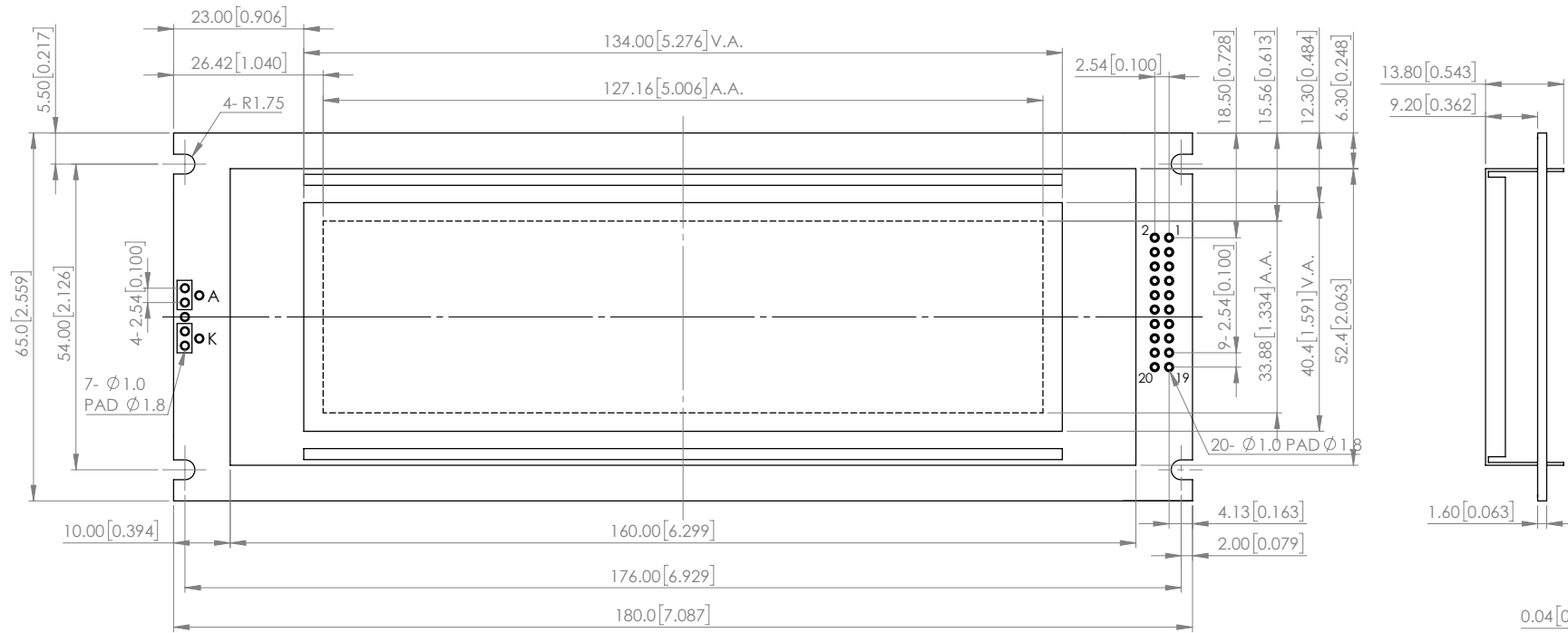
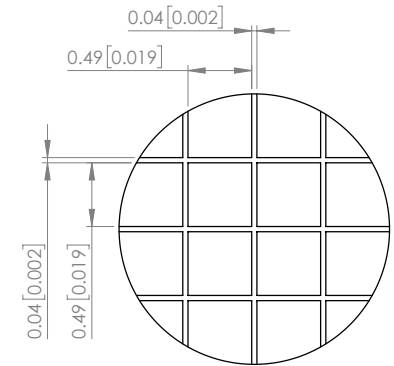


PART NUMBER		LCM-S24064GSF	REV	A
REV	E.C.N. NUMBER AND REVISION COMMENTS		DATE	
A	ECN-Lumex201800062		04.27.18	




PIN NO	SIGNAL
1	FGND
2	VSS
3	VDD
4	VO
5	/WR
6	/RD
7	/CE
8	C/D
9	NC
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.

\*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= <sup>+DECIMAL PRECISION</sup> <sub>-0.00</sub> MAX= <sup>+0.00</sup> <sub>-DECIMAL PRECISION</sub>

 <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)×13.8(D)mm, 240x64 DOT MATRIX GRAPHIC LCD MODULE, STN GRAY, TRANSPARENT, 1/64 DUTY, LED BACKLIGHT.	DATE : 2018.04.27	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, POSITIVE
REAR POLARIZER	TRANSFLECTIVE
BACKLIGHT TYPE	LED
BACKLIGHT COLOR	YELLOW GREEN
TEMPERATURE RANGE	NORMAL 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 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	5.5	VOLT
POWER SUPPLY FOR LCD	V <sub>DD</sub> -V <sub>o</sub>	0	22	VOLT
INPUT VOLTAGE	V <sub>1</sub>	V <sub>SS</sub>	V <sub>DD</sub>	VOLT
LED BACKLIGHT POWER DISSIPATION	P <sub>AD</sub>	-	5.0	W
LED BACKLIGHT FORWARD CURRENT	I <sub>AF</sub>	-	990	mA
LED BACKLIGHT REVERSE VOLTAGE	V <sub>R</sub>	-	8	V

(2) Environmental Absolute Maximum Ratings

ITEM	WIDE TEMPERATURE			
	OPERATING		STORAGE	
	MIN.	MAX.	MIN.	MAX.
AMBIENT TEMPERATURE	0°C	+50°C	-20°C	+70°C
HUMIDITY (WITHOUT CONDENSATION)	NOTE 1, 2		NOTE 3, 4	

Note 1: Ta ≤ 50°C: 80% RH max

Ta > 50°C: Absolute humidity must be lower than the humidity of 85%RH at 50°C

Note 2: Background color changes slightly depending on ambient temperature.

