

|                  |            |                  |             |
|------------------|------------|------------------|-------------|
| MDOB256064GX-MWU | 256 x 64   | White            | OLED Module |
| Specification    |            |                  |             |
| Version: 1       |            | Date: 13/04/2018 |             |
| Revision         |            |                  |             |
| 1                | 12/04/2018 | First Release.   |             |

| Display Features      |                         |  |                  |
|-----------------------|-------------------------|--------------------------------------------------------------------------------------|------------------|
| Resolution            | 256 x 64                |                                                                                      |                  |
| Appearance            | White on Black          |                                                                                      |                  |
| Logic Voltage         | 3V                      |                                                                                      |                  |
| Interface             | Serial UART RS232/TTL   |                                                                                      |                  |
| Module Size           | 98.00 x 60.00 x 9.10 mm |                                                                                      |                  |
| Operating Temperature | -40°C ~ +85°C           |                                                                                      |                  |
| Construction          | COB                     | Box Quantity                                                                         | Weight / Display |
|                       |                         | ---                                                                                  | ---              |

\* - For full design functionality, please use this specification in conjunction with the SSD1322 specification.(Provided Separately)

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| Display Accessories |             |
|---------------------|-------------|
| Part Number         | Description |
|                     |             |
|                     |             |
|                     |             |

| Optional Variants |         |
|-------------------|---------|
| Appearance        | Voltage |
|                   |         |
|                   |         |
|                   |         |



## Functions and Features

- 3.12 inch 256X64 Graphic
- Built-in MCU;FLASH;OLED Driver controller;
- UART interface(TTL RX/TX OR RS232 RX/TX)
- viewing angle Free
- Wide Temperature -40℃ ~ +80℃ (Operating)
- Multi-language built-in font
- Up to save monochrome (256\*64 Dots) 200 images
- FLASH (up to 1,000 PROGRAM/ERASE cycles)
- RoHS compliant

## Mechanical Specification

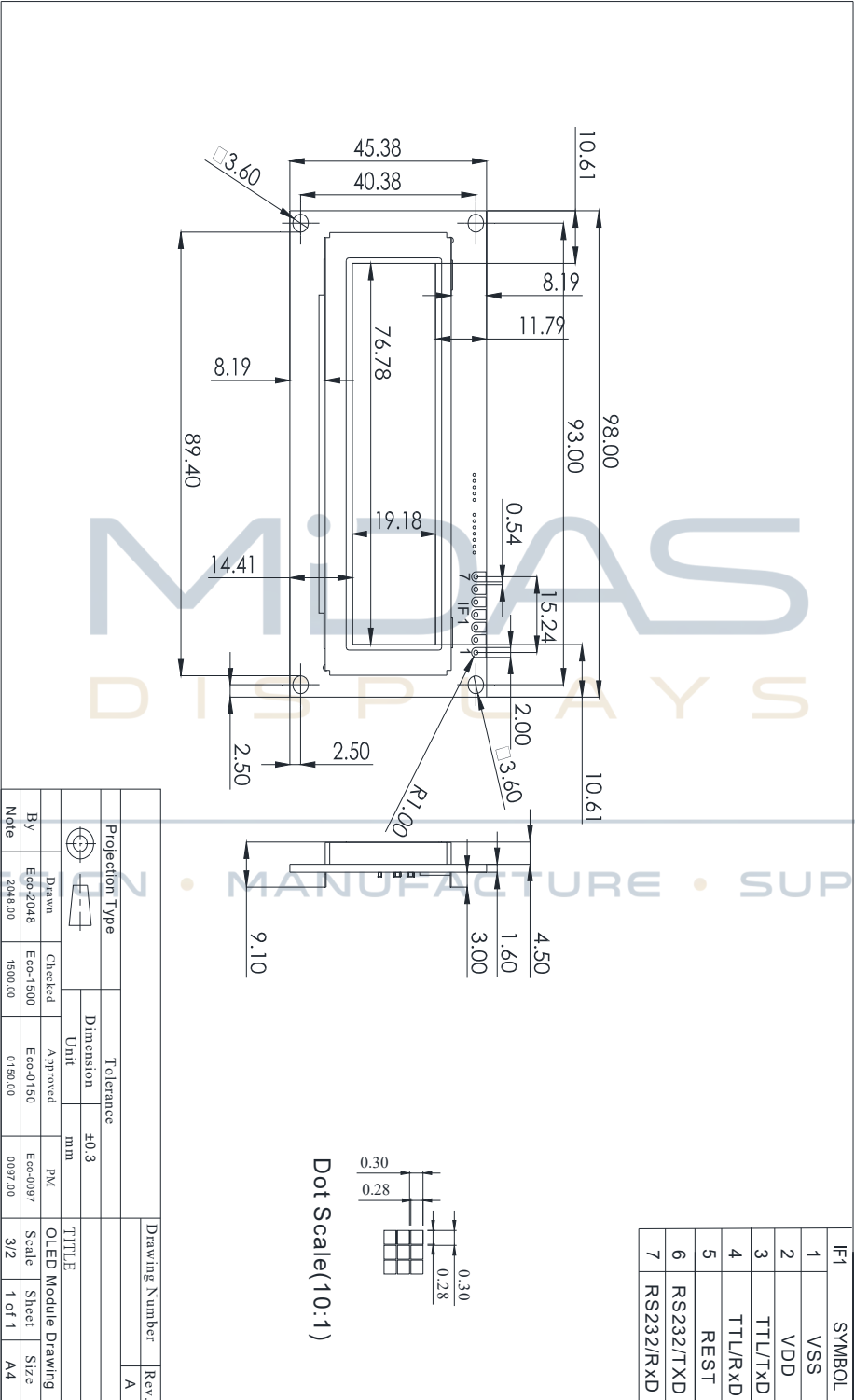
| Item                   | Description           |      |
|------------------------|-----------------------|------|
| Inch                   | 3.12"                 |      |
| Color                  | White                 |      |
| Active Area            | 76.78(W)×19.18(H)     | mm   |
| Module Size            | 98.00(W)×60.00(H)     | mm   |
| Dot Size               | 0.28(W)×0.28(H)       | mm   |
| Dot Pitch              | 0.30(W)×0.30(H)       | mm   |
| Display Format         | 256×64                |      |
| Duty Ratio             | 1/64                  | Duty |
| OLED Driver Controller | SSD1322 or Equivalent |      |
| Built-in MCU           | N/A                   |      |
| Built-in Flash         | N/A                   |      |
| Operation Temperature  | -40~85                | °C   |
| Storage Temperature    | -40~90                | °C   |
| Response Time          | ≤10                   | us   |

