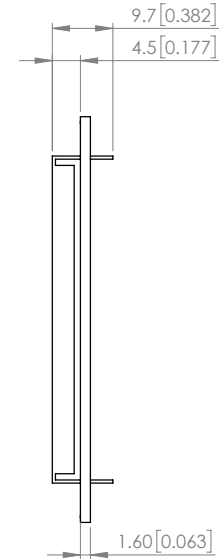
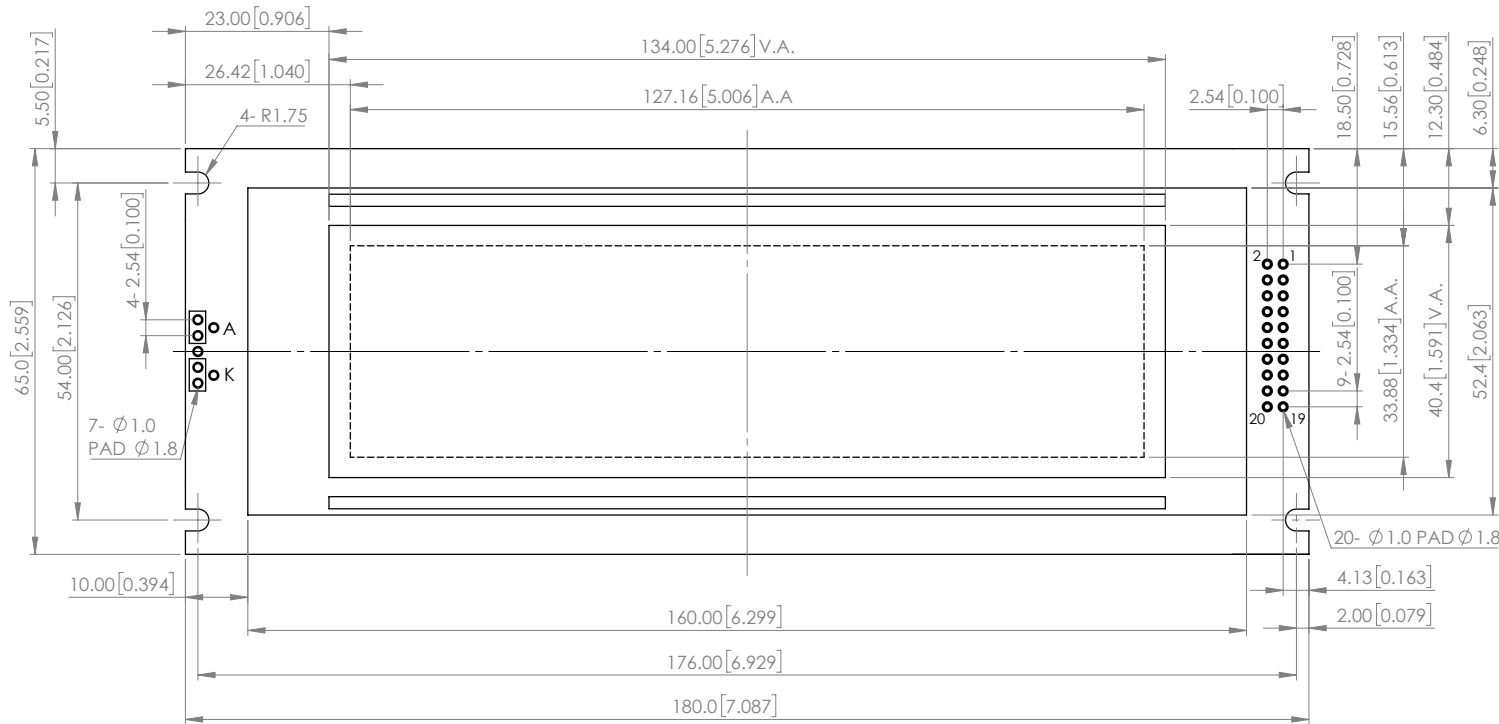
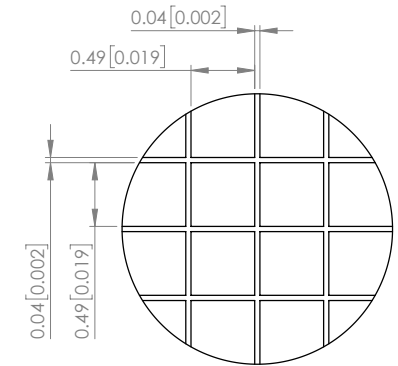


PART NUMBER		LCM-H24064GSF-N	REV	A
REV	E.C.N. NUMBER AND REVISION COMMENTS		DATE	
A	ECN-Lumex201800061		04.26.18	



PIN NO	SIGNAL
1	FGND
2	VSS
3	VDD
4	VO
5	/WR
6	/RD
7	/CE
8	C/D
9	VEE
10	/RST
11	DB0
12	DB1
13	DB2
14	DB3
15	DB4
16	DB5
17	DB6
18	DB7
19	FS
20	NC



**NOTE:**  
1. RoHS COMPLIANT.

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180.0(W)×65.0(H)×9.7/13.8(D)MAX mm, 240x64 DOT MATRIX GRAPHIC LCD MODULE, STN GRAY, TRANSFLECTIVE, 1/64 DUTY, EL BACKLIGHT.

