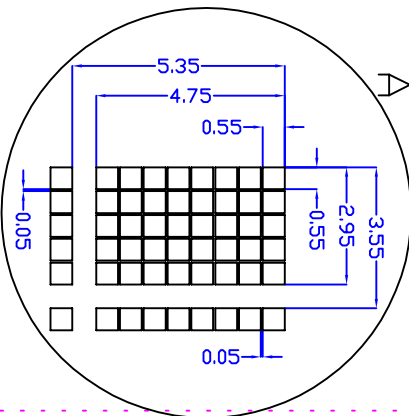
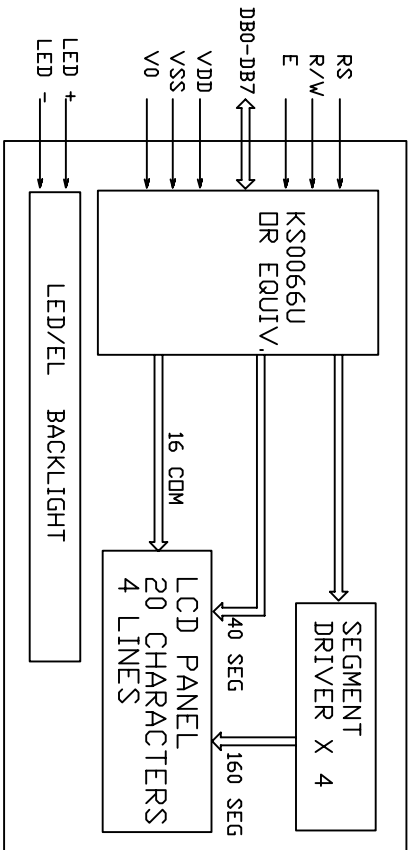


* FOR LED BACKLIGHT
 T1=14.0MAX T2=9.0±0.3
 * FOR EL DR ND BACKLIGHT
 T1=10.0MAX T2=5.0±0.3



| PINS ASSIGNMENT | |
|-----------------|--|
| NO. | SYMBOL DESCRIPTION |
| 1 | VSS POWER SUPPLY |
| 2 | VDD POWER SUPPLY |
| 3 | V0 OPERATING VOLTAGE FOR LCD |
| 4 | RS DATA/INSTRUCTION SELECT |
| 5 | R/W READ/WRITE CONTROL |
| 6 | E ENABLE SIGNAL |
| 7-14 | DB0-DB7 DATA BUS |
| 15 | LED + POWER SUPPLY FOR LED BACKLIGHT (+) |
| 16 | LED - POWER SUPPLY FOR LED BACKLIGHT (-) |

| ABSOLUTE MAXIMUM RATING | | | |
|-------------------------|---------|------|------|
| ITEM | SYMBOL | MIN | MAX |
| POWER SUPPLY LOGIC | VDD-VSS | -0.3 | 7.0 |
| POWER SUPPLY LCD DRV. | VDD-V0 | -0.3 | 13.5 |
| INPUT VOLTAGE | VI | -0.3 | VDD |

| ELECTRICAL CHARACTERISTICS (VDD=5.0±0.25V, 25°C) | | | | |
|--|---------|------|-----|------|
| ITEM | SYMBOL | MIN | TYP | MAX |
| VOLTAGE FOR LOGIC | VDD-VSS | 4.75 | 5.0 | 5.25 |
| SUPPLY CURRENT | IDD | - | 1.0 | 2.2 |
| VOLTAGE FOR LCD | VDD-V0 | - | 4.9 | - |
| INPUT VOLTAGE | VH | 2.2 | - | VDD |
| | VL | -0.3 | - | 0.6 |
| OUTPUT VOLTAGE | H | Voh | 2.4 | - |
| | L | Vol | - | 0.4 |

| MECHANICAL SPECIFICATIONS | | |
|---------------------------|------------------------------|------|
| ITEM | SPECIFICATION | UNIT |
| OVERALL SIZE | 98.0W x 60.0H x 14.0T(10.0T) | MM |
| VIEWING AREA | 76.0W x 25.2H | MM |
| CHARACTERS | 20 CHARACTERS x 4 LINES | MM |
| CHARACTER SIZE | 2.95W x 4.75H | MM |
| CHARACTER PITCH | 3.55W x 5.35H | MM |

| OPTIONS | |
|---------|---|
| 1. | LCD TYPE: Y/G STN, GRAY STN, TN |
| 2. | BACKLIGHT: WITHOUT BACKLIGHT, LED, EL |
| 3. | COLOR OF BACKLIGHT: Y/G, BLUE, WHITE |
| 4. | TEMPERATURE RANGE: NORMAL(0--50C) EXTENDED(-20--70C) |
| 5. | POWER SUPPLY: 5.0V, 3.0V |
| 6. | VIEWING ANGLE: 6H, 12H |
| 7. | CHARACTER TABLE: JAPANESE, EUROPEAN, CYRILLIC |

| REVISIONS | | | |
|-----------|----------|-------|-------------|
| NO. | DATE | BY | DESCRIPTION |
| 1 | 02/07/12 | A.C.H | NEW RELEASE |

NT-C2048A

20 CHARACTERS X 4 LINES



ALL DIMENSIONS ARE IN MM. TOLERANCE IS +/0.2 UNLESS OTHERWISE NOTED.



NELY, YOUR SUPPLIER, AND YOUR PARTNER!