### ※Precautions in use of OLED Modules

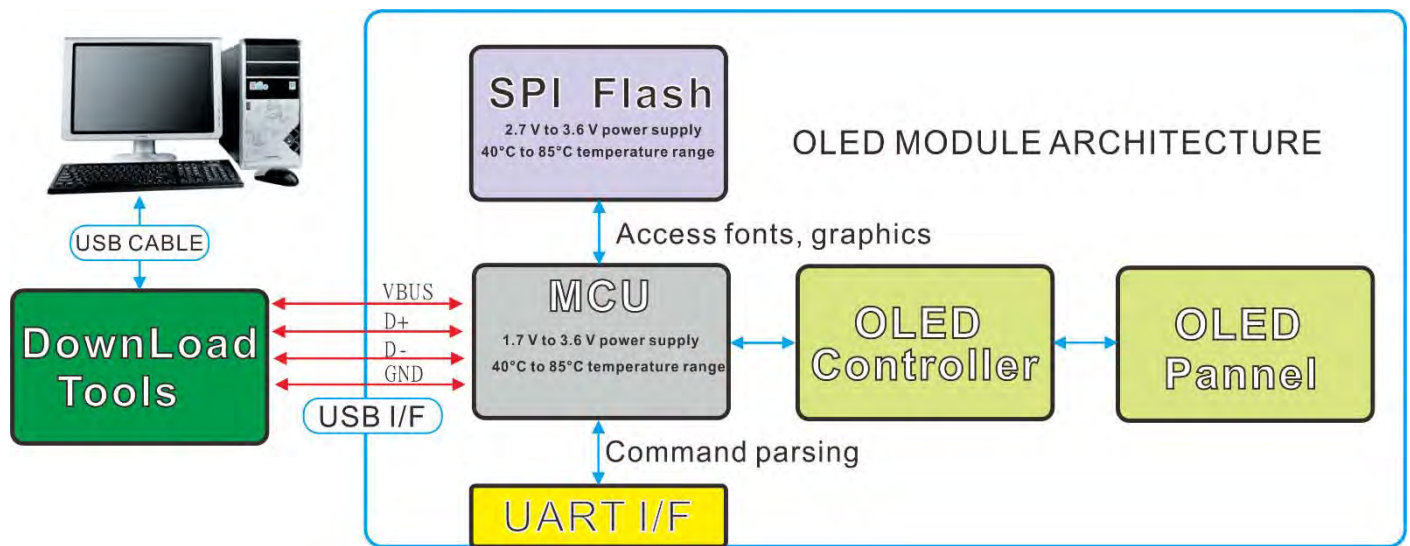
- ① Don't disassemble , drop, bend or twist the OLED Module.
- ② Don't operate it above the absolute maximum rating.
- ③ Don't modify its shape or change the components of OLED module.
- ④ Storage: please storage in anti-static electricity container and clean environment.
- ⑤ MIDAS have the right to change the passive components and PCB Rev.



