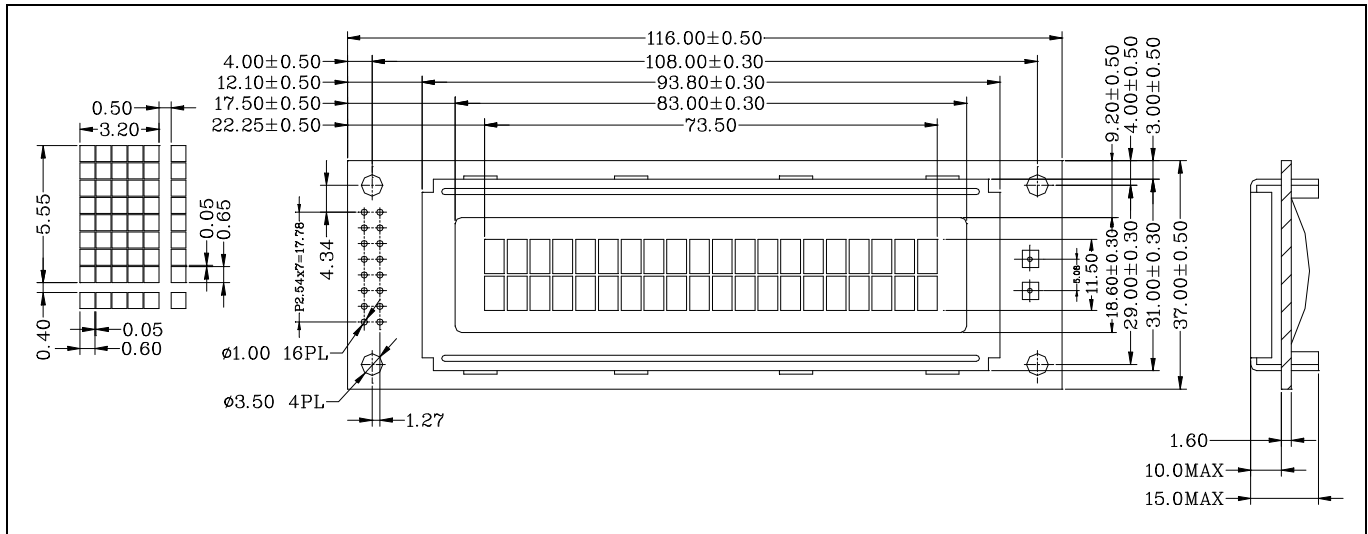




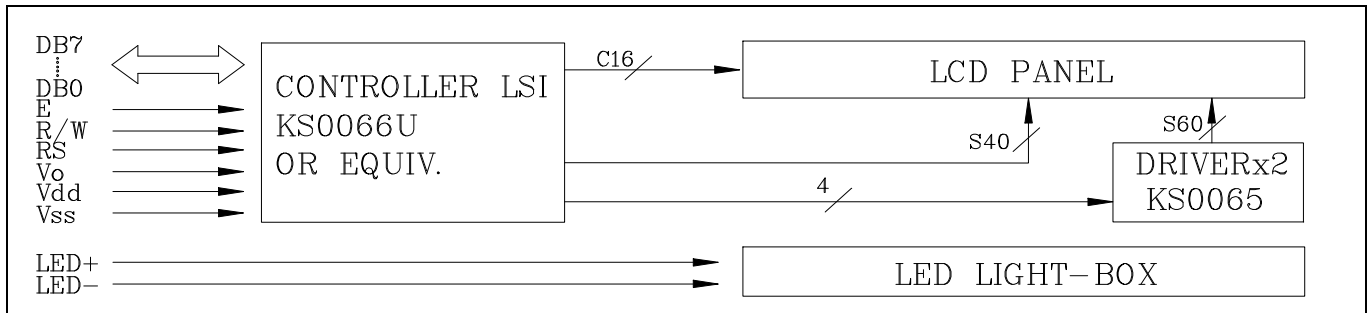
TQL202YPL

20 CHARACTERS x 2 LINES
1/16 DUTY, 1/5 BIAS

EXTERNAL DIMENSIONS



BLOCK DIAGRAM



LED BACKLIGHT SPECIFICATIONS

LED Color : Yellow Green				
Suggested LED Power Supply to PIN 15, 16 5.0V DC	Current Consumption			
	MIN	TYP	MAX	UNIT
	---	120	170	mA

* (With built on board current limited resistor version) *

MECHANICAL DATA

ITEM	DIMENSIONS	UNIT
Module Size (WxH)	116.0 x 37.0	mm
Viewing Area (WxH)	83.0 x 18.6	mm
Character Pitch (WxH)	3.7 X 5.95	mm
Character Size (WxH)	3.2 x 5.55	mm
Character Font	5 x 8	---
Dot Pitch (WxH)	0.65 x 0.70	mm
Dot Size (WxH)	0.60 x 0.65	mm

INTERFACE PIN CONNECTIONS

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
V _{SS}	V _{DD}	V _O	RS	R/W	E	DB0	DB1	DB2	DB3	DB4	DB5	DB6	DB7	A	K

ELECTRICAL CHARACTERISTICS

ITEM	SYMBOL	CONDITION	MIN	TYP	MAX	UNIT
LCD Operating Voltage	V _{DD} - V _O (V _{LCD})	T = -20°C	-	4.9	-	V
		T = 0°C	-	4.8	-	V
		T = 25°C	-	4.7	-	V
		T = 50°C	-	4.6	-	V
		T = 70°C	-	4.2	-	V
Supply Voltage	V _{DD} - V _{SS} (Logic)	-	2.7 ^{*1}	5	5.5	V
Supply Current	I _{DD}	-	-	2	6	mA
Input Voltage	"HIGH" Level, V _{IH}	-	2.2	-	V _{DD}	V
	"LOW" Level, V _{IL}	-	0	-	0.6	V
Output Voltage	"HIGH" Level, V _{OH}	-	2.4	-	-	V
	"LOW" Level, V _{OL}	-	-	-	0.4	V

FEATURE

- STN yellow green LCD
- 6 o'clock viewing angle
- Positive mode
- Transflective type
- Normal temperature operation (0°C to +50°C)
- Array type yellow green LED backlight
- 5 x 7 DOTS with cursor
- Built-in controller (KS0066 OR equivalent)
- 2.7 - 5.5V logic power supply
- 5V LED power supply (with built in limit current resistor)
- 1/16 duty cycle, 1/5 bias
- Standard V_{LCD} series

* Note 1: If input logic voltage is less than LCD operating voltage V_{LCD}, -ve voltage input to V_O is required.