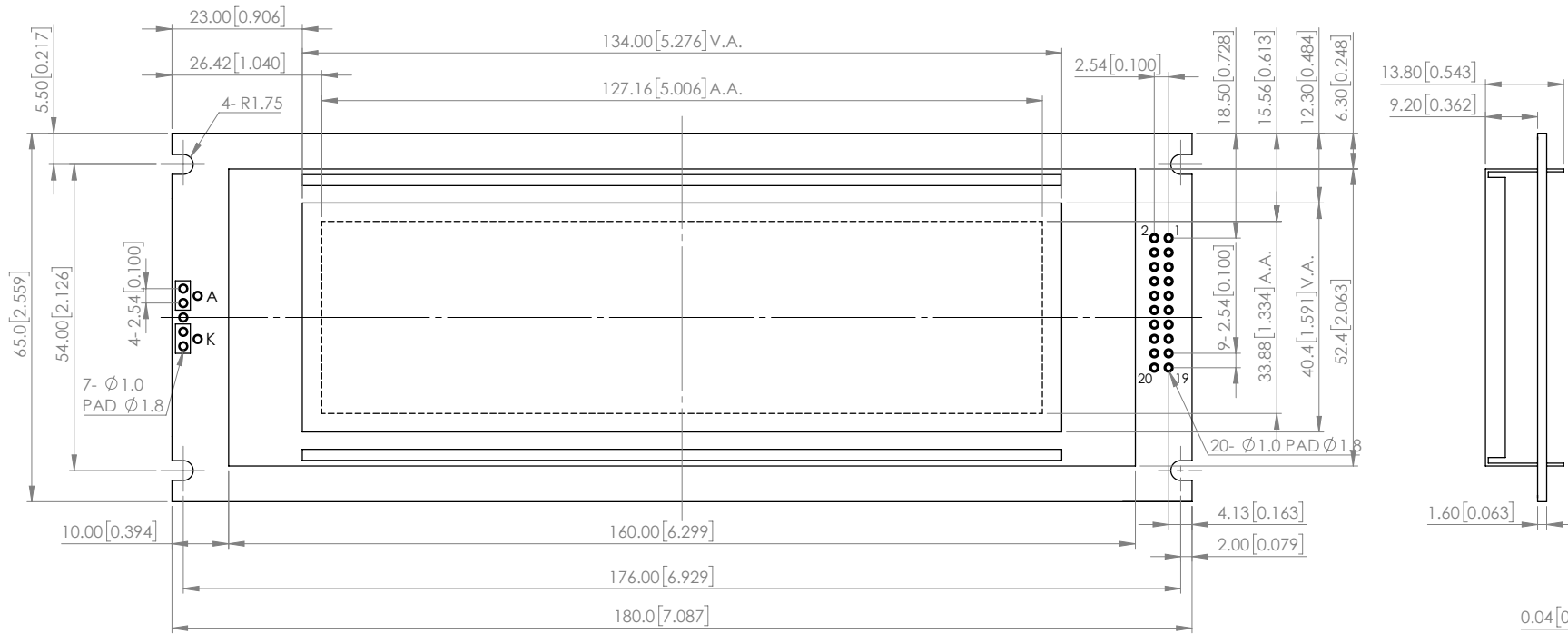
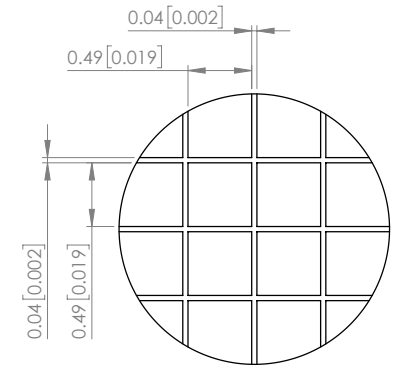


| | | | | |
|-------------|-------------------------------------|---------------|----------|---|
| PART NUMBER | | LCM-S24064GSF | REV | A |
| REV | E.C.N. NUMBER AND REVISION COMMENTS | | DATE | |
| A | ECN-Lumex201800062 | | 04.27.18 | |




| 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=^{+DECIMAL PRECISION}_{-0.00} MAX.=^{+0.00}_{-DECIMAL PRECISION}

| | | | | |
|---|--|-------------------|-----------------|--|
|  <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. | |
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| | | UNIT : mm [INCH] | (9) | |