Mechanical Drawing



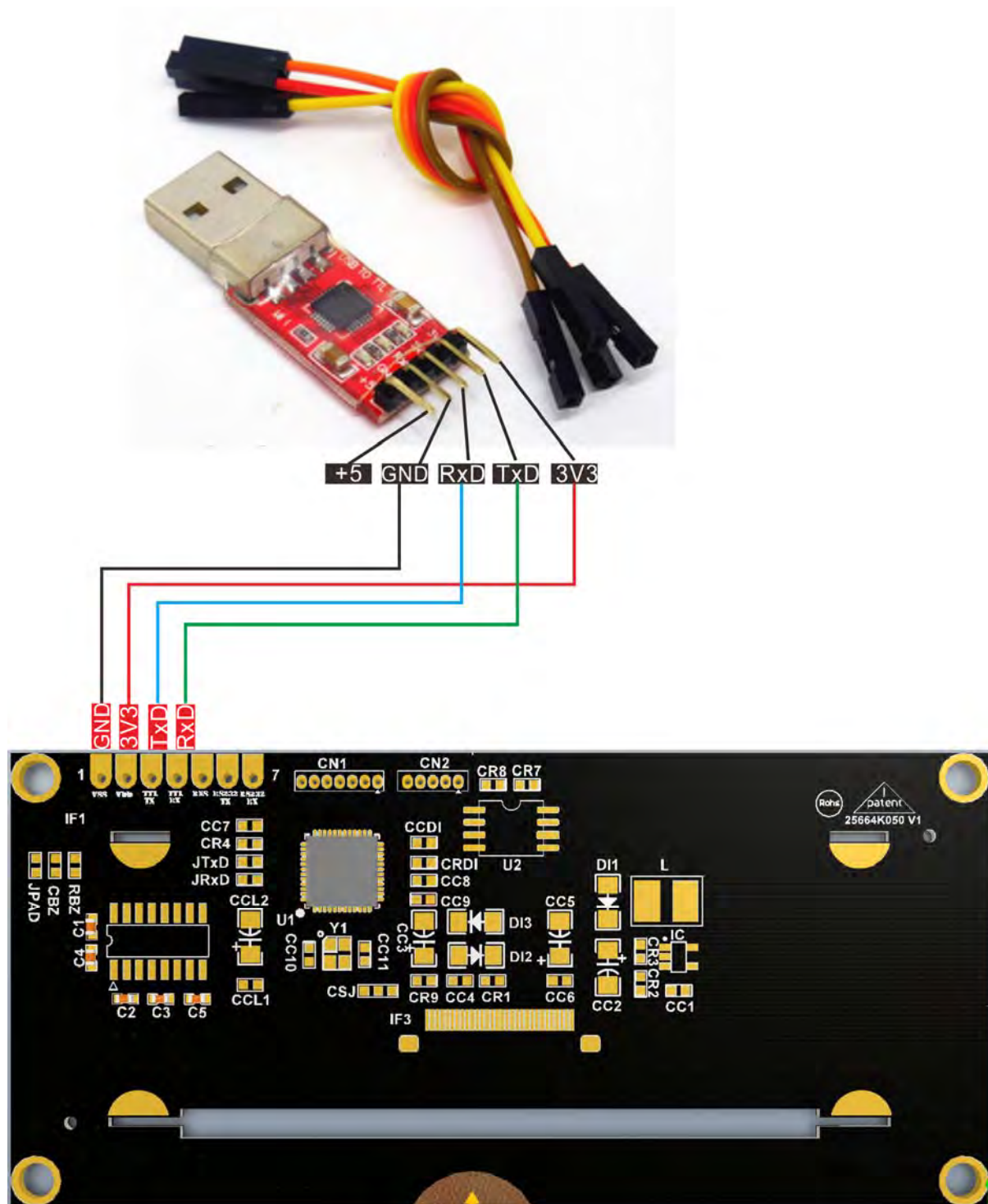
## OLED Module architecture



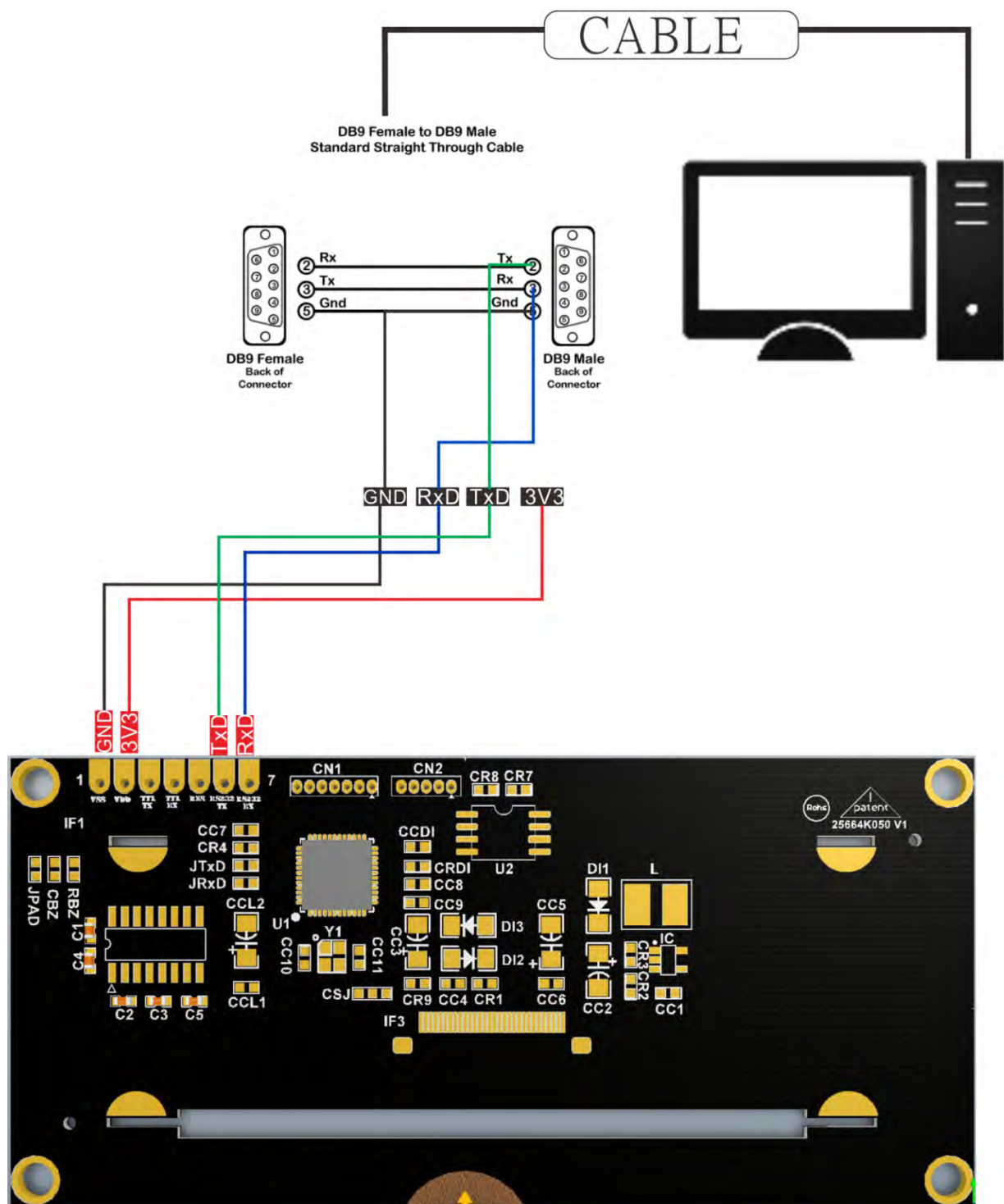
MIDAS  
DISPLAYS

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.TTL RxD/TxD description  
Ex.CP2102 Module USB to TTL



