

|                    |        |                      |            |
|--------------------|--------|----------------------|------------|
| MC21605C6W-SPR3-V2 | 2 x 16 | 5mm Character Height | LCD Module |
| Specification      |        |                      |            |
| Version: 1         |        | Date: 21/10/2016     |            |
| Revision           |        |                      |            |
|                    |        |                      |            |

| Display Features      |                         |  |                  |
|-----------------------|-------------------------|--------------------------------------------------------------------------------------|------------------|
| Character Count       | 2 x 16                  |                                                                                      |                  |
| Appearance            | Black on Yellow/Green   |                                                                                      |                  |
| Logic Voltage         | 3V                      |                                                                                      |                  |
| Interface             | Parallel                |                                                                                      |                  |
| Font Set              | English / Japanese      |                                                                                      |                  |
| Display Mode          | Reflective              |                                                                                      |                  |
| Character Height      | 4.35mm                  |                                                                                      |                  |
| LC Type               | STN                     |                                                                                      |                  |
| Module Size           | 80.00 x 36.00 x 9.50 mm |                                                                                      |                  |
| Operating Temperature | -20°C ~ +70°C           |                                                                                      |                  |
| Construction          | COB                     | Box Quantity                                                                         | Weight / Display |
| LED Backlight         | ---                     | 45 pcs                                                                               | 28.88 grams      |

\* - For full design functionality, please use this specification in conjunction with the ST7066U specification. (Provided Separately)

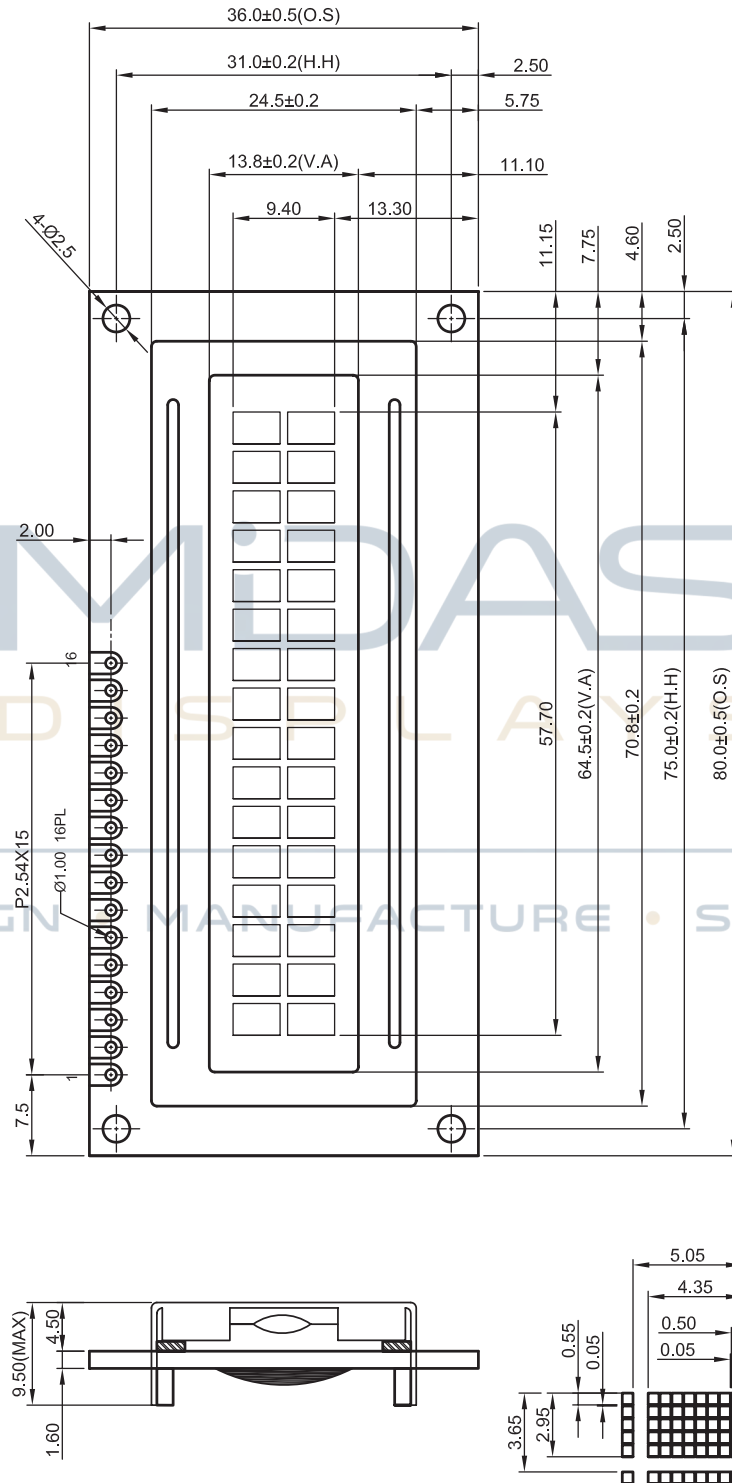
| Display Accessories          |                                                                                                      |
|------------------------------|------------------------------------------------------------------------------------------------------|
| Part Number                  | Description                                                                                          |
| MCCMDB-16SIL                 | LCD Interconnect board, can be driven from either a PC or a single Board computer with a USB output. |
| MCCBL1A16SLIP<br>-16DILS-150 | 16 Way, Single in-line to Dual In-line connector Cable.                                              |
| MCCBL1A16SLIP<br>-16SILS-150 | 16 Way, Single in-line to Single In-line connector Cable.                                            |

