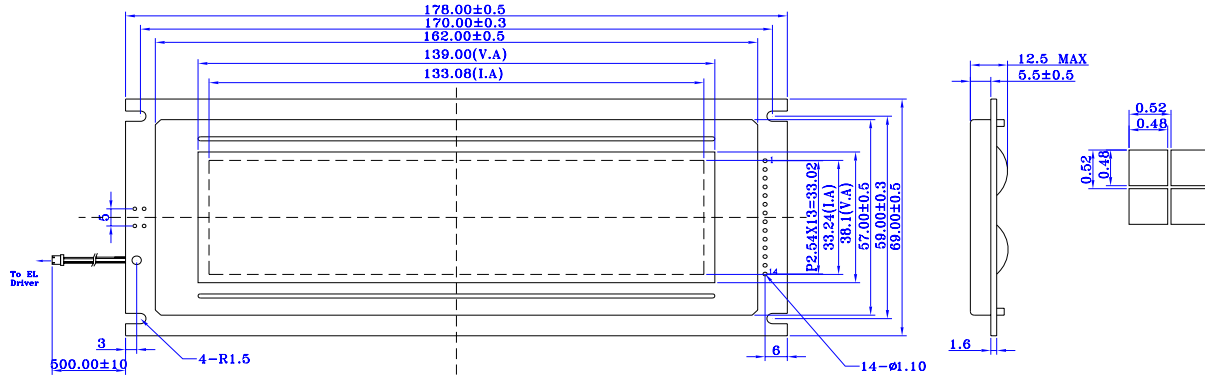
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	FG	Frame ground	8	C/D	Register selection (H:Data, L:Instruction)
2	Vss	Ground for logic	9	VEE	Negative voltage output
3	Vdd	Power supply for logic	10	/RES	Reset signal
4	V0	Power supply for LCD	11~18	DB0~DB7	Data bus lines
5	/WR	Write enable	19	FS	Font selection
6	/RD	Read enable	20	NC	---
7	/CE	Enable signal for IC			

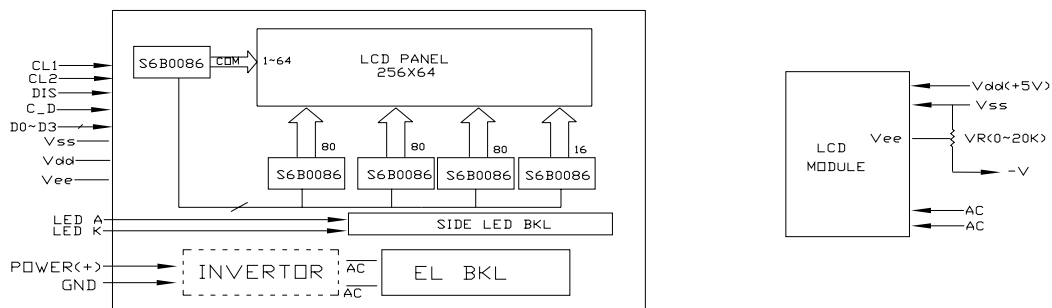
◆ELECTRICAL CHARACTERISTICS

Item	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Operating Voltage	Vdd	Ta=25°C	---	5.0	---	V
Operating Voltage for LCD	Vled	Ta=25°C	---	12.5	---	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	---	630	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	178.0×69.0×12.5	LC Fluid	STN (Yellow-green, Gray, Blue), FSTN
Viewing Area(W×H)	139.0×38.1	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.48×0.48	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.52×0.52	Display Type	Positive or Negative
Dots×Dots	256×64	Backlight	EL (Optional)
		Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	S6B0086 or Equivalent

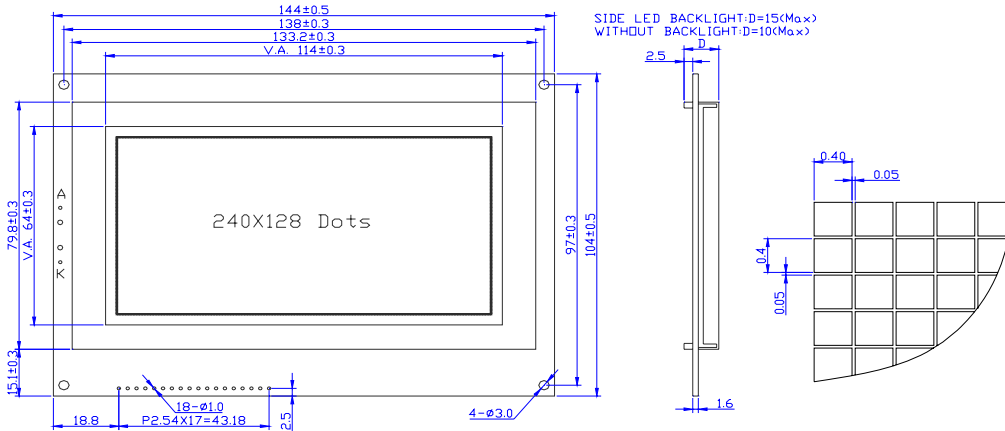
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vdd	Power supply for logic	8	C_D	Synchronous signal for row driver
2	Vss	Ground for logic	9	CL2	Data shift clock
3	V0	Power supply for LCD	10	NC	-----
4	CL1	Data latch clock	11~14	D0~D3	Display data
5	M	AC Singal		AC	Anode of EL
6	DIS	Display OFF Control		AC	Cathode of EL
7	NC	-----			

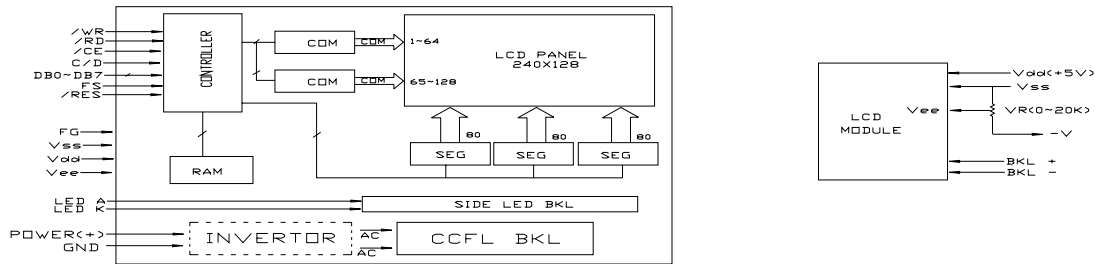
◆ELECTRICAL CHARACTERISTICS

Item	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Operating Voltage	Vdd	Ta=25°C	4.5	5.0	5.5	V
Operating Voltage for LCD	Vled	Ta=25°C	---	12	---	V
Supply Current	Idd	Ta=25°C, Vdd=5.0V	---	9.5	---	mA
Supply Voltage for EL	Vf	Ta=25°C	---	110	---	V

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	144.0×104.0×10.0/15.0	LC Fluid	STN (Yellow-green, Gray, Blue), FSTN
Viewing Area(W×H)	114.0×64.0	Polarizer	Reflective, Transflective, Transmissive
Dot Size(W×H)	0.40×0.40	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.45×0.45	Display Type	Positive or Negative
Dots×Dots	240×128	Backlight	LED (Optional)
		Operating Temp.	0°C~50°C or -20°C~70°C
		Controller	T6963C or Equivalent

