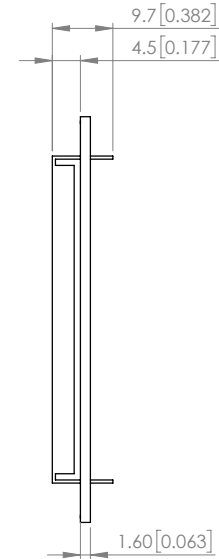
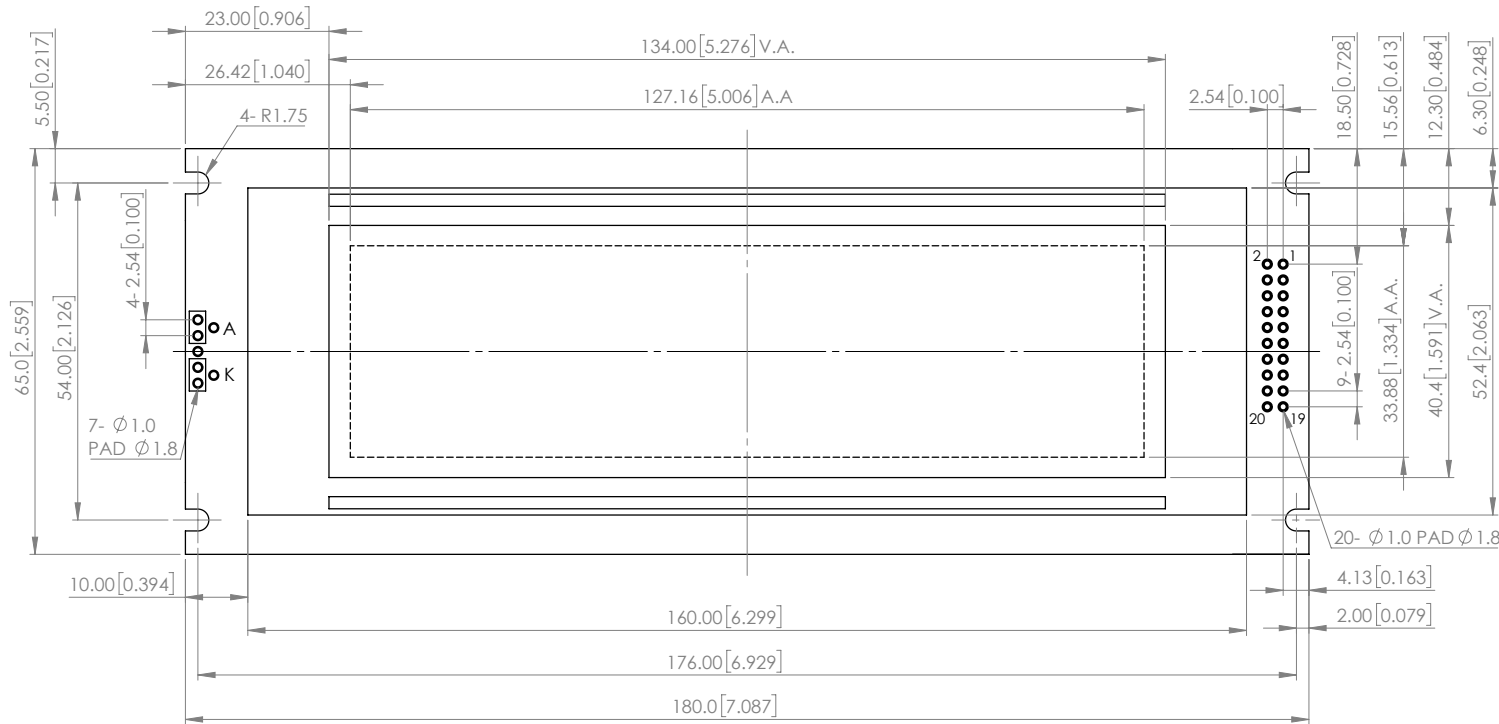
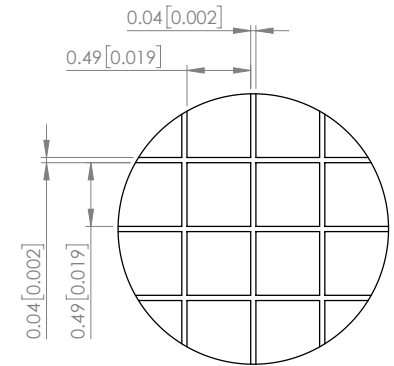


