UNCONTROLLED DOCUMENT
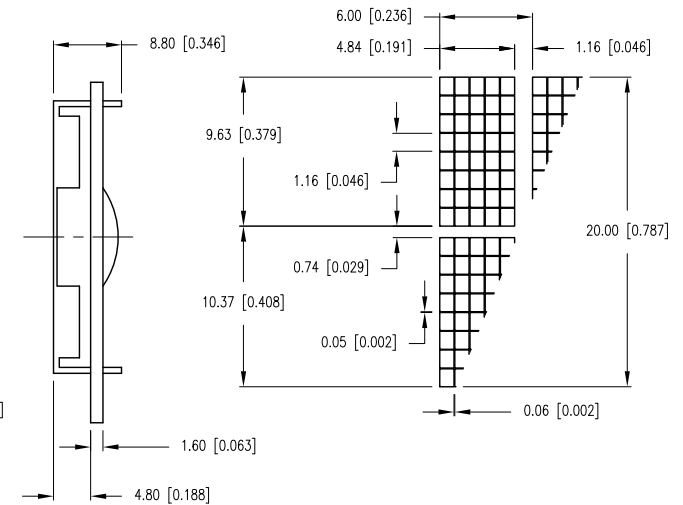
CAUTION: STATIC SENSITIVE DEVICE
FOLLOW PROPER E.S.D. HANDLING PROCEDURES
WHEN WORKING WITH THIS PART.

CHARACTER DETAIL

122.00±0.50
[4.803±0.020]

106.20 [4.181]

99.00 [3.898] V.A.

94.84 [3.734]

1.50 [0.059]

10.16 [0.400]
(2.54x4)

8.80 [0.346]

6.00 [0.236]
4.84 [0.191]
1.16 [0.046]

3.50 [0.138]
(4 PLS.)

20.00 [0.787]

44.00±0.50
[1.732±0.020]

37.00 [1.457]

9.63 [0.379]

1.16 [0.046]

0.74 [0.029]

20.00 [0.787]

10.37 [0.408]

0.05 [0.002]

0.06 [0.002]

A

K

20.00 [0.787]
24.00 [0.945]
V.A.
35.20 [1.386]

1.60 [0.063]

4.80 [0.188]

14

1

ø1.00 [ø0.039]
(5 PLS.)

2.50 [0.098]

2.54 [0.100]
(13 PLS.)

14-ø1.00 [ø0.039]
(PAD ø1.80)

ø3.50 [ø0.138]
(4 PLS.)

10.98 [0.432]

33.02 [1.300]

115.00 [4.528]

3.50 [0.138]
(4 PLS.)

*UNLESS OTHERWISE SPECIFIED TOLERANCES PER DECIMAL PRECISION ARE: X=±1 (±0.039), X.X=±0.5 (±0.020), X.XX=±0.25 (±0.010), X.XXX=±0.127 (±0.005). LEAD SIZE=±0.05 (±0.002), LEAD LENGTH=±0.75 (±0.030). MIN= +DECIMAL PRECISION/−0.00 MAX.= +0.00/−DECIMAL PRECISION

UNCONTROLLED DOCUMENT

9.63mm CHARACTER HEIGHT, 16x2 CHARACTERS,5x8 DOT MATRIX LCD MODULE,1/16 DUTY,1/5 BIAS,STN REFLECTIVE.