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 _{DD} -V _{SS} | 0 | 5.5 | VOLT |
| POWER SUPPLY FOR LCD | V _{DD} -V _o | 0 | 22 | VOLT |
| INPUT VOLTAGE | V ₁ | V _{SS} | V _{DD} | VOLT |
| LED BACKLIGHT POWER DISSIPATION | P _{AD} | - | 5.0 | W |
| LED BACKLIGHT FORWARD CURRENT | I _{AF} | - | 990 | mA |
| LED BACKLIGHT REVERSE VOLTAGE | V _R | - | 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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| 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 ² |
| PEAK EMISSION WAVELENGTH | λP | If=690mA | 565 | 570 | 575 | nm |
| LED FORWARD VOLTAGE | VF | If=690 mA | - | 4.1 | 4.6 | VOLT |

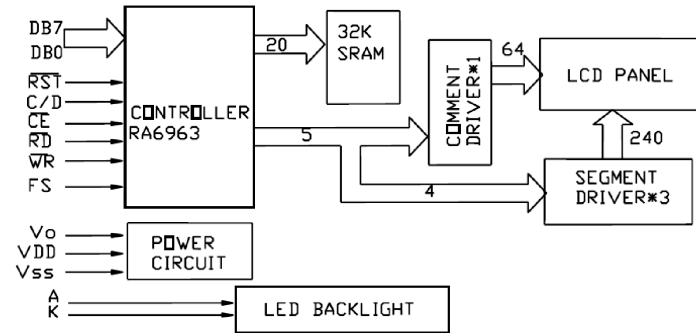
ELECTRICAL CHARACTERISTICS

| 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 |

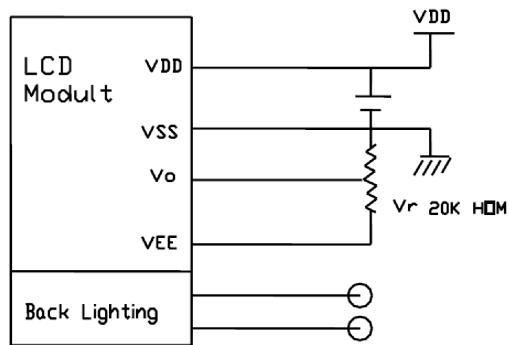
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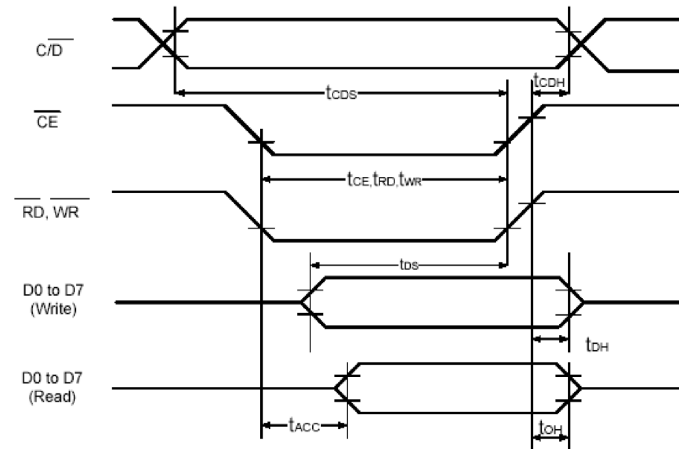
BLOCK DIAGRAM



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 |
| \overline{CE} , \overline{RD} , \overline{WR} Pulse Width | $t_{CE, RD, WR}$ | -- | 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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