**.RS232 RxD/TxD description**

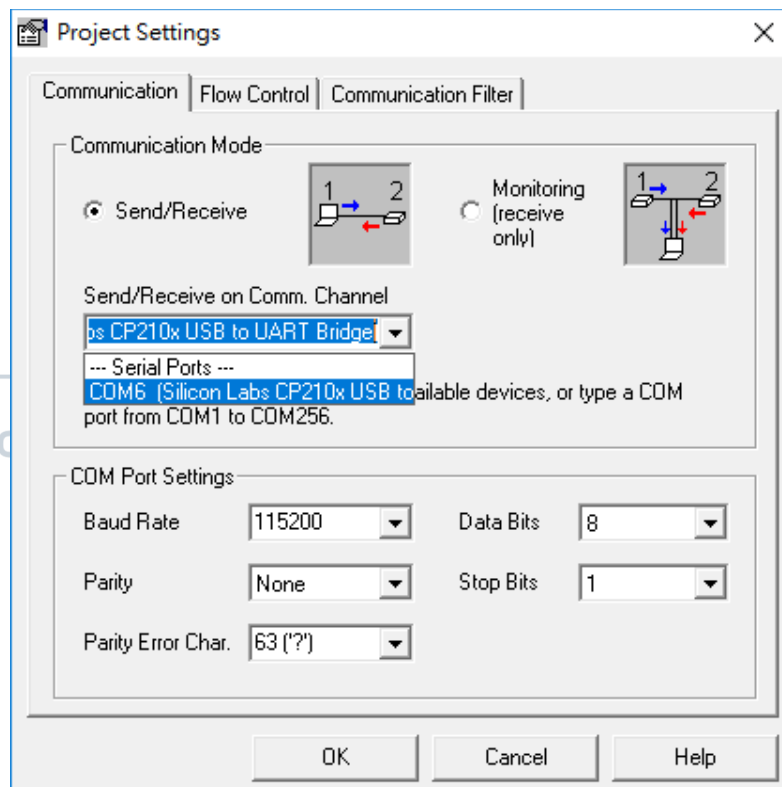
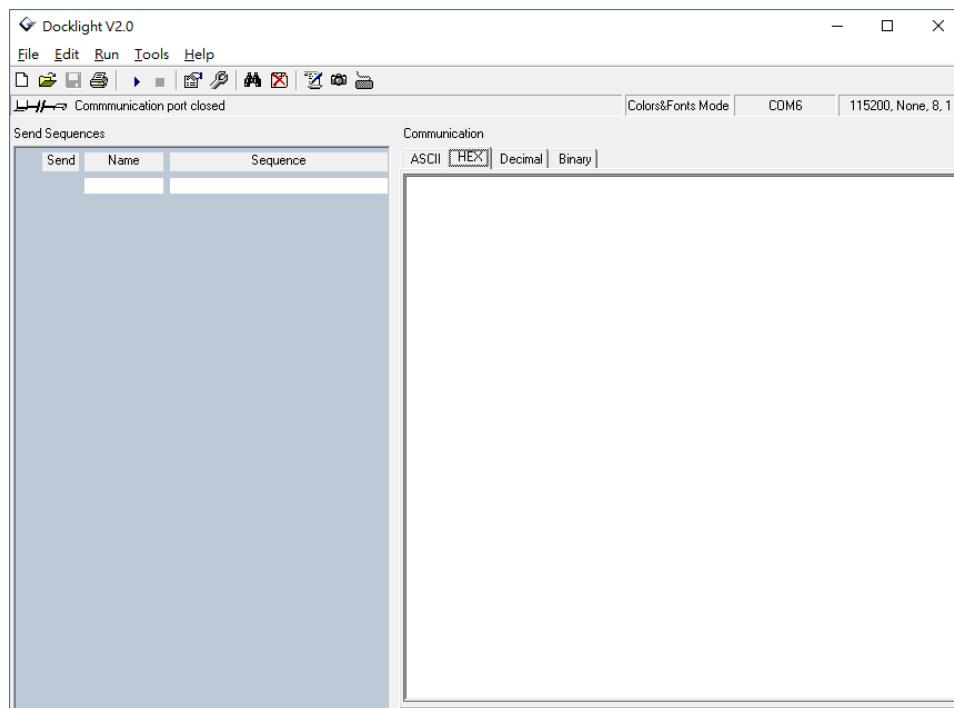


## .Commissioning serial port software settings

Ex. Docklight.

(TTL UART) **Baud Rate:57600, Parity:None**

**Data Bits:8 , Stop Bits:1**



## Pin Description

### IF2 Interface

| Pin No. | Symbol | External | Description |
|---------|--------|----------|-------------|
|---------|--------|----------|-------------|

|   |          | Connection   |                                   |
|---|----------|--------------|-----------------------------------|
| 1 | VSS      | Power Supply | Ground                            |
| 2 | VDD      | Power Supply | Supply Voltage for OLED and logic |
| 3 | TxD      | MPU          | (TTL)Transmitted Data             |
| 4 | RXD      | MPU          | (TTL)Received Data                |
| 5 | Rest     | MPU          | Rest Signal                       |
| 6 | Rs232TxD | comport      | RS232 Transmitted Data            |
| 7 | Rs232RxD | comport      | RS232 Received Data               |




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## DC Characteristics

| Item                         | Symbol                | Condition | Min. | Type | Max. | Unit |
|------------------------------|-----------------------|-----------|------|------|------|------|
| Supply Voltage for Operation | V <sub>DD</sub>       |           | 2.7  | 3.0  | 3.3  | Volt |
| Operating Current            | I <sub>DD</sub>       | Note *    | -    | TBD  | -    | mA   |
| Sleep Mode Current           | I <sub>DD,SLEEP</sub> |           | -    | TBD  | -    | μA   |

Note \*: V<sub>DD</sub> = 3.0V, 50% Display Area Turn on.