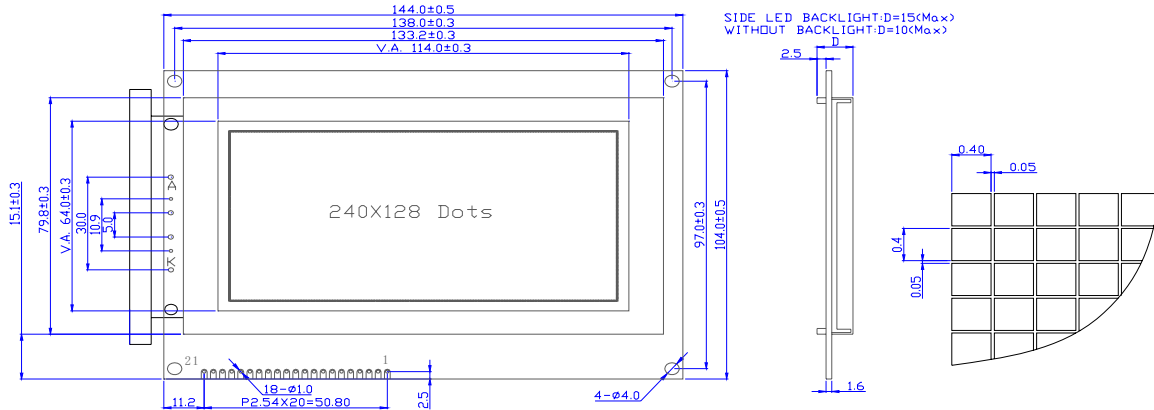
◆INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	FG	Frame ground	8	C/D	Register selection (H:Data, L:Instruction)
2	Vss	Ground for logic	9	/RES	Reset signal
3	Vdd	Power supply for logic	10~17	DB0~DB7	Data bus lines
4	Vee	Power supply for LCD	18	FS	Font selection
5	/WR	Write enable		A	Anode of LED
6	/RD	Read enable		K	Cathode of LED
7	/CE	Enable signal for IC			

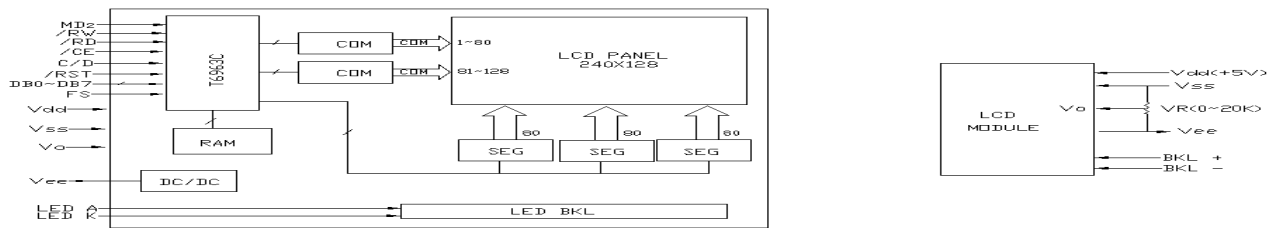
◆ELECTRICAL CHARACTERISTICS

Item	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Operating Voltage	Vdd	Ta=25°C	4.5	5.0	5.5	V
Operating Voltage for LCD	Vled	Ta=25°C	---	12	---	V
Supply Current	Idd	Ta=25°C, Vdd=5.0V	---	9.5	---	mA
Supply Voltage for LED	Vf	Ta=25°C	---	4.1	---	V
Supply Current for LED	If	Ta=25°C, Vf=4.1V	---	300	---	mA

◆OUTLINE DIMENSION



◆BLOCK DIAGRAM & POWER SUPPLY



◆MECHANICAL SPEC. & FEATURES

Item	Dimension(mm)	Features	
Module Size(W×H×T)	144.0×104.0×MAX15	LC Fluid	TN,STN (Yellow-green,Gray, Blue),FSTN
Viewing Area(W×H)	114.0×64.0	Polarizer	Reflective,Transflective,Transmissive
Dot Size(W×H)	0.40×0.40	View Angle	6:00 o'clock or 12:00 o'clock
Dot Pitch(W×H)	0.45×0.45	Display Type	Positive or Negative
Dot* Dot	240 × 128	Backlight	LED OR CCFL
		Operating Temp.	-20℃~+70℃
		Controller	T6963C or Equivalent

◆INTERFACE PIN CONNECTIONS

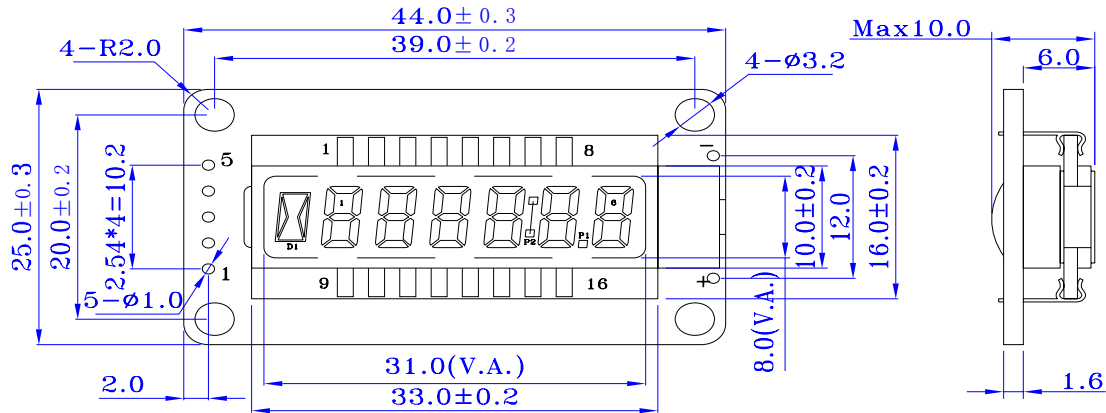
Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	Vss	Ground for logic	15	CE	Enable Signal
2	Vdd	Power supply for logic	16	/RST	Reset signal
3	Vo	Power supply for LCD	17	Vee	Negative Voltage
4	C/D	Register Selection	18	MD2	Columns Selection
5	/RD	Read Signal	19	FS	Font Selection
6	/WR	Write Signal	20	SLA	backlight(+)
7~14	DB0~DB7	Data bus lines	21	SLK	backlight(-)

◆ELECTRICAL CHARACTERISTICS

Item	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Operating Voltage	Vdd	Ta=25℃	---	5.0	---	V
Operating Voltage for LCD	Vlcd	Ta=25℃	---	18.5	---	V
Supply Current	Idd	Ta=25℃, Vdd=5.0V	---	4.0	8.0	mA
Supply Voltage for LED	Vf	Ta=25℃, R=7.2Ω	---	4.2	---	V
Supply Current for LED	If	Ta=25℃, Vf=4.2V	---	200	---	mA

GOLDEN VIEW DISPLAY

GVDDM1621-804



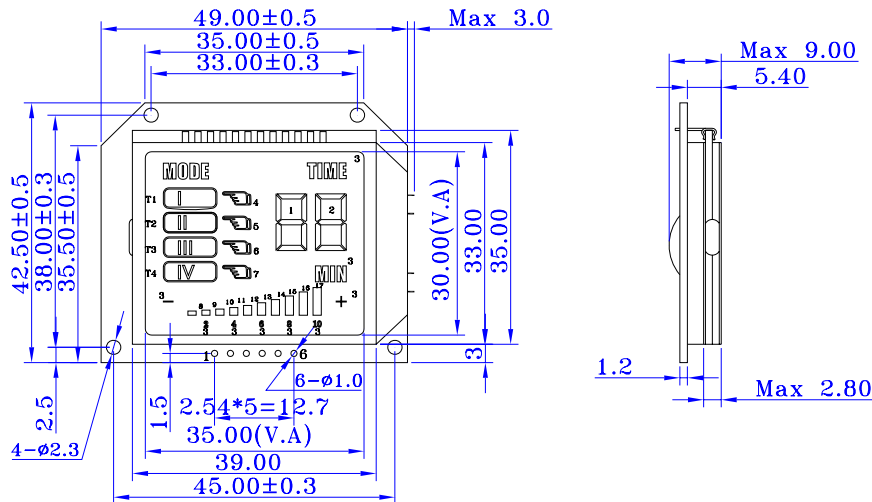
FEATURES:

