



**FEATURES**

- ◆ BUILT-IN CONTROLLER (SED1520 OR EQUIVALENT)
- ◆ +5 V POWER SUPPLY
- ◆ 1/32 DUTY CYCLE
- ◆ 8-BIT PARALLEL INTERFACE

**MECHANICAL DATA**

ITEM	DIMENSIONS	UNIT
Module Size (W x H x T)	85.0 x 40.0 x 8.8 ( 12.7 LED )	mm
Viewing Area ( W x H )	60.5 x 18.5	mm
Active Area ( W x H )	53.64 x 15.64	mm
Dot Size ( W x H )	0.40 x 0.45	mm
Dot Pitch ( W x H )	0.44 x 0.49	mm

**INTERFACE PIN CONNECTIONS**

NO.	SYMBOL	LEVEL	FUNCTION
1	V <sub>SS</sub>	0V	Power Supply Ground
2	V <sub>DD</sub>	5V	Power Supply Voltage
3	V <sub>O</sub>	-	Contrast Adjustment Voltage
4	A <sub>O</sub>	H/L	Data Type Select Signal
5	CS1	H	Chip Select Signal For IC1
6	CS2	H	Chip Select Signal For IC2
7	CL	H/L	Clock Input (2 KHz)
8	E	H→L	Enable Signal
9	R/W	H/L	H : Read / L : Write
10-17	DB0-DB7	H/L	Data Bus Line
18	/RES	L	Reset Signal
19	A	4.2V	LED Power (+)
20	K	0V	LED Power (-)

**ABSOLUTE MAXIMUM RATINGS**

ITEM	SYMBOL	MIN.	TYP.	MAX.	UNIT
Supply Voltage For Logic	V <sub>DD-VSS</sub>	0	-	7	V
Supply Voltage For LCD Drive	V <sub>DD-V<sub>O</sub></sub>	0	-	12	V
Input Voltage	V <sub>I</sub>	V <sub>SS</sub>	-	V <sub>DD</sub>	V

**ELECTRICAL CHARACTERISTICS**

ITEM	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT	
Supply Voltage For Logic	V <sub>DD-VSS</sub>	-	4.5	5	5.5	V	
Supply Voltage For LCD	V <sub>DD-V<sub>O</sub></sub>	V <sub>DD</sub> =5V Ta=25°C	4.4	4.8	5.2	V	
Supply Current	I <sub>DD</sub>	V <sub>DD</sub> =5V	-	2.5	4.5	mA	
Input Voltage	"HIGH" Level	V <sub>IH</sub>	-	2.2	-	V <sub>DD</sub>	V
	"LOW" Level	V <sub>IL</sub>	-	-	-	0.6	V
Output Voltage	"HIGH" Level	V <sub>OH</sub>	-	2.4	-	-	V
	"LOW" Level	V <sub>OL</sub>	-	-	-	0.4	V