## .Optical Characteristics

| Item                | Symbol | Conditions                 | Min. | Type     | Max. | Unit              |
|---------------------|--------|----------------------------|------|----------|------|-------------------|
| Brightness          | Lbr    | With Polarizer<br>(Note *) | -    | 80(TBD)  | -    | cd/m <sup>2</sup> |
| C.I.E.              | (X)    | With Polarizer             | 0.28 | 0.32     | 0.36 |                   |
|                     | (Y)    |                            | 0.29 | 0.33     | 0.37 |                   |
| Dark Room Contrast  | CR     | -                          | -    | >10000:1 | -    |                   |
| Viewing angle range | -      | -                          | -    | Free     | -    | Degree            |

\* Optical measurement taken at V<sub>DD</sub> = 3.0V,

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## Absolute Maximum rating

| Item                              | Symbol          | Min. | Typ.   | Max. | Unit | Notes |
|-----------------------------------|-----------------|------|--------|------|------|-------|
| Supply Voltage for Operation      | V <sub>CI</sub> | -0.3 | -      | 3.3  | Volt | 1,2   |
| Life Time (50 cd/m <sup>2</sup> ) |                 | ---  | 60,000 | ---  | Hour |       |

Note 1: All the above voltages are on the basis of "V<sub>SS</sub> = 0V".

Note 2: When this module is used beyond the above absolute maximum ratings, permanent breakage of the module may occur. Also, for normal operations, it is desirable to use this module under the conditions according to Section "Optics". If this module is used beyond these conditions, malfunctioning of the module can occur and the reliability of the module may deteriorate.

## .UART Command Description

### Command

#### 1. Clear screen: [A1]

#### Description:

0      1                      2,3   4,5   6,7   8,9   10                      11                      12

[A1] [Data Length] [X] [Y] [W] [H] [Mode] [CRC16\_L] [CRC16\_H]

byte[0]      Command code: 0xA1

byte[1]      Data Length

byte[2:3]    X: X coordinate => byte[LowByte:HiByte] => (uint16\_t)(Little Endian)

byte[4:5]    Y: Y coordinate => byte[LowByte:HiByte] => (uint16\_t)(Little Endian)

byte[6:7]    W: W Width      => byte[LowByte:HiByte] => (uint16\_t)(Little Endian)

byte[8:9]    H: H    Hight      => byte[LowByte:HiByte] => (uint16\_t)(Little Endian)

byte[10]     Mode:    0x00    Clear screen

                 0x01    Clear X,Y,W,H Designated area



byte[11:12] CRC16: CRC16\_L+CRC16\_H

**\*Note1. CRC-16 calculation**

```
// =====
```

```
Unsigned int crc_chk(unsigned char* data, unsigned char length)
```

```
{  
int j;  
unsigned int reg_crc=0xFFFF;  
while(length--)  
{  
reg_crc ^= *data++;  
for(j=0;j<8;j++)  
{  
if(reg_crc & 0x01) /* LSB(b0)=1 */  
reg_crc=(reg_crc>>1) ^ 0xA001;  
else  
reg_crc=reg_crc >>1;  
}  
} return reg_crc;  
}
```

```
//=====
```

Mode:[0] Clear screen

| Command | Data length | X | Y | Width | Hight | Mode | CRC16   |
|---------|-------------|---|---|-------|-------|------|---------|
| A1      | 9           | 0 | 0 | 255   | 63    | 0    | *Note1. |

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Ex.

0xA1 0x09 0x00 0x00 0x00 0x00 0xFF 0x00 0x3F 0x00 0x00 0xF4  
0x2D

Mode:[1] Clear X,Y,W,H Designated area

| Command | Data length | X | Y | Width | Hight | Mode | CRC16   |
|---------|-------------|---|---|-------|-------|------|---------|
| A1      | 9           | 0 | 0 | 255   | 63    | 0    | *Note1. |

Ex.

A1 09 00 00 00 00 FF 00 3F 00 01 35 ED



## 2. Set Contrast: [A2]

### Description:

0      1                      2                      3                      4                      5                      6  
[A2] [Data Length] [Star brightness] [End brightness] [Intervals] [CRC16\_L]  
[CRC16\_H]

byte[0]      Command code:      0xA2

byte[1]      Data Length

byte[2]      Star brightness

byte[3]      End brightness

byte[4]      Intervals: Time interval of each stage.

When for adjusting brightness, fade (fade-out), each stage of the delay time.

byte[5:6] CRC16: CRC16\_L+CRC16\_H

| Command | Data length | StarBright<br>ness | EndBright<br>ness | Intervals | CRC16   |
|---------|-------------|--------------------|-------------------|-----------|---------|
| A2      | 3           | 1                  | 255               | 10        | *Note1. |

Ex.

A2 03 01 FF 0A 4D AA

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## 3. Power Switch: [A3]

### Description:

0      1                      2                      3                      4  
[A3] [Data Length] [Switch] [CRC16\_L] [CRC16\_H]

byte[0]      Command code: 0xA3

byte[1]      Data Length

byte[1]      Switch

0x00: OFF

0x01: ON

byte[3:4] CRC16: CRC16\_L+CRC16\_H

Switch[0];Power OFF

| Command | Data length | Switch | CRC16 |
|---------|-------------|--------|-------|
|---------|-------------|--------|-------|

|    |   |   |                |
|----|---|---|----------------|
| A3 | 1 | 0 | <b>*Note1.</b> |
|----|---|---|----------------|

Ex.

A3 01 00 80 72

Switch[1];Power ON

| Command | Data length | Switch | CRC16          |
|---------|-------------|--------|----------------|
| A3      | 1           | 1      | <b>*Note1.</b> |

Ex.