1. DISPLAY MODE: TN, TRANSFLECTIVE
2. VIEW ANGLE: 12:00
3. OPERATING VOLTAGE: 5V
4. OPERATING TEMP: -30°C ~ 80°C
5. STORAGE TEMP: -40°C ~ 85°C
6. BACKLIGHT: LED SIDE BACKLIGHT (YELLOW-GREEN)
7. DRIVER: HT1621 OR EQUIVALENT

TOLERANCES UNLESS OTHERWISE SPECIFIED ±0.2

PIN	1	2	3	4	5
SIGNAL	/CS	/RW	DATA	VSS	VDD

GVDDM1621-806



FEATURES:

1. DISPLAY MODE: TN, TRANSMISSIVE
2. VIEW ANGLE: 6:00
3. OPERATING VOLTAGE: 5V
4. OPERATING TEMP: -25°C ~ 70°C
5. STORAGE TEMP: -30°C ~ 80°C
6. BACKLIGHT: LED SIDE BACKLIGHT (BLUE)
7. DRIVER: HT1621 OR EQUIVALENT

TOLERANCES UNLESS OTHERWISE SPECIFIED ±0.2

PIN	1	2	3	4	5	6
SIGNAL	VDD	VSS	DATA	/RW	/CS	VLED

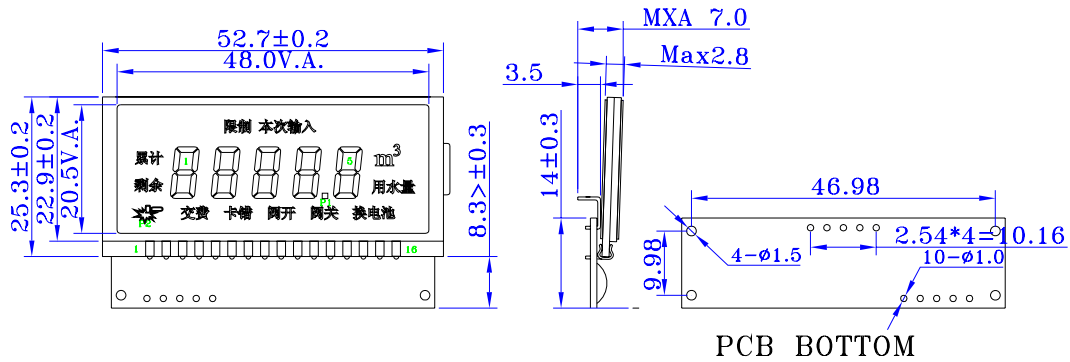
GOLDEN VIEW DISPLAY, INC.

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Phone: (239) 332-8868 Fax: (239) 590-6066 Email: sales@goldenviewdisplay.com

GOLDEN VIEW DISPLAY

GVDDM1621-807



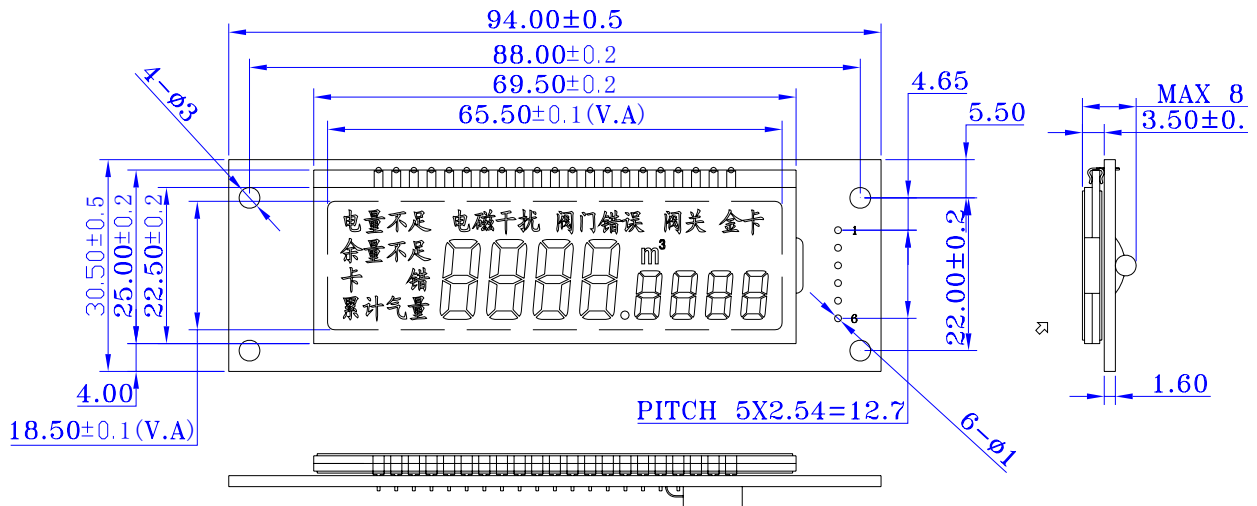
FEATURES:

1. DISPLAY MODE: TN, REFLECTIVE
2. VIEW ANGLE: 6:00
3. OPERATING VOLTAGE: 3.6V
4. OPERATING TEMP: -10°C ~ 50°C
5. STORAGE TEMP: -20°C ~ 60°C
6. WITHOUT BACKLIGHT
7. DRIVER: HT1621 OR EQUIVALENT

TOLERANCES UNLESS OTHERWISE SPECIFIED ±0.2

PIN	1	2	3	4	5
SIGNAL	VDD	VSS	DATA	/RW	/CS

GVDDM1621-823



FEATURES:

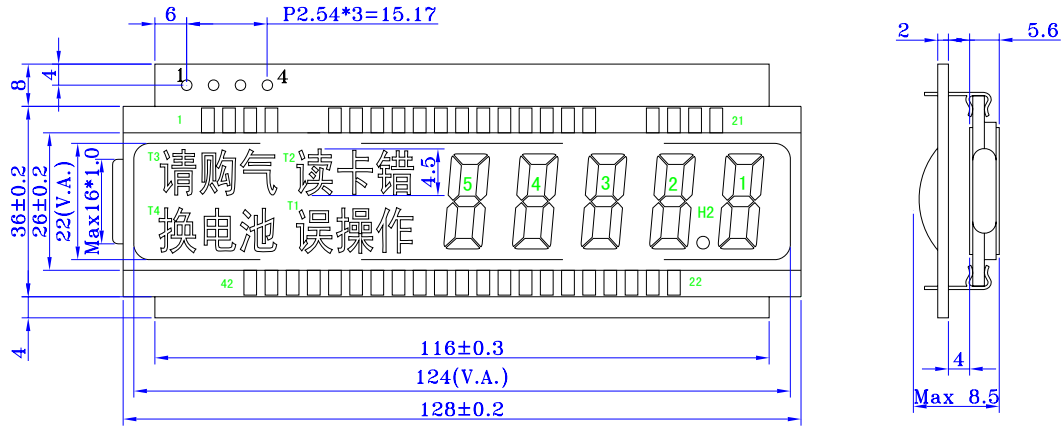
1. DISPLAY MODE: TN, REFLECTIVE
2. VIEW ANGLE: 6:00
3. OPERATING VOLTAGE: 3.6V
4. OPERATING TEMP: -10°C ~ 50°C
5. STORAGE TEMP: -20°C ~ 60°C
6. WITHOUT BACKLIGHT
7. DRIVER: HT1621 OR EQUIVALENT

