



### Feature

1. Built-in SED 1335 controller and SRAM
2. Built-in Negative Voltage generator
3. 1/240 duty cycle
4. Temperature compensation option.
5. Touch panel option (analog type)

### Mechanical Data

Item	Standard Value	Unit
Module Dimension	148.02 x 120.24	mm
Viewing Area	120.14 x 92.14	mm
Dot Size	0.34 x 0.34	mm
Dot Pitch	0.36 x 0.36	mm

### Pin Assignment

Pin	Symbol	Function
1	Vss	GND
2	Vdd	Power supply for Logic
3	V <sub>o</sub>	Driving voltage for LCD
4	RD	8080 family: Read signal, 6800 family: Enable clock
5	WR	8080 family: Write signal, 6800 family: R/W signal
6	A <sub>o</sub>	Data type select
7-14	DB0-DB7	Data bus line
15	$\overline{CS}$	Chip select, Active L
16	$\overline{RES}$	Controller reset signal Active L
17	V <sub>ee</sub>	Negative Voltage output (Optional)
18	FGND	Frame ground
19	NC	No connection
20	NC	No connection

### Absolute Maximum Rating

Item	Symbol	Standard Value			Unit
		min.	typ.	max.	
Power Supply	VDD-VSS	4.75	5.0	5.25	V
Input Voltage	V <sub>I</sub>	-0.3	--	VDD	V

Note: VSS=0 Volt, VDD=5.0 Volt.

### Electrical Characteristics

Item	Symbol	Condition	Standard Value			Unit
			min.	typ.	max.	
Input Voltage	VDD	L level	0.7V <sub>DD</sub>	--	V <sub>DD</sub>	V
	V <sub>IO</sub>	H level	0	--	0.3V <sub>DD</sub>	V
Supply Current	I <sub>DD</sub>	VDD=+5V	--	100	105	mA
Recommended LC Driving Voltage for Normal Temp. Version module	VDD-V <sub>O</sub>	0°C	22.0	23.0	24.0	V
		25°C	21.3	22.2	23.0	
		50°C	19.5	20.8	22.1	
CCFL Starting Voltage	VFLS	25°C	--	600	--	V <sub>rms</sub>
CCFL Driving Voltage	VFLD	25°C	--	268	--	V <sub>rms</sub>
CCFL Driving Current	IFLD	V <sub>FQ</sub> =450V <sub>rms</sub> 30KHZ	--	5.0	--	mA <sub>rms</sub>
LED Forward Voltage	V <sub>F</sub>	25°C	--	4.2	4.6	V
LED Forward Current	I <sub>F</sub>	25°C	--	180	360	mA
EL Power Supply Current	I <sub>EL</sub>	V <sub>el</sub> =110VAC;400Hz	--	--	5.0	mA