A3 01 01 41 B2

## 4. GRAPHIC DISPLAY: [B1]

Description:

0 1 2,3 4,5 6,7 8 9 10

[B1] [Data Length] [X] [Y] [Graphic Code Value] [Mode] [CRC16\_L] [CRC16\_H]

byte[0] Command code: 0xB1

byte[1] Data Length

byte[2:3] X: X coordinate => byte[LowByte:HiByte] => (uint16\_t)(Little Endian)

byte[4:5] Y: Y coordinate => byte[LowByte:HiByte] => (uint16\_t)(Little Endian)

byte[6:7] Graphic Code Value (Graphic store address code) =>

byte[LowByte:HiByte] => (uint16\_t)(Little Endian)

byte[8] Mode:

0x00: (overlapping)

0x01: (cover)

byte[9:10] CRC16: CRC16\_L+CRC16\_H

Mode[0]:overlapping

Graphic code value[1]:First Graphic

| Command | Data length | X | Y | Graphic code value | Mode | CRC16 |
|---------|-------------|---|---|--------------------|------|-------|
|---------|-------------|---|---|--------------------|------|-------|

|    |   |   |   |   |   |                |
|----|---|---|---|---|---|----------------|
| B1 | 7 | 0 | 0 | 1 | 0 | <b>*Note1.</b> |
|----|---|---|---|---|---|----------------|

Ex.

B1 07 00 00 00 01 00 00 22 81

Mode[1]:cover

Graphic code value[1]:First Graphic

| Command | Data length | X | Y | Graphic code value | Mode | CRC16          |
|---------|-------------|---|---|--------------------|------|----------------|
| B1      | 7           | 0 | 0 | 1                  | 1    | <b>*Note1.</b> |

Ex.

B1 07 00 00 00 01 00 01 E3 41

## 5. Character Display: [C1]

**Description:**

0 1 2,3 4,5 6,7 8 ...N N+1 N+2

[C1] [Data Length] [X] [Y] [Font] {[chr0], [chr1], [chr2]...[chrN]} [CRC16\_L]

[CRC16\_H]

byte[0] Command code: 0xC1

byte[1] Data Length

byte[2:3] X: X coordinate => byte[LowByte:HiByte] => (uint16\_t)(Little Endian)

byte[4:5] Y: Y coordinate => byte[LowByte:HiByte] => (uint16\_t)(Little Endian)

byte[6:7] Font: Font size index (\*Font Table)

byte[8...] {[chr0], [chr1], [chr2]...[chrN], [00]}: Text content, 0x00: String end code

byte[N+1:N+2] CRC16: CRC16\_L+CRC16\_H

| Command | Data length | X | Y | Font | Text content | CRC16          |
|---------|-------------|---|---|------|--------------|----------------|
| C1      | 1F          | 0 | 0 | 25   | "MIDAS"      | <b>*Note1.</b> |

Ex. C1 0B 00 00 00 00 19 00 50 49 54 45 4B 88 56

## 6. Character scroll display: [C2]

### Description:

0      1                      2                      3,4 5,6    7,8      9              10              11...N              N+1  
N+2              N+2

[C1] [Data Length][Windows ID] [X] [Y] [Font] [Move][Speed]{[chr0], [chr1],

[chr2]...[chrN]} [CRC16\_L] [CRC16\_H]

byte[0]      Command code: 0xC2

byte[1]      Data Length

byte[2]      Windows ID: Can set (0~3) a total of four mobile text blocks

byte[3:4]    X: X coordinate => byte[LowByte:HiByte] => (uint16\_t)(Little Endian)

byte[5:6]    Y: Y coordinate => byte[LowByte:HiByte] => (uint16\_t)(Little Endian)

byte[7:8]    Font:      Font size index (\*Font Table1&2,Page20-21.)

byte[9]      Move: Right to left

byte[10]     Speed: Text movement speed; 0~100 steps

byte[11...]   {[chr0], [chr1], [chr2]...[chrN], [00]}: Text content, 0x00: String end code

byte[N+1:N+2] CRC16: CRC16\_L+CRC16\_H

| Command | Data length | X | Y | Font | Move | Speed | Text content | CRC16       |
|---------|-------------|---|---|------|------|-------|--------------|-------------|
| C2      | 0F          | 0 | 0 | 25   | 0    | 0     | "MIDAS"      | *Note1<br>. |

Ex. C2 0F 00 00 00 00 00 19 00 00 00 50 49 54 45 4B FF B3 A9

(Text removal)

Ex. : C2 0A 00 00 00 00 00 00 00 00 00 00 BF 5C

## 7. Blinking character: [C3]

### Description:

0      1                      2                      3,4 5,6    7,8      9              10              11...N              N+1

N+2      N+2

[C1] [Data Length][Windows ID] [X] [Y] [Font] [Type][Time]{[chr0], [chr1],

[chr2]...[chrN]} [CRC16\_L] [CRC16\_H]

byte[0]      Command code: 0xC2

byte[1]      Data Length

byte[2]      Windows ID: Can set (0~3) a total of four mobile text blocks

byte[3:4]    X: X coordinate => byte[LowByte:HiByte] => (uint16\_t)(Little Endian)

byte[5:6]    Y: Y coordinate => byte[LowByte:HiByte] => (uint16\_t)(Little Endian)

byte[7:8]    Font:      Font size index (\*Font Table1&2,Page20-21.)

byte[9]      Type: Blinking Type Set;

0x00 Flashes foreground and background

0x01 Flashing foreground and background (black)

0x02 Flashing foreground and background (white)

byte[10]     Time: Flashing interval;0~2000 steps

byte[11...]    {[chr0], [chr1], [chr2]...[chrN], [00]}: Text content, 0x00: String end code

byte[N+1:N+2] CRC16: CRC16\_L+CRC16\_H

| Comma<br>nd | Data<br>length | X | Y | Font | Type | Time | Text<br>content | CRC16         |
|-------------|----------------|---|---|------|------|------|-----------------|---------------|
| C3          | 09             | 0 | 0 | 25   | 0    | 0    | "MIDAS"         | <b>*Note1</b> |