**\*\*THE SPECIFICATIONS MAY CHANGE AT ANY TIME WITHOUT NOTICE DUE TO NEW MATERIALS OR PRODUCT IMPROVEMENT.\*\***

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DATE : 2018.04.26	DRAWN BY : C.C.
PAGE : 1 OF 4	CHKD BY : E.C.
SCALE : NTF	APRVD BY : G.Y.
UNIT : mm [INCH]	☞

**GENERAL SPECIFICATION**

ITEM	DESCRIPTION
LCD TYPE	STN
REAR POLARIZER	POSITIVE / TRANSFLECTIVE
BACKLIGHT TYPE	EL
BACKLIGHT COLOR	GREEN
TEMPERATURE RANGE	WIDE TEMP., 5V
VIEWING DIRECTION	6 O'CLOCK
VIEWING AREA	134.0 (W)mm x 40.4 (H)mm
MODULE SIZE	180 (W)mm x 65.0 (H)mm x 9.7/13.8 MAX(D)mm
PIXELS SIZE	0.49 x 0.49
PIXELS PITCH	0.53 x 0.53
DISPLAY FORMAT	240(W) x 64(H)
DUTY RATIO	1 / 64 DUTY

**ABSOLUTE MAXIMUM RATING**

(1) Electrical Absolute Ratings

ITEM	SYMBOL	MIN.	MAX.	UNIT	
POWER SUPPLY FOR LOGIC	V <sub>DD</sub> -V <sub>SS</sub>	-0.3	5.5	VOLT	
POWER SUPPLY FOR LCD	V <sub>DD</sub> -V <sub>EE</sub>	0	22	VOLT	
INPUT VOLTAGE	V <sub>1</sub>	V <sub>SS</sub>	V <sub>DD</sub>	VOLT	
POWER SUPPLY FOR EL BACKLIGHT	VOLTAGE	VEL	-	150	Vrms
	FREQUENCY	FEL	-	1.0	KHZ

(2) Environmental Absolute Maximum Ratings

ITEM	WIDE TEMPERATURE			
	OPERATING		STORAGE	
	MIN.	MAX.	MIN.	MAX.
AMBIENT TEMPERATURE	-20 °C	+70 °C	-30 °C	+80 °C
HUMIDITY (WITHOUT CONDENSATION)	NOTE 1, 2		NOTE 1, 3	

Note 1: Background color changes slightly depending on ambient temperature.



This phenomenon is reversible.

Note 2: Ta ≤ 70 °C: 75RH max

Ta > 70 °C: absolute humidity must be lower than the humidity of 75%RH at 70 °C

Note 3: Ta at -30 °C will be <48hrs, at 80 °C will be <120hrs when humidity is higher than 75%.

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	**THE SPECIFICATIONS MAY CHANGE AT ANY TIME WITHOUT NOTICE DUE TO NEW MATERIALS OR PRODUCT IMPROVEMENT.**	PAGE : 2 OF 4	CHKD BY : E.C.	
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		UNIT : mm [INCH]		

**ELECTRICAL CHARACTERISTICS**

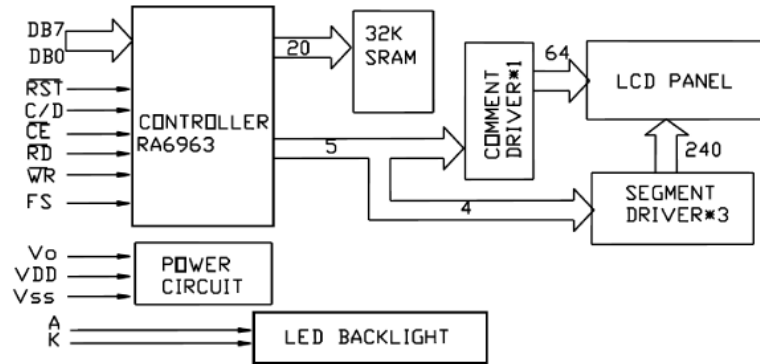
ITEM	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
<b>POWER SUPPLY FOR LOGIC</b>	V <sub>DD</sub> -V <sub>SS</sub>	-	4.5	5.0	5.5	VOLT
<b>POWER SUPPLY FOR LCD</b>	V <sub>EE</sub> -V <sub>SS</sub>	-	-14.1	-14.4	-14.8	VOLT
<b>INPUT VOLTAGE</b>	V <sub>IL</sub>	L LEVEL	0	-	0.15 V <sub>DD</sub>	VOLT
	V <sub>IH</sub>	H LEVEL	0.8 V <sub>DD</sub>	-	V <sub>DD</sub>	VOLT
	V <sub>DD</sub> -V <sub>O</sub>	T <sub>a</sub> =25°C	10.8	12.2	13.1	VOLT
<b>BEGIN INTENSITY</b>	-	(STEALTHY) 100V rms 400Hz	50	70	-	cd/m <sup>2</sup>
<b>POWER SUPPLY CURRENT FOR LCM</b>	I <sub>DD</sub>	V <sub>DD</sub> =5.0V V <sub>DD</sub> -V <sub>O</sub> =12.2V	-	16.0	25.0	mA
<b>POWER SUPPLY FOR EL BACKLIGHT</b>	V <sub>EL</sub>	F <sub>EL</sub> =400HZ	-	100	-	Vrms
	I <sub>EL</sub>	V <sub>EL</sub> =100V F <sub>EL</sub> =400HZ	-	3.7	-	mArms

