1. Features

The features of LCD are as follows

* Display mode : FSTN/Transflective/Positive/Antiglare
* Drive IC : UC1601S
* Interface Input Data : I^2C Serial
* Driving Method : 1/33Duty, 1/6Bias
* Viewing Direction : 10:30 O'clock
* Backlight : Without

2. MECHANICAL SPECIFICATIONS

Item	Specification	Unit
Module Size 45.86(W) x36(H) x 2.85 (Max) (T) mm		
Number of Dots	64x32 Dots	
Viewing Area	39.86(W) x23(H)	mm
Activity Area	36.44 (W)x19.48 (H)	mm
Dot Size	0.53(W) x 0.57(H)	mm
Dot Pitch	0.57(W) x0.61(H)	mm

3. ELECTRICAL SPECIFICATIONS

3-1 ABSOLUTR MAZIMUM RATINGS (Ta = 25 °C)

Item	Symbol	Standard Value			Unit
		Min.	Typ.	Max.	
Supply Voltage For Logic	$V_{DD} – V_{SS}$	-0.3	-	4.0	V
Supply Voltage For LCD Drive	$V_{OP}= V_{DD} –V_{LCD}$	-0.3	-	13.2	V
Input Voltage	Vin	-0.4	-	V_{DD} +0.3	V
Operating Temp.	Top	-30	-	+85	°C
Storage Temp.	Tst	-40	-	+85	°C

*****. NOTE: The response time will be extremely slow when the operating temperature is around -10℃, and the back ground will become darker at high temperature operating.

3-2 ELECTRICAL CHARACTERISTICS

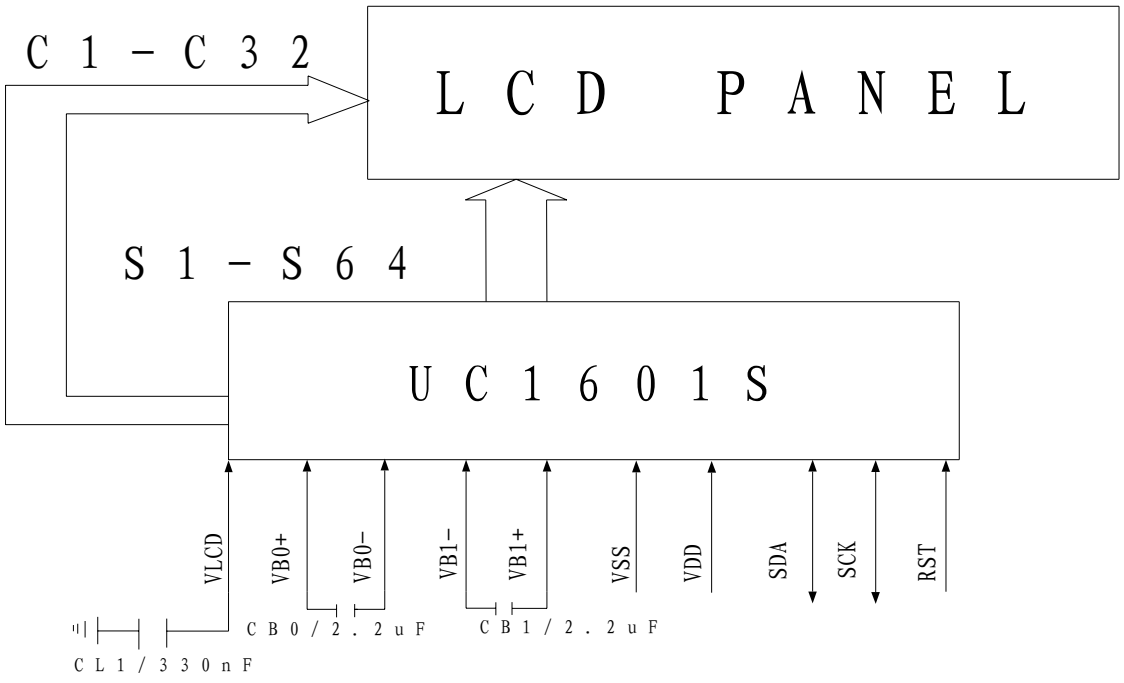
Item		Symbol	Test Condition	Min.	Typ.	Max.	Unit
Logic supply Voltage		$V_{DD} - V_{SS}$	Ta = 25 °C V_{DD}=3V ± 10%	2.7	3.0	3..3	V
LCD Drive Voltage		V_{LCD}		6.1	6.4	6.7	V
Input Voltage	"H" Level	V_{IH}		0.85VDD	-	-	V
	"L" Level	V_{IL}		-	-	0.15VDD	V
Frame Frequency		f_{FLM}		-	64	-	Hz
Current Consumption		I_{DD}		-	0.22	-	mA