TOLERANCES UNLESS OTHERWISE SPECIFIED ±0.2

PIN	1	2	3	4	5	6
SIGNAL	/CS	/RW	DATA	VSS	VLCD	VDD

GOLDEN VIEW DISPLAY

GVDDM7065-825



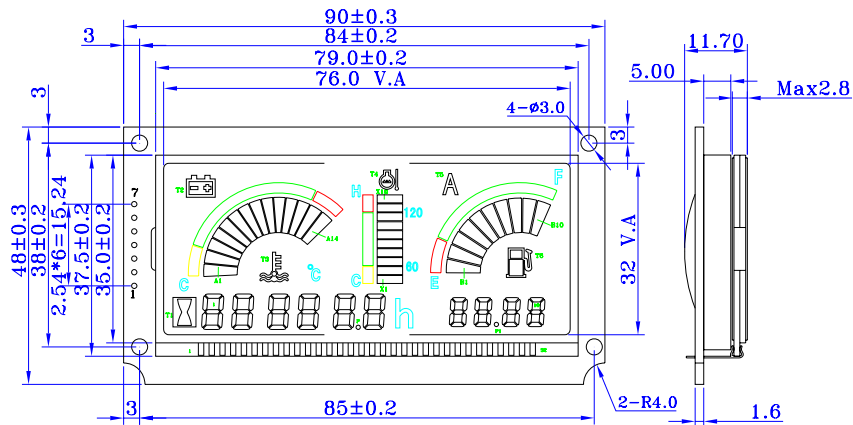
FEATURES:

1. DISPLAY MODE: TN, REFLECTIVE
2. VIEW ANGLE: 12:00
3. OPERATING VOLTAGE: 3.0~5.5V
4. OPERATING TEMP: -10°C ~ 50°C
5. STORAGE TEMP: -20°C ~ 60°C
6. WITHOUT BACKLIGHT
7. DRIVER: KS0065 OR EQUIVALENT

TOLERANCES UNLESS OTHERWISE SPECIFIED ±0.2

PIN	1	2	3	4
SIGNAL	VDD	VSS	DI	SLK

GVDDM1621-831



FEATURES:

1. DISPLAY MODE: STN GRAY, TRANSLUCTIVE
2. VIEW ANGLE: 6:00
3. OPERATING VOLTAGE: 5.0V
4. OPERATING TEMP: -30°C ~ 80°C
5. STORAGE TEMP: -40°C ~ 85°C
6. BACKLIGHT: LED BOTTOM BACKLIGHT (YELLOW-GREEN)
7. DRIVER: HT1621 OR EQUIVALENT

TOLERANCES UNLESS OTHERWISE SPECIFIED ±0.2

PIN	1	2	3	4	5	6	7
SIGNAL	/CS	/RW	DATA	VSS	VDD	A	K

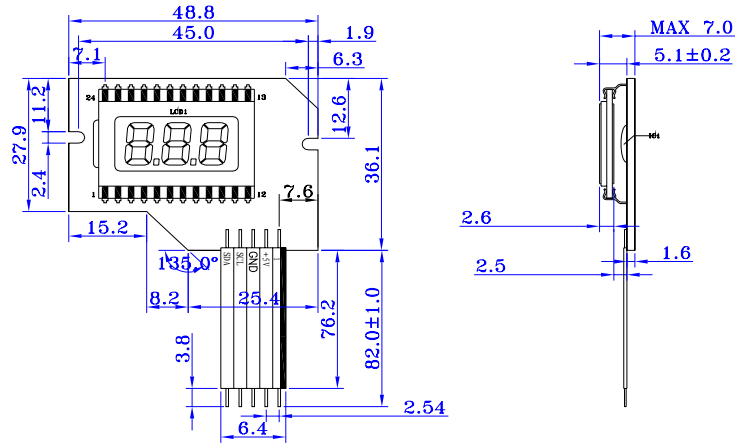
GOLDEN VIEW DISPLAY, INC.

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GOLDEN VIEW DISPLAY

GVDDM8566-841



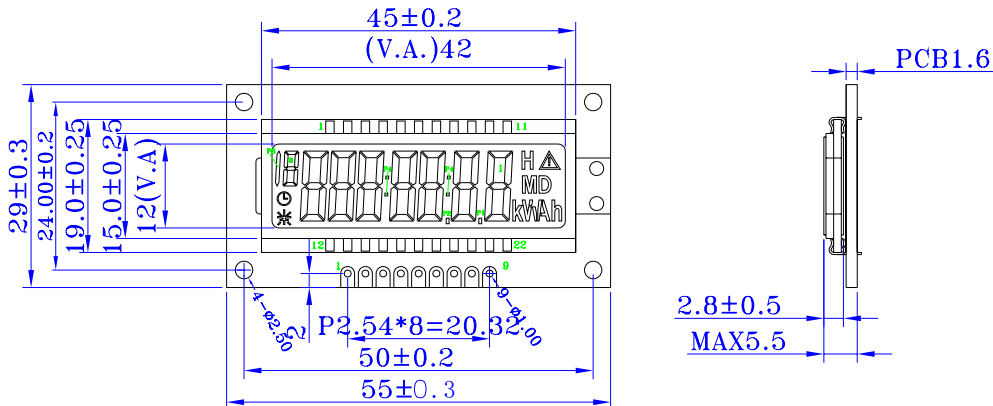
FEATURES:

1. DISPLAY MODE: TN, REFLECTIVE
2. VIEW ANGLE: 6:00
3. OPERATING VOLTAGE: 5.0V
4. OPERATING TEMP: -10°C ~ 60°C
5. STORAGE TEMP: -20°C ~ 70°C
6. WITHOUT BACKLIGHT
7. DRIVER: PCF8566 OR EQUIVALENT

TOLERANCES UNLESS OTHERWISE SPECIFIED ±0.2

PIN	1	2	3	4	5
SIGNAL	NC	VDD	VSS	SCL	SDA

GVDDM1621-868



FEATURES:

1. DISPLAY MODE: TN, REFLECTIVE
2. VIEW ANGLE: 6:00
3. OPERATING VOLTAGE: 3.0V
4. OPERATING TEMP: -20°C ~ 80°C
5. STORAGE TEMP: -30°C ~ 85°C
6. BACKLIGHT: NC
7. DRIVER: HT1621 OR EQUIVALENT

TOLERANCES UNLESS OTHERWISE SPECIFIED ±0.2

PIN	1	2	3	4	5	6	7	8	9
SIGNAL	/CS	/RD	/RW	DATA	VSS	VDD	NC	A	K

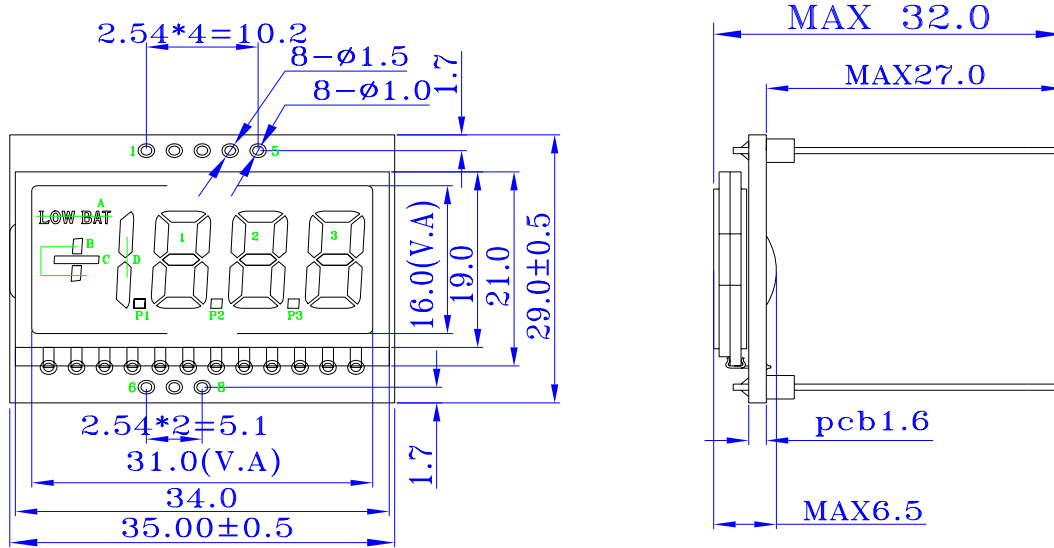
GOLDEN VIEW DISPLAY, INC.