Ex. C3 09 00 00 00 00 00 00 00 01 2C 25 C1

(Unblink)

Ex. C3 0B 00 00 00 00 00 00 00 00 00 00 E2 F2

## 8. Check Busy: [55]

0      1                  2                  3  
[55] [Data Length] [CRC16\_L] [CRC16\_H]

|       |      |       |
|-------|------|-------|
| Comma | Data | CRC16 |
|-------|------|-------|

|    |        |                    |
|----|--------|--------------------|
| nd | length |                    |
| 55 | 0      | <b>*Note1</b><br>. |

Ex.55 00 3E E0

Response data packet

| Command | Data length | Respond | Panel size | CRC16          |
|---------|-------------|---------|------------|----------------|
| 55      | 3           | 0       | 03 12      | <b>*Note1.</b> |

Ex.55 03 00 03 12 A8 B5

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# FONT TABE 1.

| Character set          | Font Table                                                  | Character Size | ASCII characters<br>Full width characters | Typeface      | FONT Index<br>Index coding |
|------------------------|-------------------------------------------------------------|----------------|-------------------------------------------|---------------|----------------------------|
| CODE PAGE              | Japanese<br>characters<br>Shift-JIS<br>CODE PAGE <b>932</b> | 8x16           | 190                                       | 明體            | 0                          |
|                        |                                                             | 16x16          | 7109                                      |               |                            |
|                        | Traditional<br>characters<br>BIG-5<br>CODE PAGE <b>950</b>  | 24x24          | 190                                       | 明體            | 1                          |
|                        |                                                             | 24x24          | 7109                                      |               |                            |
|                        | Simplified<br>characters<br>Gb2312<br>CODE PAGE <b>936</b>  | 8x16           | 128                                       | 細明體           | 2                          |
|                        |                                                             | 16x16          | 13054                                     |               |                            |
| ASCII<br>character set |                                                             | 12x24          | 128                                       | 細明體           | 3                          |
|                        |                                                             | 24x24          | 13054                                     |               |                            |
|                        |                                                             | 8x16           | 96                                        | standard      | 4                          |
|                        |                                                             | 16x16          | 8178                                      |               |                            |
|                        |                                                             | 12x24          | 96                                        | standard      | 5                          |
|                        |                                                             | 24x24          | 8178                                      |               |                            |
|                        | ASCII                                                       | 4x6            | 256                                       | 1bpp standard | 8                          |
|                        | ASCII                                                       | 5x8            | 256                                       | 1bpp standard | 9                          |
|                        | ASCII                                                       | 5x12           | 256                                       | 1bpp standard | 10                         |
|                        | ASCII                                                       | 6x8            | 256                                       | 1bpp standard | 11                         |
|                        | ASCII                                                       | 6x10           | 256                                       | 1bpp standard | 12                         |
|                        | ASCII                                                       | 7x12           | 256                                       | 1bpp standard | 13                         |
|                        | ASCII                                                       | 8x8            | 256                                       | 1bpp standard | 14                         |
|                        | ASCII                                                       | 8x12           | 256                                       | cyrillic      | 15                         |
|                        | ASCII                                                       | 8x12           | 256                                       | 1bpp standard | 16                         |
|                        | ASCII                                                       | 8x14           | 256                                       | 1bpp standard | 17                         |
|                        | ASCII                                                       | 8x15           | 256                                       | 1bpp standard | 18                         |
|                        | ASCII                                                       | 10x16          | 256                                       | 1bpp standard | 19                         |
|                        | ASCII                                                       | 12x16          | 256                                       | 1bpp standard | 20                         |
|                        | ASCII                                                       | 12x20          | 256                                       | 1bpp standard | 21                         |
|                        | ASCII                                                       | 16x26          | 256                                       | 1bpp standard | 22                         |
|                        | ASCII                                                       | 22x36          | 256                                       | 1bpp standard | 23                         |
|                        | ASCII                                                       | 24x40          | 256                                       | 1bpp standard | 24                         |
|                        | ASCII                                                       | 32x53          | 256                                       | 1bpp standard | 25                         |