| Optional Variants                       |                                                                   |         |
|-----------------------------------------|-------------------------------------------------------------------|---------|
| Fonts                                   | Appearances                                                       | Voltage |
| English / European<br>English / Russian | Black on White<br>Black on Red<br>Black on Amber<br>White on Blue | 5V      |



## Mechanical Specifications

| Module Size    | 80.00 x 36.00 x 9.50 ( Without Backlight) |          |                 |               | W x H x D mm |
|----------------|-------------------------------------------|----------|-----------------|---------------|--------------|
| Viewing Area   | 64.50 x 13.80                             | W x H mm | Hole-to-Hole    | 75.00 x 31.00 | W x H mm     |
| Character Size | 2.95 x 4.35                               | W x H mm | Character Pitch | 0.70 x 0.70   | W x H mm     |
| Dot Size       | 0.55 x 0.50                               | W x H mm | Dot Pitch       | 0.05 x 0.05   | W x H mm     |



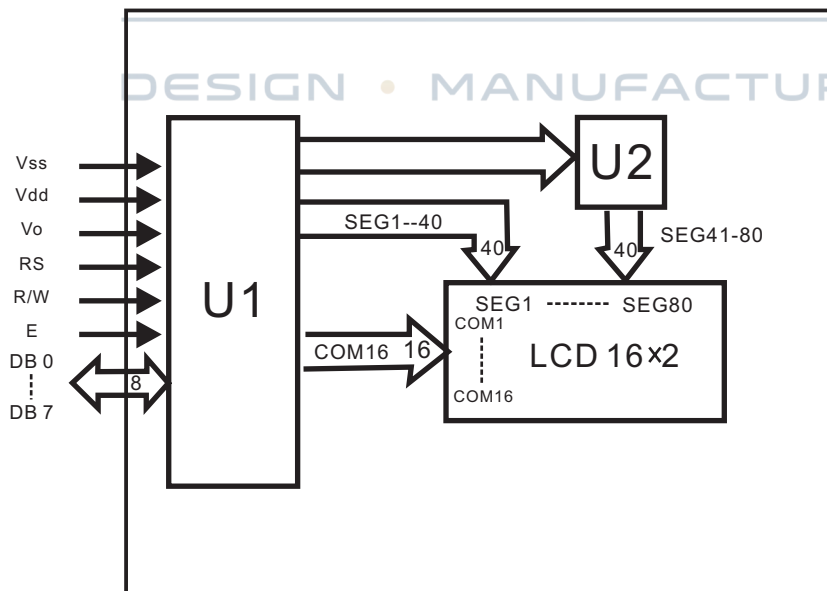
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## Pin Layout

