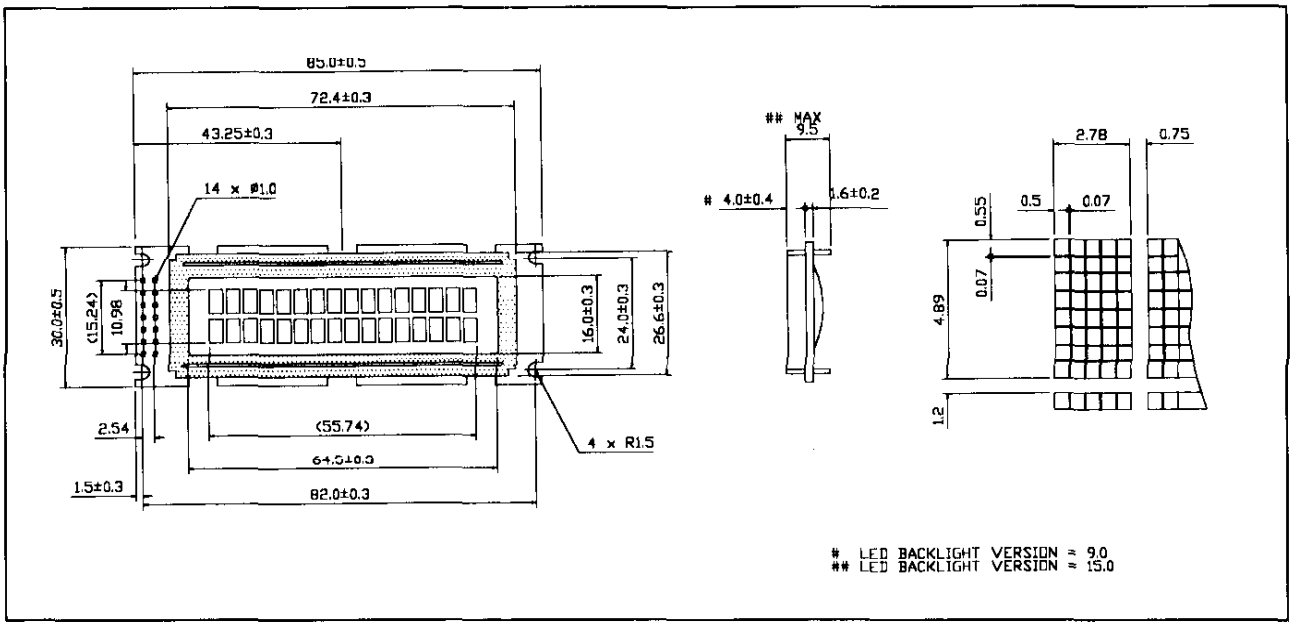
AA16208

* EXTERNAL DIMENSIONS AND DISPLAY PATTERNS



MECHANICAL DATA (Nominal dimensions)

Module size	85W x 30H x 9.5T (max.)mm
Effective display area	64.5W x 16H mm
Character size (5 x 8 dots)	*2.78W x 4.89H mm*
Character pitch	3.55 mm
Dot size	0.5W x 0.55H mm
Weight	about 30g (Approx.)

ABSOLUTE MAXIMUM RATINGS

	MIN.	MAX.
Power supply for logic (V_{DD} - V_{SS})	-0.3	7.0 V
Power supply for LCD drive (V_{DD} - V_O)	0	13.5 V
Input voltage (Vi)	0	V_{DD} V
Operating temperature (Ta)	0	+50°C
Storage temperature (Tstg)	-20	+70°C

ELECTRICAL CHARACTERISTICS

Ta =25°C, V_{DD} = 5.0V±0.25V

Input "high" voltage (Vih)	2.2V min.
Input "low" voltage (Vil)	0.6V max.
Output "high" voltage (VoH) (-IoH = 0.2mA)	2.4V min.
Output "low" voltage (VoL) (IoL = 1.6mA)	0.4V max.
Power supply current (Idd) (V_{DD} = 5.0v)	1.0mA typ 2.0mA max.

Drive method

Power supply LCD drive (V_{DD} - V_O)

Ta=0°C	4.6V typ.
Ta=25°C	4.4V typ.
Ta=50°C	4.2V typ.

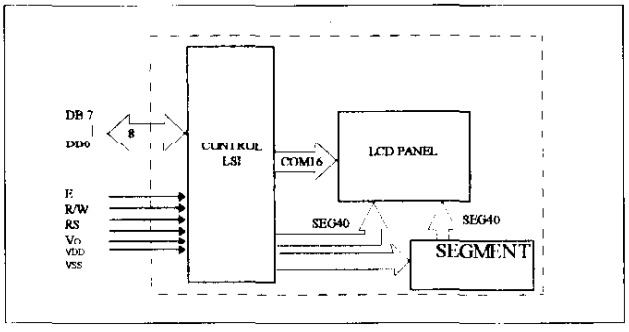
* PIN CONNECTIONS

1	Vss	0V
2	V_{DD}	+5V
3	V_O	LCD DRIVING VOLTAGE
4	RS	H : DATA INPUT L : INSTRUCTION INPUT
5	R/W	H : DATA READ L : DATA WRITE
6	E	ENABLE SIGNAL
7	DB0	DATA BUS LINE
8	DB1	NOTES : In the controller the data can
9	DB2	be sent in either 4-bit 2-operation or
10	DB3	8-bit 1-operation so that it can
11	DB4	interface to both 4 and 8 bit MPUS
12	DB5	
13	DB6	
14	DB7	
15	K(-)	BACKLIGHT VERSION
16	A(+)	

(1) When interface data is 4 bits is long, data is transferred using only 4 buses of DB4~DB7 and DB0~DB3 are not used. Data transfer between the contol LSI and the MPU completes when 4 bit data is transferred twice. Data of the higher order 4 bits (contents of DB4~DB7 when interface data is 8 bits long) is transferred first and then lower order 4 bits (contents of DB0~DB3 when interface data is 8 bits long).

(2) When interface data is 8 bits long, data is transferred using 8 data buses of DB0~DB7.

* BLOCK DIAGRAM



* BACKLIGHT CHARACTERISTICS (Ta = 25°C)

LED	Characteristic	Symbol	Condition	Typ	Max	Units
	Forward Voltage	V_f	I_F = 120mA	4.2	4.6	V
	Reverse Current	I_R	V_R = 10V		0.12	mA
	Luminous Intensity	I_V	I_F = 120mA	100		MCD
	Peak Emission Wave Length		I_F = 120mA	565		nm
	Spectral Line Half Width		I_F = 120mA	40		nm

EL	Item	Symbol	Standard Typ	Standard Max	Unit
	Voltage	Vel	100		Vrms
	Frequency	Fel	400		Hz
	Current	Iel	12.3	15.7	mA