GENERAL SPECIFICATION

Item	Content
Number of Character	128x64
Module Size	93.0(W)x70.0(H)x9.7/14.5(D)mm Max
Viewing Area	71.7(W)x39.0(H)mm
Dot Size/Dot Pitch	0.50(W)x0.50(H)mm/0.52(W)x0.52(H)mm
Backlight	Without/EL/LED
Options	Gray STN/Yellow STN/Normal/Extended Temperature/Bottom/Top Viewing
Built-in Controller	**KS0108** or compatible

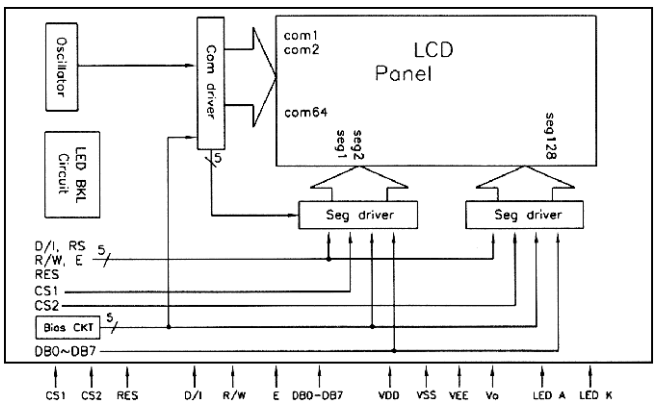
ELECTRICAL CHARACTERISTICS

Item	Symbol	Condition	Min.	Typ	Max.	Unit	note
Power Supply for Logic	V_{DD}-V_{SS}	-	4.5	5.0	5.5	Volt	-
Input Voltage	V_{IL}	L level	V_{SS}	0.2V_{DD}	-	Volt	-
	V_{IH}	H level	0.8V_{DD}	V_{DD}	-	Volt	
LCM Recommend LCD Module Driving Voltage	V_{DD}-V_{ADJ}	Ta=0°C	8.3	9.0	9.3	Volt	-
		Ta=25°C	8.4	8.7	9.0		
		Ta=50°C	7.7	7.92	8.2		
Power Supply Current for LCM	I_{DD}(LED B/L OFF)	V_{DD}=5.0V V_{DD}-V_{ADJ}=8.7V FLM=64Hz V_{LEDA}-V_{LEDK}=4.2V	-	1.5	1.8	mA	-
	I_{EE}(LED B/L ON)		-	390	585		
	I_{EE}		-	0.6	1.0		
Power Supply for LED backlight	V_{LED}	Ta=25°C	-	4.2	-	V	DC

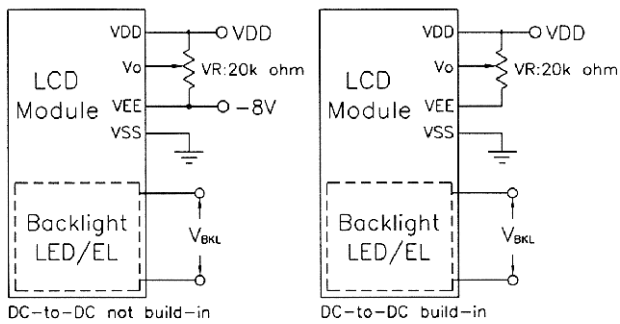
INTERFACE PIN ASSIGNMENT

Pin No.	Pin Out	Function Description
1	V_{SS}	GND
2	V_{DD}	Logic supply voltage
3	V_{ADJ}	Power supply for LCD panel, tuning form V_{DD}-V_{EE}
4	D/I	Data/Instruciton D/I=high: Indicates that data of DB0~DB7 is display data.
5	R/W	Read/Write R/W=high: Data of DB0~DB7 can be read by CPU. R/W=low: Data of DB0~DB7 can be written into LCD driver IC at the falling edge of E when CS1 and CS2 is high
6	E	Enable: When write (R/W=low): Data of DB0~DB7 is latched at the fall of E. When read(R/W=high): Data is read while E is at high level.
7~14	DB0~DB7	Data Bus: 3-state I/O common terminal.
15	CS1	Chip select for the left half of the display. Active high
16	CS2	Chip select for the right half of the display. Active high
17	RES	Setting the RES signal to Low level can initialize the following registers. 1. ON/OFF register 0 set (Display off) 2. Display start line register 0 set(display starts from line 0). After releasing reset, this condition can be changed only by software.
18	V_{EE}	Power supply for LCD driving circuit.Please refer page 11 for DC to DC connecting
19	BKL_A	Power supply for backlight. (4.2V/390~585mA DC for LED backlight, 110V/400Hz AC for EL)
20	BKL_K	

BLOCK DIAGRAM



POWER SUPPLY



V_{BKL}: LED, 4.2VDC or 5V with current-limiting Resistors
EL, 100VAC/400Hz

MECHANICAL