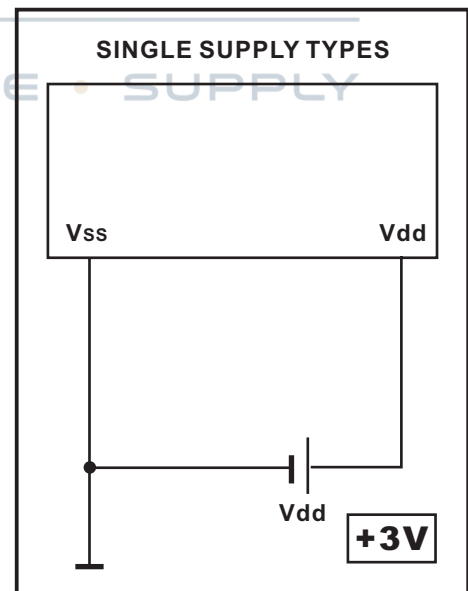
| PI | SYMBOL | DESCRIPTION            | REMARKS |
|----|--------|------------------------|---------|
| 1  | Vss    | GND                    |         |
| 2  | Vdd    | Power supply for LCM   | 3.0V    |
| 3  | NC     | No Connection          |         |
| 4  | RS     | Register Select Signal |         |
| 5  | R/W    | Data Read / Write      |         |
| 6  | E      | Enable Signal          |         |
| 7  | DB0    | Data bus line          |         |
| 8  | DB1    | Data bus line          |         |
| 9  | DB2    | Data bus line          |         |
| 10 | DB3    | Data bus line          |         |
| 11 | DB4    | Data bus line          |         |
| 12 | DB5    | Data bus line          |         |
| 13 | DB6    | Data bus line          |         |
| 14 | DB7    | Data bus line          |         |
| 15 | NC     | No Connection          |         |
| 16 | NC     | No Connection          |         |

MDAS  
DISPLAYS

### Block Diagram



### Power Supply Diagram



|                    |        |                      |            |
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## Font Map

| Upper<br>4bit<br>Lower<br>4bit | LLLL             | LLHH | LLHL | LLHH | LHLL | LHLH | LHHL | LHHH | HLLL | HLLH | HLHL | HLHH | HHLL | HHLH | HHHL | HHHH |
|--------------------------------|------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| LLLL                           | CG<br>RAM<br>(1) |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| LLHH                           | (2)              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| LLHL                           | (3)              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| LLHH                           | (4)              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| LHLL                           | (5)              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| LHLH                           | (6)              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| LHHL                           | (7)              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| LHHH                           | (8)              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| HLLL                           | (1)              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| HLLH                           | (2)              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| HLHL                           | (3)              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| HLHH                           | (4)              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| HHLL                           | (5)              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| HHLH                           | (6)              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| HHHL                           | (7)              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| HHHH                           | (8)              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |

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| Absolute Maximum Ratings |        |           |           |     |          |      |
|--------------------------|--------|-----------|-----------|-----|----------|------|
| Item                     | Symbol | Condition | Min       | Typ | Max      | Unit |
| Power Supply ( LOGIC)    | Vdd    | 25°C      | -0.3      | --- | 7.0      | V    |
| Power Supply (LCD)       | V0     | 25°C      | Vdd -13.5 | --- | Vdd +0.3 | V    |
| Input Voltage            | Vin    | 25°C      | -0.3      | --- | Vdd +0.3 | V    |
| Operating Temperature    | Vopr   | ---       | -20       | --- | 70       | C    |
| Storage Temperature      | Vstg   | ---       | -30       | --- | 80       | C    |

| Electronic Characteristics    |                   |           |     |     |     |      |
|-------------------------------|-------------------|-----------|-----|-----|-----|------|
| Item                          | Symbol            | Condition | Min | Typ | Max | Unit |
| Input Voltage                 | Vlcm = Vdd        | ---       | --- | 3.0 | --- | V    |
| Supply Current                | Idd               | Vdd=5V    | --- | 1.5 | --- | mA   |
| Driving Voltage for LCD Panel | Vlcd = (Vdd - V0) | -20 °C    | --- | --- | --- | V    |
|                               |                   | 0 °C      | --- | --- | --- |      |
|                               |                   | 25 °C     | --- | --- | --- |      |
|                               |                   | 50 °C     | --- | --- | --- |      |
|                               |                   | 70 °C     | --- | --- | --- |      |

| LCD Characteristics          |                   |           |     |     |     |      |
|------------------------------|-------------------|-----------|-----|-----|-----|------|
| For STN/FSTN LCD Panel Types |                   |           |     |     |     |      |
| Item                         | Symbol            | Condition | Min | Typ | Max | Unit |
| Viewing Angle                | $\Phi 2 - \Phi 1$ | K = 4     | 40° | --- | --- | Deg  |
|                              | $\Theta$          |           | 60° |     |     |      |
| Contrast Ratio               | K                 | ---       | --- | 10  | --- | ---  |
| Response Time (Rise)         | TR                | ---       | --- | 150 | 250 | ms   |
| Response Time (Fall)         | TF                | ---       | --- | 150 | 250 | ms   |

DESIGN • MANUFACTURE • SUPPLY

|                    |        |                      |            |
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