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Phone: (239) 332-8868 Fax: (239) 590-6066 Email: sales@goldenviewdisplay.com

GOLDEN VIEW DISPLAY

GVDDM1621-875



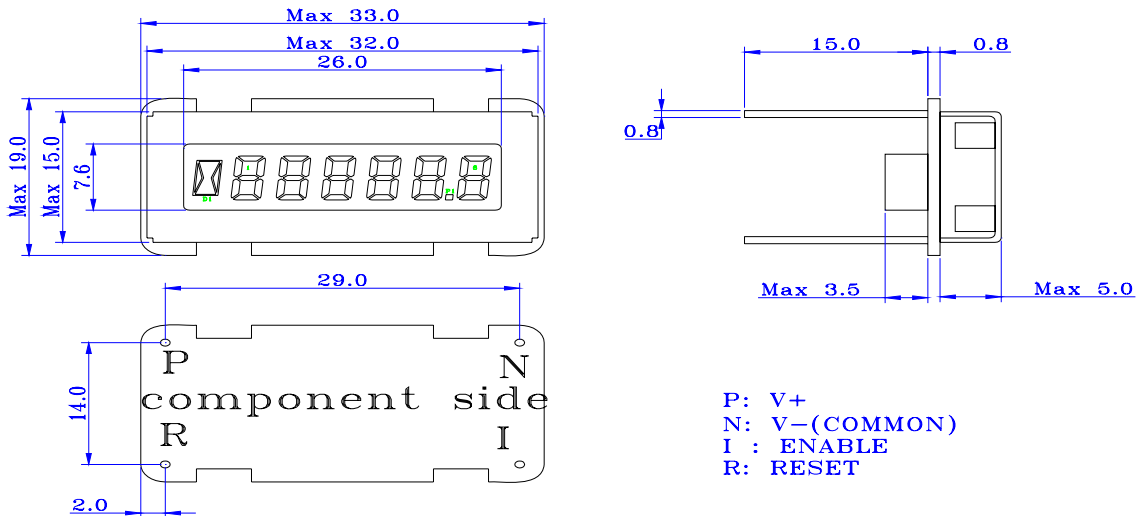
FEATURES:

1. DISPLAY MODE: TN, REFLECTIVE
2. VIEW ANGLE: 6:00
3. OPERATING VOLTAGE: 3.0V~5.0V
4. OPERATING TEMP: -10°C ~ 50°C
5. STORAGE TEMP: -20°C ~ 60°C
6. BACKLIGHT: NC
7. DRIVER: HT1621 OR EQUIVALENT

TOLERANCES UNLESS OTHERWISE SPECIFIED ±0.2

PIN	1	2	3	4	5	6	7	8
SIGNAL	/CS	/RW	DATA	VSS	VDD	A	CTR	K

GVDDM700



FEATURES:

1. DISPLAY MODE: TN, REFLECTIVE
2. VIEW ANGLE: 6:00
3. OPERATING VOLTAGE: 4.0VDC~12.0VDC
4. OPERATING TEMP: 40°C ~ 85°C
5. STORAGE TEMP: -50°C ~ 90°C
6. BACKLIGHT: NC
7. DRIVER: W541E260 OR EQUIVALENT
8. NONVOLATILE MEMORY EEPROM BUILT-IN

TOLERANCES UNLESS OTHERWISE SPECIFIED ±0.2

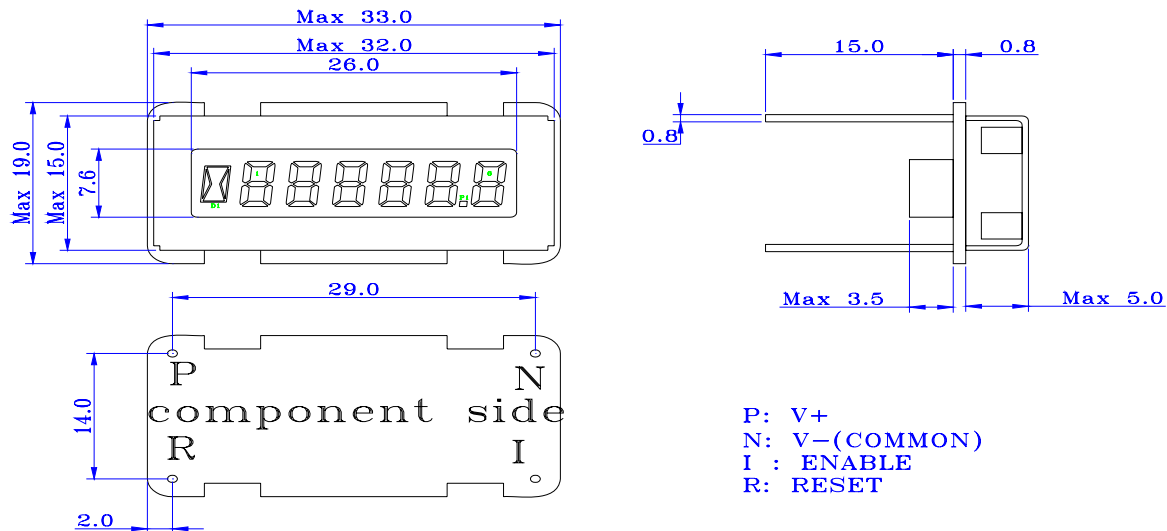
GOLDEN VIEW DISPLAY, INC.

8460 Southwind Bay Circle, Fort Myers, Florida 33908

Phone: (239) 332-8868 Fax: (239) 590-6066 Email: sales@goldenviewdisplay.com

GOLDEN VIEW DISPLAY

GVDDM17075

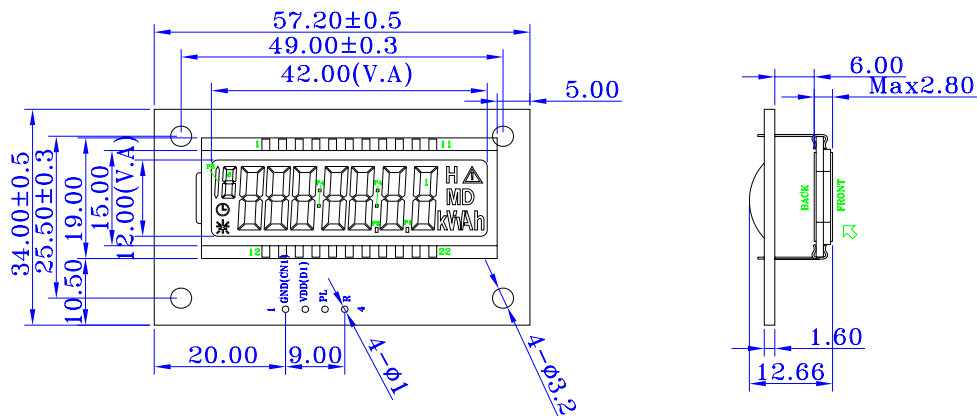


FEATURES:

