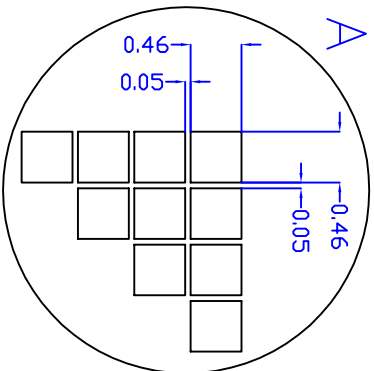


\* SEGMENT DRIVER:  
KS0108 OR EQUIV.  
\* COMMON DRIVER:  
KS0107 OR EQUIV.



\* FOR LED BACKLIGHT  
T1=14.0MAX T2=9.0±0.3  
\* FOR EL OR NO BACKLIGHT  
T1=11.0MAX T2=6.0±0.3

REVISIONS

| NO. | DATE     | BY   | DESCRIPTION |
|-----|----------|------|-------------|
| 1   | 02/10/15 | A.CH | NEW RELEASE |

PINS ASSIGNMENT

| NO.  | SYMBOL  | DESCRIPTION                          |
|------|---------|--------------------------------------|
| 1    | VSS     | GROUND                               |
| 2    | VDD     | POWER SUPPLY FOR LOGIC AND LCD       |
| 3    | V0      | OPERATING VOLTAGE FOR LCD            |
| 4    | RS      | DATA/INSTRUCTION SELECT              |
| 5    | R/W     | READ/WRITE SELECT                    |
| 6    | E       | ENABLE SIGNAL                        |
| 7-14 | DB0-DB7 | DATA BUS                             |
| 15   | /CS1    | CHIP SELECT OF IC1 (LOW EFFECTIVE)   |
| 16   | /RST    | RESET SIGNAL (LOW EFFECTIVE)         |
| 17   | /CS2    | CHIP SELECT OF IC2 (LOW EFFECTIVE)   |
| 18   | /CS3    | CHIP SELECT OF IC3 (LOW EFFECTIVE)   |
| 19   | VEE     | NEGATIVE VOLTAGE OUTPUT/INPUT (-10V) |
| 20   | A       | POWER SUPPLY FOR LED BL (+5.0V)      |

ABSOLUTE MAXIMUM RATING

| ITEM                   | SYMBOL  | MIN | MAX  | UNIT |
|------------------------|---------|-----|------|------|
| POWER SUPPLY (LOGIC)   | VDD-VSS | 0   | 6.5  | V    |
| POWER SUPPLY (LCD DRV) | VDD-V0  | 0   | 18.0 | V    |
| INPUT VOLTAGE          | VI      | VI  | VDD  | V    |

ELECTRICAL CHARACTERISTICS

| ITEM                  | SYMBOL  | MIN    | TYP  | MAX    | UNIT |
|-----------------------|---------|--------|------|--------|------|
| VOLTAGE FOR LOGIC     | VDD-VSS | 4.75   | 5.0  | 5.25   | V    |
| SUPPLY CURRENT        | IDD     | -      | 5.1  | 9.8    | mA   |
| LCD OPERATING VOLTAGE | VDD-V0  | -      | 10.7 | -      | V    |
|                       | 25C     | -      | 10.5 | -      | V    |
|                       | 40C     | -      | 10.3 | -      | V    |
| INPUT VOLTAGE         | H       | 0.7VDD | -    | VDD    | V    |
|                       | L       | 0      | -    | 0.3VDD | V    |
| VOLTAGE FOR LED BL    | VA-VSS  | 4.0    | 4.10 | 4.40   | V    |

MECHANICAL SPECIFICATIONS

| ITEM         | SPECIFICATION                  | UNIT |
|--------------|--------------------------------|------|
| OVERALL SIZE | 130.0W x 65.0H x 14.0T (10.0T) | MM   |
| VIEWING AREA | 104.0W x 39.0H                 | MM   |
| DOT NUMBER   | 192 x 64                       | DOTS |
| DOT SIZE     | 0.46W x 0.46H                  | MM   |
| DOT PITCH    | 0.51W x 0.51H                  | MM   |

- OPTIONS
1. LCD TYPE: Y/G STN; GRAY STN; B/W FSTN
  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: ON BOARD DC/DC(SINGLE 5.0V); DUAL POWER SUPPLY(5.0V & -10.0V)
  6. VIEWING ANGLE: 6H; 12H

NT-G192641A

192 X 64 DOTS GRAPHIC LCM



NELY, YOUR SUPPLIER, AND YOUR PARTNER!

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