**ELECTRICAL CHARACTERISTICS**

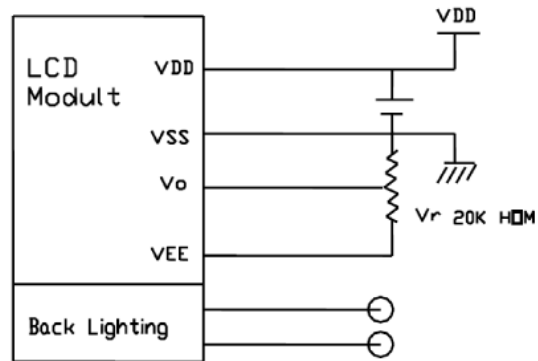
PIN NO.	PIN OUT	FUNCTION DESCRIPTION
1	FGND	For GND
2	V <sub>SS</sub>	Power Supply Ground
3	V <sub>DD</sub>	Power Supply Voltage
4	V <sub>0</sub>	Contrast Adjustment Voltage
5	/WR	Data Write
6	/RD	Data Read
7	/CE	Enable Signal
8	C/D	WR='L', C/D='H': Command Write WR='L', C/D='L': Data Write RD='L', C/D='H': Status Read RD='L', C/D='L': Data Read
9	VEE	No Connection
10	/RST	Reset Signal
11	DB0	Data Bit 0
12	DB1	Data Bit 1
13	DB2	Data Bit 2
14	DB3	Data Bit 3
15	DB4	Data Bit 4
16	DB5	Data Bit 5
17	DB6	Data Bit 6
18	DB7	Data Bit 7
19	FS	H : 6*8/L : 8*8 Select of Font
20	NC	No Connection

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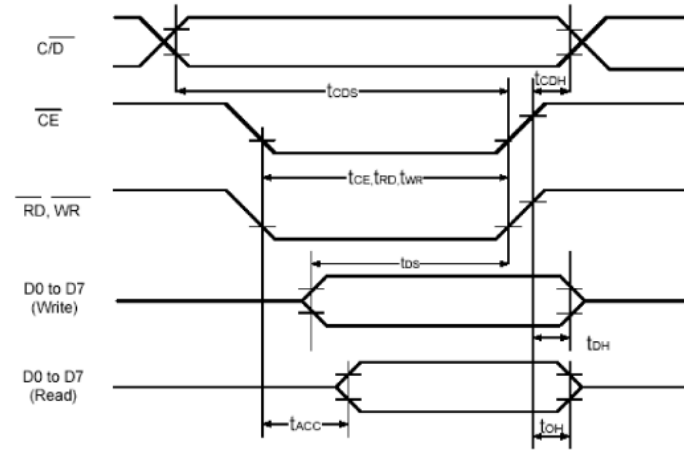
**BLOCK DIAGRAM**



**POWER SUPPLY**



**TIMING CHARACTERISTIC**



ITEM	SYMBOL	TEST CONDITIONS	MIN	MAX	UNIT
C/D Set Up Time	t <sub>CDS</sub>	--	100	--	ns
C/D Hold Time	t <sub>CDH</sub>	--	10	--	ns
/CE, /RD, /WR Pulse Width	t <sub>CE</sub> , t <sub>RD</sub> , t <sub>WR</sub>	--	80	--	ns
Data Set Up Time	t <sub>DS</sub>	--	80	--	ns
Data Hold Time	t <sub>DH</sub>	--	40	--	ns
Access Time	t <sub>ACC</sub>	--	--	150	ns
Output Hold Time	t <sub>OH</sub>	--	10	50	ns

\*VDD=+5V±5%, GND=0V, Ta=-20~70 degree

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