4. TERMINAL FUNCTIONS AND BLOCK DIAGRAM

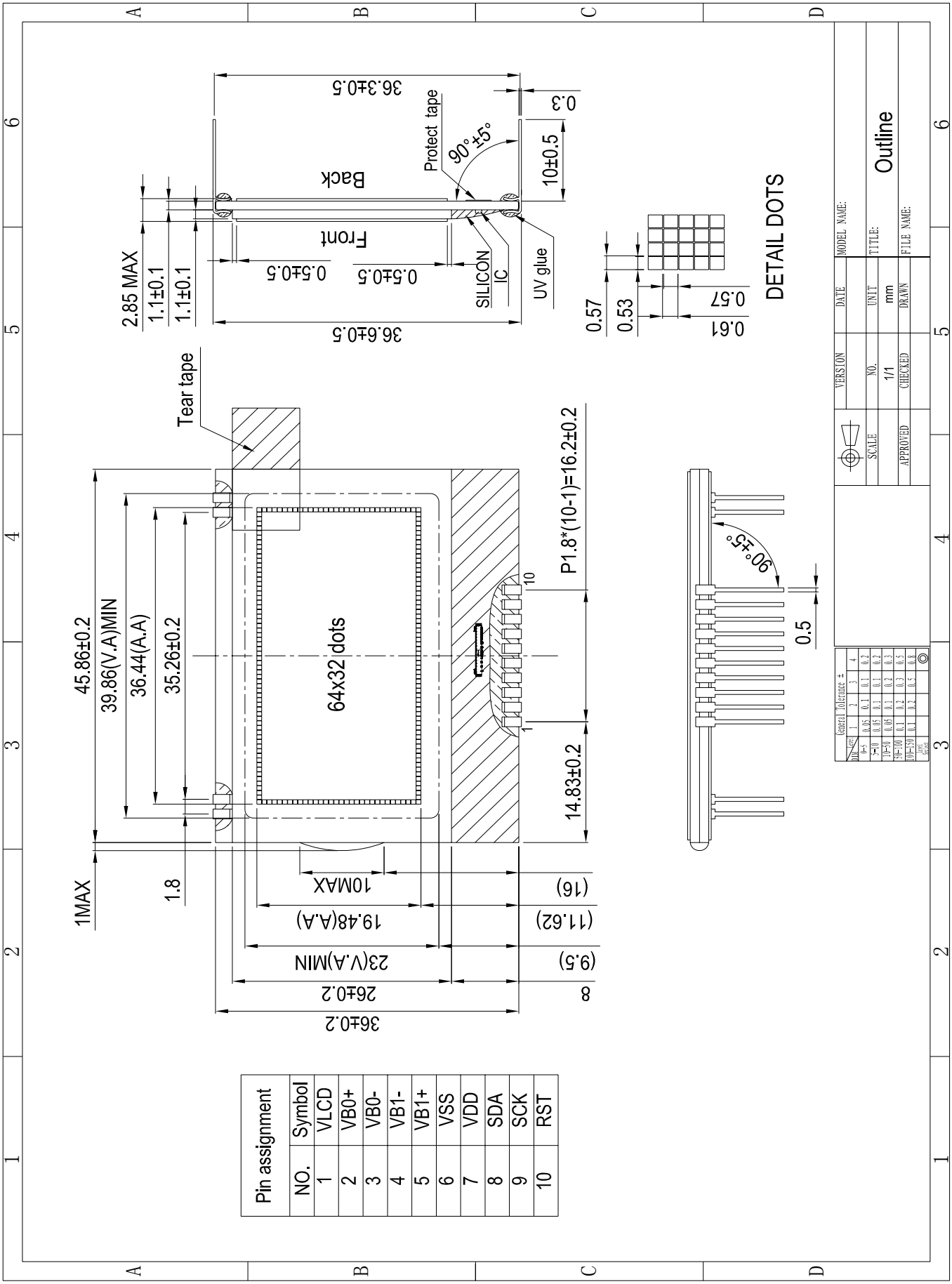
4-1. INTERFACE PIN FUNCTION DESCRIPTION

PIN NO.	SYMBOL	FUNCIONS
1	VLCD	Supply voltage for LCD
2	VB0+	LCD Bias Voltages
3	VB0-	
4	VB1-	
5	VB1+	
6	VSS	Ground (0V)
7	VDD	Supply voltage for logical circuit
8	SDA	Data input for serial mode
9	SCK	Serial clock input for serial mode
10	RST	Reset signal

4-2. BLOCK DIAGRAM



OUTLINE DIMENSION



Pin assignment	
NO.	Symbol
1	VLCD
2	VB0+
3	VB0-
4	VB1-
5	VB1+
6	VSS
7	VDD
8	SDA
9	SCK
10	RST