THE SPECIFICATIONS MAY CHANGE AT ANY TIME WITHOUT NOTICE DUE TO NEW MATERIALS OR PRODUCT IMPROVEMENT.
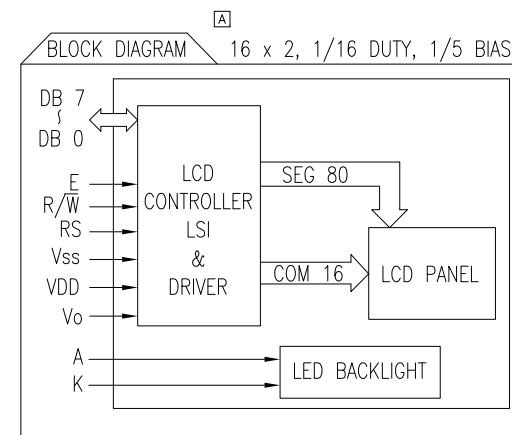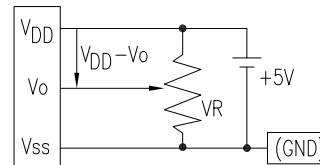
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DATE:	01.28.11	DRAWN BY:	AB
PAGE:	1 OF 2	CHKD BY:	YA
SCALE:	NTS	APRVD BY:	BC
UNIT:	mm [INCH]		

PIN CONFIGURATION

PIN NO.	SYMBOL	LEVEL	FUNCTION	
1	Vss	−	POWER SUPPLY	GND (0V)
2	V_DD	−		5V
3	Vo	−		FOR LCD DRIVE
4	RS	H/L	REGISTER SELECT SIGNAL H: DATA INPUT L: INSTRUCTION INPUT	
5	R/W̄	H/L	H: DATA READ (MODULE-->MPU) L: DATA WRITE (MODULE<--MPU)	
6	E	H,H->L	ENABLE	
7~14	DB0~DB7	H/L	DATA BUS-SOFTWARE SELECTABLE 4 OR 8 BIT MODE.	
15	A	−	ANODE	LED BACKLIGHT
16	K	−	CATHODE	LED BACKLIGHT

$V_{DD}-V_o$: LCD DRIVING VOLTAGE
VR: $10K\Omega - 20K\Omega$

V_{DD}
$V_{DD}-V_o$
Vo
VR
+5V
Vss
(GND)

[A] BLOCK DIAGRAM   16 x 2, 1/16 DUTY, 1/5 BIAS

DB 7 ~ DB 0
E
R/W̄
RS
Vss
VDD
Vo
LCD CONTROLLER LSI & DRIVER
SEG 80
COM 16
LCD PANEL
A
K
LED BACKLIGHT

ELECTRICAL CHARACTERISTICS [A] V_{DD}=4.7V to 5.3V, T_A=25°C

ITEM		SYMBOL	CONDITION	STANDARD VALUE			UNIT
				MIN.	TYP.	MAX.	
SUPPLY VOLTAGE FOR LOGIC		V_{DD}−Vss	−	−	5.0	−	V
SUPPLY CURRENT FOR LOGIC		I_{DD}	V_{DD}=5V	−	2.0	3.0	mA
INPUT VOLTAGE	HIGH	V_{IH}	−	2.2	−	4.7	V
	LOW	V_{IL}	−	0	−	0.6	V
OUTPUT VOLTAGE	HIGH	V_{OH}	−	2.4	−	−	V
	LOW	V_{OL}	−	−	−	0.4	V
*LED BACKLIGHT	VOLTAGE	Vf	If=220mA	−	4.2	4.6	V
	CURRENT	If	−	−	220	480	mA
	POWER CUNSUMPTION	PD	−	−	924	−	mW
	LUMINOUS	L	If=220mA	70	−	−	cd/m²
	COLOR	−	−	−	−	−	nm

*ONLY APPLIES TO MODULES WITH BACKLIGHT

ABSOLUTE MAXIMUM RATINGS

ITEM	SYMBOL	TEST CONDITION	STANDARD VALUE		UNIT
			MIN	MAX	
SUPPLY VOLTAGE FOR LOGIC	V_{DD}−Vss	Ta=25°C	4.7	5.3	V
SUPPLY VOLTAGE FOR LCD DRIVE	V_{DD}−Vo	−	4.2V@50°C	4.8@0°C	V
INPUT VOLTAGE	V r	Ta=25°C	Vss	V_{DD}	V
OPERATING TEMPERATURE	Topr	LCM-S	0	50	°C
		LCM-H	−20	70	°C
STORAGE TEMPERATURE	Tstg	LCM-S	−20	70	°C
		LCM-H	−30	85	°C

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