



Feature

1. Built-in controller TOSHIBA (T6963C or equivalent)
2. +5V power supply
3. 1/64 duty cycle
4. +5V power supply

Pin Assignment

Pin	Symbol	Function
1	FG	Frame ground
2	VSS	Power Supply (GND)
3	Vdd	Power Supply (+5V)
4	Vo	Contrast Adjustment
5	WR	Date write
6	RD	Data read
7	CE	Chip enable
8	C/D	Command/data read/write
9	NC	No connection
10	RST	Reset signal
11	DB0	Data bus line
12	DB1	Data bus line
13	DB2	Data bus line
14	DB3	Data bus line
15	DB4	Data bus line
16	DB5	Data bus line
17	DB6	Data bus line
18	DB7	Data bus line
19	FS	Font Selection
20	NC/Vee	NC/Negative voltage output
21	A	Power supply for LED B/L(+4.2V)
22	K	Power supply for LED B/L(0V)

Mechanical Data

Item	Standard Value	Unit
Module Dimension	85.0 x 100.0	mm
Viewing Area	62.0 x 62.0	mm
Mounting hole	75.0 x 94.0	mm
Dot Pitch	0.43 x 0.43	mm

Absolute Maximum Rating

Item	Symbol	Standard Value			Unit
		min.	typ.	max.	
Power Supply	VDD-VSS	4.75	5.0	5.25	V
Input Voltage	VI	-0.3	--	VDD	V

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

Electronical Characteristics

Item	Symbol	Condition	Standard Value			Unit
			min.	typ.	max.	
Input Voltage	VDD	L level	0.7V _{DD}	--	V _{DD}	V
	VIO	H level	0	--	0.3V _{DD}	V
Supply Current	IDD	VDD=+5V	--	1.5	--	mA
Recommended LC Driving Voltage for Normal Temp. Version module	VDD-V0	-20°C	--	18.0	--	V
		0°C	--	17.5	--	
		25°C	--	17.0	--	
		50°C	--	16.0	--	
		70°C	--	15.5	--	
LED Forward Voltage	VF	25°C	--	4.2	4.6	V
LED Forward Current	IF	25°C	--	500	--	mA
EL Power Supply Current	IEL	Vel=110VAC;400Hz	--	--	5.0	mA