This phenomenon is reversible.

Note 3: Ta at -20°C will be <48hrs at 70°C will be <120hrs when humidity is higher than 75%.

Note 4: Ta ≤ 70°C: 75RH max

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

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CAROL STREAM, IL 60188  
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180.0(W)×65.0(H)×13.8(D)mm, 240x64 DOT MATRIX GRAPHIC LCD MODULE, STN GRAY, TRANSFLECTIVE, 1/64 DUTY, LED BACKLIGHT.

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DATE : 2018.04.27	DRAWN BY : C.C.
PAGE : 2 OF 4	CHKD BY : E.C.
SCALE : NTF	APRVD BY : G.Y.
UNIT : mm [INCH]	Ⓢ


**ELECTRICAL CHARACTERISTICS**

ITEM	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
POWER SUPPLY FOR LOGIC	VDD-VSS	-	4.5	5.0	5.5	VOLT
POWER SUPPLY FOR LCD	VEE-VSS	-	-14.1	-14.4	-14.8	VOLT
INPUT VOLTAGE	VIL	L LEVEL	0	-	0.8	VOLT
	VIH	H LEVEL	-2.2 VDD	-	VDD	VOLT
	VDD-VO	Ta=25°C	10.8	12.2	13.1	VOLT
POWER SUPPLY CURRENT FOR LCM	IDD	VDD=5.0V VDD-VO=12.2V	-	16.0	25.0	mA
THE BRIGHTNESS OF BACKLIGHT	L	If=690mA	120	180	-	cd/m <sup>2</sup>
PEAK EMISSION WAVELENGTH	λP	If=690mA	565	570	575	nm
LED FORWARD VOLTAGE	VF	If=690 mA	-	4.1	4.6	VOLT

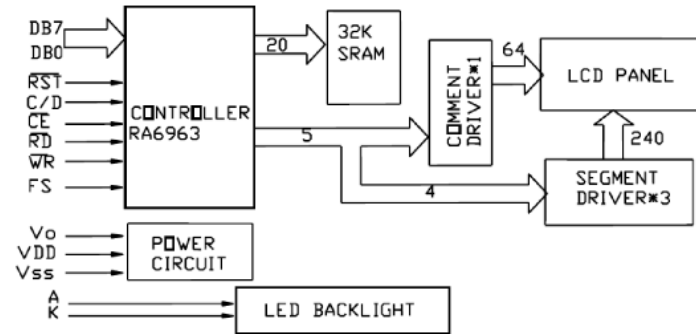
**ELECTRICAL CHARACTERISTICS**

PIN NO.	PIN OUT	FUNCTION DESCRIPTION
1	FGND	For GND
2	VSS	Power Supply Ground
3	VDD	Power Supply Voltage
4	Vo	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

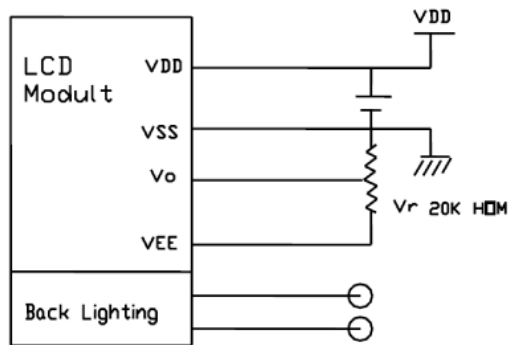
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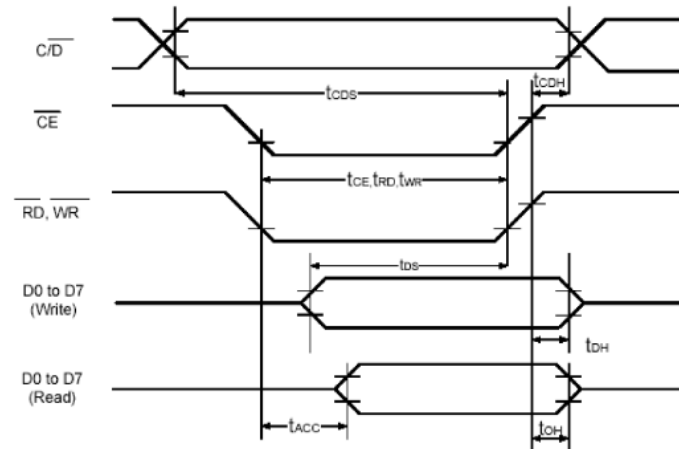
**BLOCK DIAGRAM**



**POWER SUPPLY**



**TIMING CHARACTERISTIC**



ITEM	SYMBOL	TEST CONDITIONS	MIN	MAX	UNIT
C/D Set Up Time	$t_{CDS}$	--	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

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