1. DISPLAY MODE: TN, REFLECTIVE
2. VIEW ANGLE: 6:00
3. OPERATING VOLTAGE: 9.0V~60V DC OR 15V~75V AC
4. OPERATING TEMP: 40°C ~ 85°C
5. STORANE TEMP: -50°C ~ 90°C
6. BACKLIGHT: NC
7. DRIVER: W541E260 OR EQUIVALENT
8. NONVOLATILE MEMORY EEPROM BUILT-IN

TOLERANCES UNLESS OTHERWISE SPECIFIED ±0.2

GVDDM54-848



FEATURES:

1. DISPLAY MODE: TN, REFLECTIVE
2. VIEW ANGLE: 6:00
3. OPERATING VOLTAGE: 5.0V
4. OPERATING TEMP: -20°C ~ 80°C
5. STORANE TEMP: -30°C ~ 85°C
6. BACKLIGHT: NC
7. DRIVER: W541E260 OR EQUIVALENT
8. NONVOLATILE MEMORY EEPROM BUILT-IN

TOLERANCES UNLESS OTHERWISE SPECIFIED ±0.2

PIN	1	2	3	4
SIGNAL	VSS	VDD	PL	R

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CHECK POINTS OF CUSTOMIZED LCM

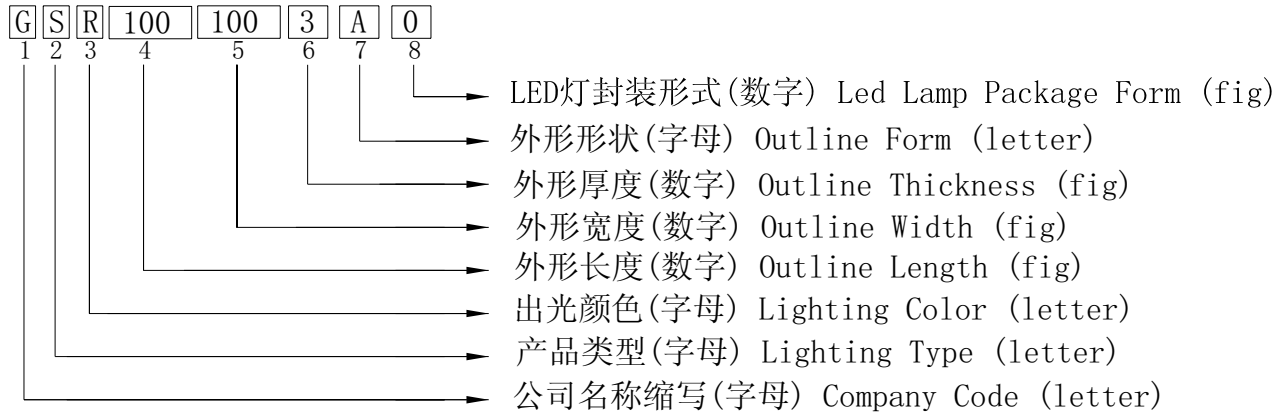
Customer Information 客户信息	Company 公司:			Contact 联系人:		
	E-mail 邮件:		Website 网站:		Tel 电话:	
	Application 产品应用:			Fax 传真:		
Schedule 计划	Item 项目	Specification 图纸规格	Prototypes 样品	Production 批量	Monthly Quantity 月用量	Total Quantity 总量
	Date 日期					
	Quantity 数量					
Dimensions 尺寸						
	Item 项目	Size 尺寸	Item 项目	Size 尺寸	Item 项目	Size 尺寸
	Module Size 模块外形	A	Viewing Area 视区	G	Mounting Hole 装配孔位	K
		B		H		L
		R		I		M
	LCD Holder 框外形	C	Holder Highness 高度	J	Hole Quantity 孔数	N
D		Q		O		
E		PCB Thickness 线路板厚度	S	Hole Diameter 孔直径	P	
	F			Unit 单位	<input type="checkbox"/> mm <input type="checkbox"/> inch	
Display Contents 显示内容	<p>1CHA. → a CHA. Display Format: <input type="checkbox"/>Character type 字符 [a=]Chars 字数 X [b=]Lines 行数</p> <p>显示格式 <input type="checkbox"/>Graphic Type 图形 [c=]Dots 点数 X [d=]Dots 点数</p> <p>Character Font 字形: [e=]Dots 点 X [d=]Dots 点</p> <p>Character Size 字尺寸: [W=] X [H=]mm</p> <p>Character Pitch 字间距: [j=] X [i=]mm</p> <p>Dot Size 点尺寸: [e=] X [g=]mm</p> <p>Dot Pitch 点间距: [f=] X [h=]mm</p>					
LCD Panel 液晶屏	<input type="checkbox"/> TN <input type="checkbox"/> HTN <input type="checkbox"/> STN Yellow-Green <input type="checkbox"/> STN Gray <input type="checkbox"/> STN Blue <input type="checkbox"/> FSTN B/W					
	Viewing Angle 视角: <input type="checkbox"/> 12:00 (from Up-Side,从向上看) <input type="checkbox"/> 6:00 (from Down-Side,从下向上看) <input type="checkbox"/> Others 其它:					
	Display Mode 显示模式: <input type="checkbox"/> Positive Image 正显 <input type="checkbox"/> Negative Image 负显					
	Polarizer Mode 偏光片模式: <input type="checkbox"/> Reflective 反射式 <input type="checkbox"/> Transflective(Semi-Transmissive)半透式 <input type="checkbox"/> Transmissive 全透式					
Backlight 背光	<input type="checkbox"/> With 有 <input type="checkbox"/> Without 无 Type 类型: <input type="checkbox"/> LED Array 底背光 <input type="checkbox"/> LED Edge 侧背光 <input type="checkbox"/> EL <input type="checkbox"/> CCFL <input type="checkbox"/> Others 其它: Color 颜色: _____ Backlight Current Consumption 背光功耗电流 _____mA Inverter built-in 是否带逆变器: <input type="checkbox"/> Yes 是 <input type="checkbox"/> No 否					
	IC 驱动控制器 Driver IC _____ Segment _____ Common _____ Controller _____ [Attached type [Built-in type					
Power Supply & Consumption 电源及功耗	Logic Operating Voltage 逻辑工作电压 Vop= _____V; Power Consumption Current 功耗电流: Ipd= _____mA					
Connect Method 连接方式	LCD Connect Method 液晶屏连接方式: <input type="checkbox"/> Rubber 导电胶条 <input type="checkbox"/> Heat-Seal 热压 <input type="checkbox"/> Pin 金属管脚 Module Connect Method 模块连接方式:					
Temperature Range 温度范围	Operating Temperature 工作温度: _____ deg C~ _____ deg C Storage Temperature 储存温度: _____ deg C~ _____ deg C					
Other Requirements 其他要求						

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LED BACKLIGHT PART NUMBER SYSTEM



1. 公司名称缩写 Company Code

G - Golden View Display

2. 产品类型 Lighting Type

S-侧背光 Side Backlight

B-底背光 Bottom Backlight

3. 出光颜色 Lighting Color

R - 红色 Red

O - 橙色 Orange

A - 琥珀色 Amber

Y - 黄色 Yellow

YG - 黄绿色 Yellow Green

G - 绿色 Green

B - 蓝色 Blue

W - 白色 White

RGB - 多色 Multi Colored

4. 外形长度 Outline Length

10 - 10~10.9mm

100 - 100~100.9mm

199 - 199~199.9mm

5. 外形宽度 Outline Width

10 - 10~10.9mm

100 - 100~100.9mm

199 - 199~199.9mm

6. 外形厚度 Outline Thickness

1 - 1.0~1.9mm

5 - 5.0~5.9mm

9 - 9.0~9.9mm

7. 外形形状 Outline Form

A-矩形平板式(单侧) Rectangle flat(Sigle Side)