PART NUMBER		LCM-H24064GSF-N	REV	A
REV	E.C.N. NUMBER AND REVISION COMMENTS		DATE	
A	ECN-Lumex201800061		04.26.18	



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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<p>425 N. GARY AVE. CAROL STREAM, IL 60188 PHONE : 800-278-5666 FAX : 630-315-2150 WEB : WWW.LUMEX.COM</p>	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.	DATE : 2018.04.26	DRAWN BY : C.C.	
	THE SPECIFICATIONS MAY CHANGE AT ANY TIME WITHOUT NOTICE DUE TO NEW MATERIALS OR PRODUCT IMPROVEMENT.	PAGE : 1 OF 4	CHKD BY : E.C.	
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		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 _{DD} -V _{SS}	-0.3	5.5	VOLT	
POWER SUPPLY FOR LCD	V _{DD} -V _{EE}	0	22	VOLT	
INPUT VOLTAGE	V ₁	V _{SS}	V _{DD}	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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SCALE : NTF	APRVD BY : G.Y.
UNIT : mm [INCH]	Ⓢ

ELECTRICAL CHARACTERISTICS

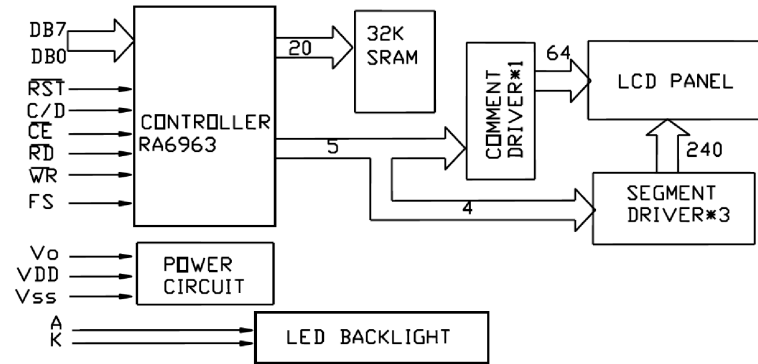
ITEM	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
POWER SUPPLY FOR LOGIC	V _{DD} -V _{SS}	-	4.5	5.0	5.5	VOLT
POWER SUPPLY FOR LCD	V _{EE} -V _{SS}	-	-14.1	-14.4	-14.8	VOLT
INPUT VOLTAGE	V _{IL}	L LEVEL	0	-	0.15 V _{DD}	VOLT
	V _{IH}	H LEVEL	0.8 V _{DD}	-	V _{DD}	VOLT
	V _{DD} -V _O	T _a =25°C	10.8	12.2	13.1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

ELECTRICAL CHARACTERISTICS

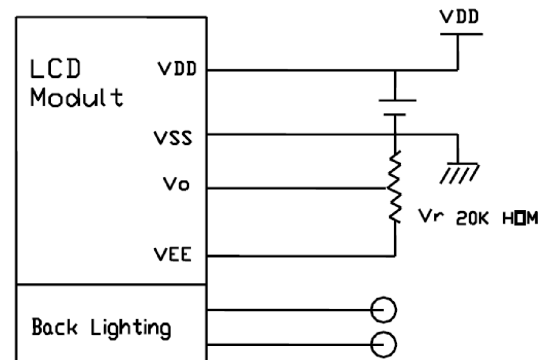
PIN NO.	PIN OUT	FUNCTION DESCRIPTION
1	FGND	For GND
2	V _{SS}	Power Supply Ground
3	V _{DD}	Power Supply Voltage
4	V ₀	Contrast Adjustment Voltage
5	/WR	Data Write
6	/RD	Data Read
7	/CE	Enable Signal
8	C/D	WR='L', C/D='H': Command Write WR='L', C/D='L': Data Write RD='L', C/D='H': Status Read RD='L', C/D='L': Data Read
9	V _{EE}	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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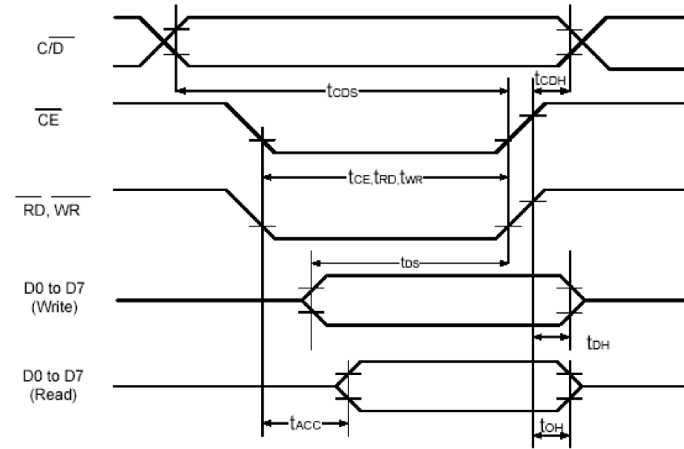
BLOCK DIAGRAM



POWER SUPPLY



TIMING CHARACTERISTIC



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

*VDD=+5V±5%, GND=0V, Ta=-20~70 degree

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