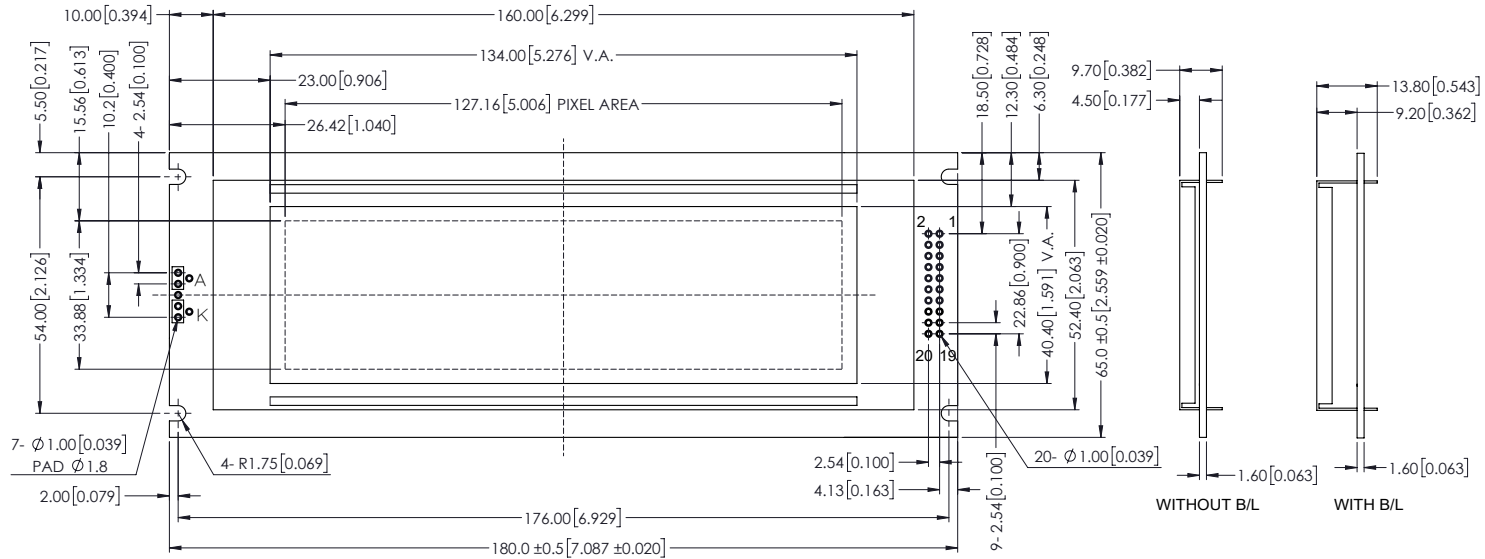


PART NUMBER		LCM-H24064GSF-N	REV	A
REV	E.C.N. NUMBER AND REVISION COMMENTS			DATE
A	ECN-Lumex201700086			10.06.17



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

STATIC DEVICE FOLLOW PROPER
E.S.D. HANDLING PROCEDURES
WHEN WORKING WITH THIS PART

*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= *DECIMAL PRECISION 0.00



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CAROL STREAM, IL 60188
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180(L)*85(W)*9.7/13.8(H)mm, 240x64 DOT MATRIX GRAPHIC MODULE, 1/64 DUTY, WITH NEGATIVE CHARGE PUMP, STN, TRANSFLECTIVE, GREEN EL BACKLIGHT.

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

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PAGE : 1 OF 3	CHKD BY : R.C.
SCALE : NTF	APRVD BY : E.C.
UNIT : mm [INCH]	

MECHANICAL SPECIFICATION

Module Size	180.0(W)mm×65.0(H)mm×9.7(LED=13.8)(D)mm Max
Dot Size	0.49(W)mm×0.49(H)mm
Dot Pitch	0.53(W)mm×0.53(H)mm
Resolution	240(W)×64(H) Dots Matrix
Duty Ratio	1/64 Duty

ABSOLUTE MAXIMUM RATING

(1) ELECTRICAL ABSOLUTE RATINGS

Item	Symbol	Min.	Max.	Unit	Note
Power Supply for Logic	V _{DD} -V _{SS}	-0.3	5.5	Volt	
Power Supply for LCD	V _{DD} -V _{EE}	0	24.0	Volt	
Input Voltage	V _I	-0.3	V _{DD}	Volt	
Power Supply For EL Backlight	Voltage	V _{EL}	-	V _{rms}	
	Frequency	f _{EL}	-	KHz	

(2) ENVIRONMENTAL ABSOLUTE MAXIMUM RATINGS

Item	Wide Temperature			
	Operating		Storage	
	Min.	Max.	Min.	Max.
Ambient Temperature	-20℃	+70℃	-30℃	+80℃
Humidity(without condensation)	Note 4,5		Note 4,6	

Note 2 : Ta≤50℃: 80% RH max

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

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

Note 4 : Background color changes slightly depending on ambient temperature. This phenomenon is reversible.

Note 5 : Ta≤70℃: 75RH max

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

Note 6 : Ta at -30℃ will be <48hrs, at 80 °C will be <120hrs when humidity is higher than 75%.

ELECTRICAL CHARACTERISTICS

Item	Symbol	Condition	Min.	Typ	Max.	Unit	note
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	Ta=0℃	-	-	-	Volt	
		Ta=25℃	10.8	12.2	13.1		
		Ta=50℃	-	-	-		
Power Supply Current for LCM	I _{DD}	V _{DD} =5.0V V _{DD} -V _O =12.2V	-	16.0	25.0	mA	
	I _{EE}		-	2.4	-		
Power Supply For EL Backlight	V _{EL}	F _{EL} =400Hz	-	100	-	Vrms	
	I _{EL}	V _{EL} =100V F _{EL} =400Hz	-	3.7	-	mArms	

OPTICAL CHARACTERISTICS

Item	Symbol	Condition	Min.	Typ	Max.	Unit	note
Viewing angle range	Φf(12 o'clock)	When Cr ≥ 1.4	-	20	-	Degree	9,10
	Φb(6 o'clock)		-	40	-		
	Φl(9 o'clock)		-	30	-		
	Φr(3 o'clock)		-	30	-		
Rise Time	Tr	V _{DD} -V _{EE} =12.2V Ta=25℃	-	230	-	mS	
Fall Time	Tf		-	250	-		
Frame frequency	F _{rm}		-	64	-	Hz	8,10
Contrast	Cr		-	5.0	-		7
Begin Intensity	-	(Stealthy) 100V rms. 400 Hz	50	70	-	cd/m ²	

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