B-矩形平板式(双侧) Rectangle flat(Double Side)

C-矩形平板带柱(单侧) Rectangle flat with pole(Sigle Side)

D-矩形平板带柱(双侧) Rectangle flat with pole(Double Side)

E-异形结构 Especial configuration

8. LED灯封装形式 Led Lamp Package Form

0-芯片 Led chip

1-圆形灯 Round led lamp

2-方形灯 Rectangle led lamp

3-贴片灯 Surface mount chip led

GOLDEN VIEW DISPLAY

SIDE TYPE LED BACKLIGHT LIST

LED SIDE BACKLIGHT

NO	FORM	MODEL	OUTLINE DIMENSION (mm)			LIGHTING AREA (mm)		COLOR	VOLTAGE (VF)	LED NO
			Length	Width	Height	Length	Width			
1	SIDE	GSA166663B0	166.8	66.0	3.3	151.0	66.0	Amber	2.2	2*5
2	SIDE	GSW153623A1	153.0	62.0	3.3	141.5	62.0	White	3.0	6
3	SIDE	GSW153853A1	153.0	85.0	3.3	141.0	85.0	White	3.0	6
4	SIDE	GSW194833B1	194.0	83.5	3.3	174.0	83.0	White	3.0	2*7
5	SIDE	GSW167933B1	167.8	93.0	3.3	150.0	93.0	White	3.0	2*8
6	SIDE	GSW152933A1	152.2	93.0	3.3	140.5	93.0	White	3.0	7
7	SIDE	GSW185973B1	185.0	97.0	3.3	165.0	97.0	White	3.0	2*9
8	SIDE	GSW160763B1	160.0	76.0	3.3	140.0	76.0	White	3.3	2*6
9	SIDE	GSW167173B1	167.8	17.0	3.3	150.0	17.0	White	3.3	2*2
10	SIDE	GSW92813A1	92.0	81.0	3.3	80.5	81.0	White	3.3	5
11	SIDE	GSW78683A1	78.0	68.0	3.3	67.0	78.0	White	3.3	4
12	SIDE	GSW90333A1	90.0	33.0	3.3	81.5	33.0	White	3.3	4
13	SIDE	GSW71333A1	71.0	33.0	3.3	62.5	33.0	White	3.3	3
14	SIDE	GSW131593A1	131.0	59.0	3.3	125.0	59.0	White	3.3	3
15	SIDE	GSW87463A1	87.0	46.0	3.3	79.0	46.0	White	3.3	4
16	SIDE	GSW88293A1	88.5	29.0	3.3	82.0	29.0	White	3.3	2
17	SIDE	GSW81363A1	81.5	36.0	3.5	72.0	36.0	White	3.3	2
18	SIDE	GSW126423B1	126.0	42.8	3.3	116.0	42.8	Blue	3.3	2*4
19	SIDE	GSW164223B1	164.5	22.5	3.3	153.0	22.5	White	3.2	2*2
20	SIDE	GSW90623A1	90.0	62.5	3.3	80.5	62.5	White	3.3	3
21	SIDE	GSW75512A0	75.0	51.5	2.5	67.0	51.5	White	3.3	2
22	SIDE	GSB119822A0	119.8	82.8	2.5	107.0	82.8	Blue	3.3	6
23	SIDE	GSB70293A0	70.1	29.0	3.3	64.0	29.0	Blue	3.3	4
24	SIDE	GSB55309A0	55.0	30.0	9.0	50.0	30.0	Blue	3.3	4
25	SIDE	GSG68173B0	68.0	17.0	3.3	58.5	17.0	Green	3.3	2*3
26	SIDE	GSG105543A0	105.0	54.0	3.3	98.0	54.0	Green	3.3	2
27	SIDE	GSRA124923A0	124.0	92.0	2.5	116.6	92.0	Red/Amber	2.2/2.2	R:8:8
28	SIDE	GSB112363B0	112.0	36.0	3.3	104.0	36.0	Blue	2.2	2*2
29	SIDE	GSB45271A0	45.0	27.5	1.8	45.0	21.0	Blue	3.3	2
30	SIDE	GSYG118733A0	118.5	73.0	3.3	113.0	73.0	Yellow Green	2.2	12
31	SIDE	GSA83753A0	83.0	75.0	2.5	68.0	81.0	Amber	2.2	8
32	SIDE	GSW77263A1	77.5	26.0	3.3	69.0	26.0	White	3.3	2
33	SIDE	GSW74203A2	74.0	20.5	3.0	67.0	20.5	White	3.3	1
34	SIDE	GSRW42303E3	42.0	30.0	3.3	42.0	20.0	Red/White	2.2/3.3	R:4 W:4

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GOLDEN VIEW DISPLAY BOTTOM TYPE LED BACKLIGHT LIST

LED BOTTOM BACKLIGHT

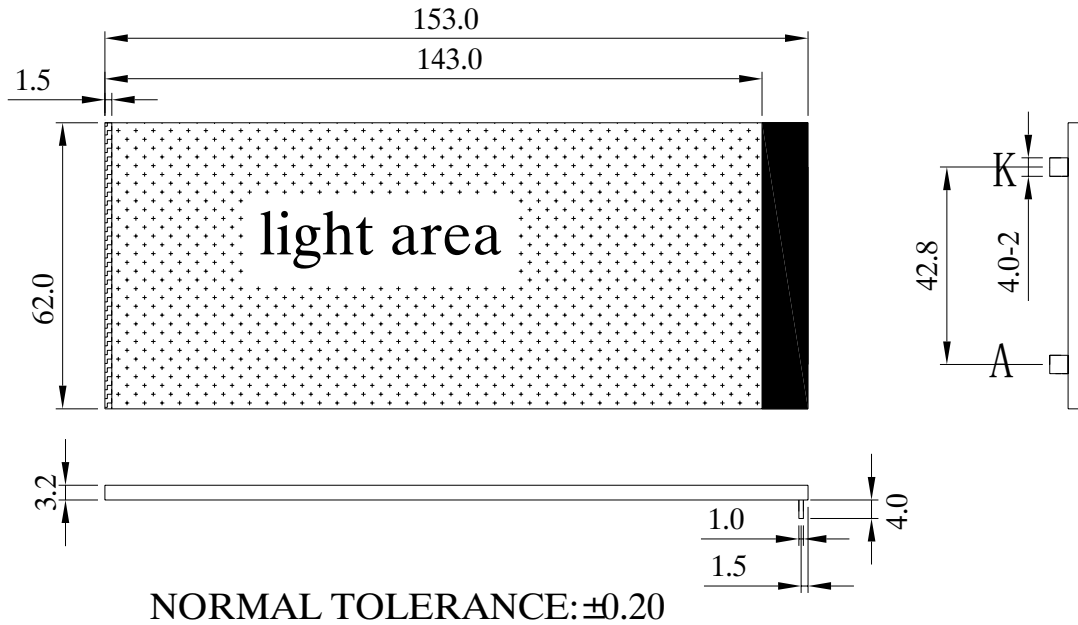
NO	FORM	MODEL	OUTLINE DIMENSION (mm)			VIEWING AREA (mm)		COLOR	VOLTAGE (VF)	LED NO
			Length	Width	Height	Length	Width			
1	BOTTOM	GBYG68205A0	68.0	20.5	4.5	66.0	17.5	Yellow Green	4.2	22
2	BOTTOM	GBYG159235A0	159.4	23.0	5.8	156.0	20.0	Yellow Green	4.2	44
3	BOTTOM	GBYG155285A0	154.8	27.8	5.8	150.8	23.8	Yellow Green	4.2	72
4	BOTTOM	GBYG104285A0	104.0	28.0	5.0	101.0	25.0	Yellow Green	4.2	48
5	BOTTOM	GBYG69184A0	69.0	18.0	4.5	66.0	16.0	Yellow Green	4.2	22
6	BOTTOM	GBYG129275A0	129.4	27.0	5.4	125.6	23.1	Yellow Green	4.2	36
8	BOTTOM	GBYG42205A0	42.0	20.0	5.0	40.0	17.0	Yellow Green	4.2	14
9	BOTTOM	GBYG74355A0	74.0	35.5	4.8	69.5	31.0	Yellow Green	4.2	44
10	BOTTOM	GBYG82295A0	82.8	29.8	5.0	78.8	27.8	Yellow Green	4.2	36
11	BOTTOM	GBYG104165A0	104.0	16.0	5.0	102.0	14.0	Yellow Green	4.2	36
12	BOTTOM	GBYG79365A0	79.0	36.0	5.0	76.0	32.0	Yellow Green	4.2	60
13	BOTTOM	GBYG89245A0	89.0	24.0	5.0	85.0	20.0	Yellow Green	4.2	36
15	BOTTOM	GBYG54276A0	54.7	27.0	6.0	50.7	25.0	Yellow Green	4.2	24
16	BOTTOM	GBYG57185A0	57.8	18.8	5.0	54.8	15.8	Yellow Green	4.2	18
17	BOTTOM	GBYG65385A0	65.0	38.0	5.0	62.0	35.0	Yellow Green	4.2	50

GOLDEN VIEW DISPLAY, INC.

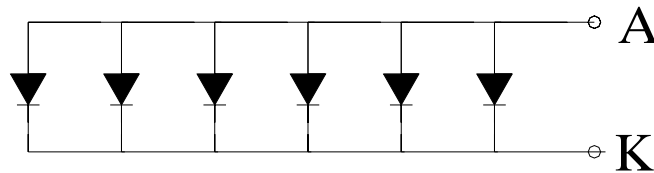
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◆ 外形尺寸图 PACKAGE DIMENSIONS



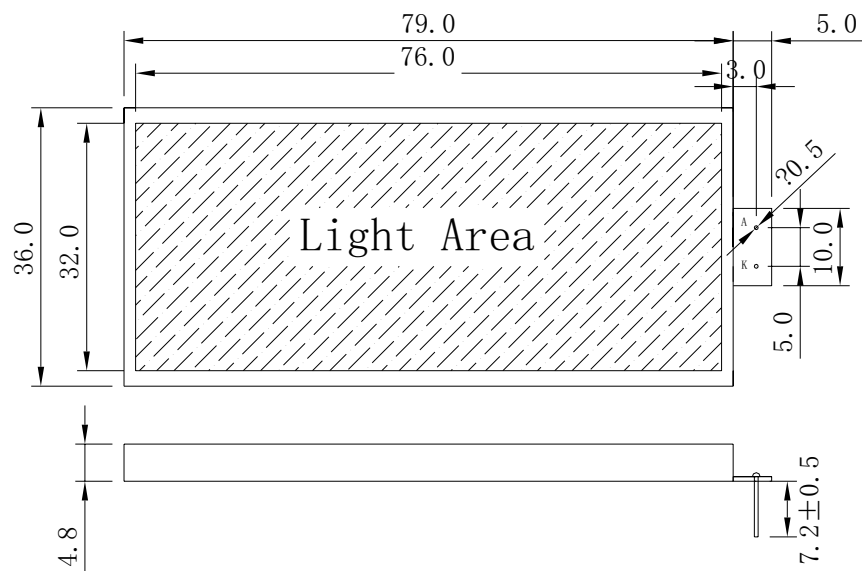
◆ 电路原理图 INTERNAL CIRCUIT DIAGRAM (LED 6 DIES)



◆ 光电参数 OPTOELECTRIC CHARACTERISTICS RATING (Ta=25°C)

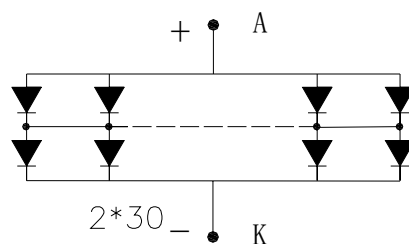
参数名称 PARAMETER	符号 SYMBOL	最小值 MIN	典型值 TYP	最大值 MAX	单位 UNIT	测试条件 TEST CONDITION
正向电压 Forward Voltage	VF	3.0	3.2	3.5	V	IF=120mA
反向电流 Reverse Current	IR	—	—	60	uA	VR=5V
发光强度 Luminous Intensity	IV	180	—	—	cd/m ²	IF=120mA
主波长 Dominant Wavelength	λd	465	468	470	nm	
光谱半宽度 Spectral Line Half Width	Δλ	—	25	—	nm	

◆ 外形尺寸图 PACKAGE DIMENSIONS



NORMAL TOLERANCE: ±0.20

◆ 电路原理图 INTERNAL CIRCUIT DIAGRAM (LED 2*30 DIES)



◆ 光电参数 OPTOELECTRIC CHARACTERISTICS RATING (Ta=25°C)

参数名称 PARAMETER	符号 SYMBOL	最小值 MIN	典型值 TYP	最大值 MAX	单位 UNIT	测试条件 TEST CONDITION
正向电压 Forward Voltage	V _F	—	4.2	4.5	V	I _F =300mA
反向电流 Reverse Current	I _R	—	—	150	uA	V _R =10 V
发光强度 Luminous Intensity	I _V	200	—	—	cd/m ²	I _F =300 mA
主波长 Dominant Wavelength	λ _d	570	572	575	nm	
光谱半宽度 Spectral Line Half Width	Δλ	—	30	—	nm	

Customer Information 客户信息	Company 公司:			Contact 联系人:				
	E-mail 邮件:		Website 网站:		Tel 电话:			
	Application 产品应用:				Fax 传真:			
Schedule 计划	Item 项目	Specification 图纸规格	Sample 样品	Mass Production 批量	Monthly Qty 月用量	Total Qty 总量		
	Qty/Date 数量/日期							
Outline Dimensions 外形尺寸								
	Item 项目	Size 尺寸		Item 项目	Size 尺寸			
	Outline Length 外形长度	A		Lighting Length 可视区长度	D			
	Outline Width 外形宽度	B		Lighting Width 可视区宽度	E			
	Outline Thickness 外形厚度	C		Pin Space 引脚间距	Y			
Pin Dimensions 引脚尺寸	F:	G:	H:	Max. Tolerances 最大公差				
Optoelectric Characteristics 光电参数	Display Type 显示类型	Side Type LED Backlight 侧背光源 <input type="checkbox"/>			Bottom Type LED Backlight 底背光源 <input type="checkbox"/>			
	Display Color 显示颜色	White 白色 <input type="checkbox"/>	Red 红色 <input type="checkbox"/>	Amber 橙色 <input type="checkbox"/>	Yellow 黄色 <input type="checkbox"/>	Yellow-Green 黄绿色 <input type="checkbox"/>	Green 翠绿色 <input type="checkbox"/>	Blue 兰色 <input type="checkbox"/>
	Characteristics Range 参数范围	Luminous Intensity 亮度要求			Drive Voltage 驱动电压			
	Dominant Wavelength 主波长要求			Drive Current 驱动电流				
Temperature Range 温度范围	Operating Temperature 工作温度 :		deg°C	deg°C				
	Storage Temperature 存储温度:		deg°C	deg°C				
Other Requirements 其它要求								