## FONT TABE 2.

|                  |       |                           |     |                             |    |
|------------------|-------|---------------------------|-----|-----------------------------|----|
| ASCII characters | ASCII | Unequal width<br>Height12 | 96  | 4bpp Gray font<br>Arial     | 26 |
|                  | ASCII | Unequal width<br>Height14 | 96  | 4bpp Gray font<br>Arial     | 27 |
|                  | ASCII | Unequal width<br>Height16 | 96  | 4bpp Gray font<br>Arial     | 28 |
|                  | ASCII | Unequal width<br>Height20 | 96  | 4bpp Gray font<br>Arial     | 29 |
|                  | ASCII | Unequal width<br>Height24 | 96  | 4bpp Gray font<br>Arial     | 30 |
|                  | ASCII | Unequal width<br>Height32 | 96  | 4bpp Gray font<br>Arial     | 31 |
|                  | ASCII | Unequal width<br>Height40 | 96  | 4bpp Gray font<br>Arial     | 32 |
|                  | ASCII | Unequal width<br>Height48 | 96  | 4bpp Gray font<br>Arial     | 33 |
| ASCII characters | ASCII | Width20<br>Height20       | 96  | 4bpp Gray font<br>LED       | 34 |
|                  | ASCII | Width35<br>Height32       | 96  | 4bpp Gray font<br>LED       | 35 |
|                  | ASCII | Width35<br>Height48       | 96  | 4bpp Gray font<br>LED       | 36 |
| ASCII characters | ASCII | Unequal width<br>Height16 | 96  | 4bpp Gray font<br>Square    | 37 |
|                  | ASCII | Unequal width<br>Height20 | 96  | 4bpp Gray font<br>Square    | 38 |
|                  | ASCII | Unequal width<br>Height24 | 96  | 4bpp Gray font<br>Square    | 39 |
|                  | ASCII | Unequal width<br>Height32 | 96  | 4bpp Gray font<br>Square    | 40 |
|                  | ASCII | Unequal width<br>Height40 | 96  | 4bpp Gray font<br>Square    | 41 |
|                  | ASCII | Unequal width<br>Height52 | 96  | 4bpp Gray font<br>Square    | 42 |
| ASCII characters | ASCII | Unequal width<br>Height12 | 224 | 2bppGray font<br>Droid Sans | 43 |
|                  | ASCII | Unequal width<br>Height16 | 224 | 2bppGray font<br>Droid Sans | 44 |
|                  | ASCII | Unequal width<br>Height20 | 224 | 2bppGray font<br>Droid Sans | 45 |
|                  | ASCII | Unequal width<br>Height24 | 224 | 2bppGray font<br>Droid Sans | 46 |
|                  | ASCII | Unequal width<br>Height32 | 224 | 2bppGray font<br>Droid Sans | 47 |
|                  | ASCII | Unequal width<br>Height48 | 224 | 2bppGray font<br>Droid Sans | 48 |
|                  | ASCII | Unequal width<br>Height64 | 224 | 2bppGray font<br>Droid Sans | 49 |



## Font style sheet

Arial font 96 words

|      |   |   |   |   |    |   |   |   |   |   |   |   |   |   |   |   |
|------|---|---|---|---|----|---|---|---|---|---|---|---|---|---|---|---|
| 0000 |   |   |   |   |    |   |   |   |   |   |   |   |   |   |   |   |
| 0010 |   |   |   |   |    |   |   |   |   |   |   |   |   |   |   |   |
| 0020 |   | ! | " | # | \$ | % | & | ' | ( | ) | * | + | , | - | . | / |
| 0030 | 0 | 1 | 2 | 3 | 4  | 5 | 6 | 7 | 8 | 9 | : | ; | < | = | > | ? |
| 0040 | @ | A | B | C | D  | E | F | G | H | I | J | K | L | M | N | O |
| 0050 | P | Q | R | S | T  | U | V | W | X | Y | Z | [ | \ | ] | ^ | _ |
| 0060 | ` | a | b | c | d  | e | f | g | h | i | j | k | l | m | n | o |
| 0070 | p | q | r | s | t  | u | v | w | x | y | z | { |   | } | ~ |   |

LED font 96 words

|      |   |   |   |   |    |   |   |   |   |   |   |   |   |   |   |   |
|------|---|---|---|---|----|---|---|---|---|---|---|---|---|---|---|---|
| 0000 |   |   |   |   |    |   |   |   |   |   |   |   |   |   |   |   |
| 0010 |   |   |   |   |    |   |   |   |   |   |   |   |   |   |   |   |
| 0020 |   | ! | " | # | \$ | % | & | ' | ( | ) | * | + | , | - | . | / |
| 0030 | 0 | 1 | 2 | 3 | 4  | 5 | 6 | 7 | 8 | 9 | : | ; | < | = | > | ? |
| 0040 | @ | A | B | C | D  | E | F | G | H | I | J | K | L | M | N | O |
| 0050 | P | Q | R | S | T  | U | V | W | X | Y | Z | [ | \ | ] | ^ | _ |
| 0060 | ` | a | b | c | d  | e | f | g | h | i | j | k | l | m | n | o |
| 0070 | p | q | r | s | t  | u | v | w | x | y | z | { |   | } | ~ |   |

Square font 96 words

|      |   |   |   |   |    |   |   |   |   |   |   |   |   |   |   |   |
|------|---|---|---|---|----|---|---|---|---|---|---|---|---|---|---|---|
| 0000 |   |   |   |   |    |   |   |   |   |   |   |   |   |   |   |   |
| 0010 |   |   |   |   |    |   |   |   |   |   |   |   |   |   |   |   |
| 0020 |   | ! | " | # | \$ | % | & | ' | ( | ) | * | + | , | - | . | / |
| 0030 | 0 | 1 | 2 | 3 | 4  | 5 | 6 | 7 | 8 | 9 | : | ; | < | = | > | ? |
| 0040 | @ | A | B | C | D  | E | F | G | H | I | J | K | L | M | N | O |
| 0050 | P | Q | R | S | T  | U | V | W | X | Y | Z | [ | \ | ] | ^ | _ |
| 0060 | ` | a | b | c | d  | e | f | g | h | i | j | k | l | m | n | o |
| 0070 | p | q | r | s | t  | u | v | w | x | y | z | { |   | } | ~ |   |

Droid Sans font 224 words

|      |   |   |   |   |    |   |   |   |   |   |   |   |   |   |   |   |
|------|---|---|---|---|----|---|---|---|---|---|---|---|---|---|---|---|
| 0000 |   |   |   |   |    |   |   |   |   |   |   |   |   |   |   |   |
| 0010 |   |   |   |   |    |   |   |   |   |   |   |   |   |   |   |   |
| 0020 |   | ! | " | # | \$ | % | & | ' | ( | ) | * | + | , | - | . | / |
| 0030 | 0 | 1 | 2 | 3 | 4  | 5 | 6 | 7 | 8 | 9 | : | ; | < | = | > | ? |
| 0040 | @ | A | B | C | D  | E | F | G | H | I | J | K | L | M | N | O |
| 0050 | P | Q | R | S | T  | U | V | W | X | Y | Z | [ | \ | ] | ^ | _ |
| 0060 | ` | a | b | c | d  | e | f | g | h | i | j | k | l | m | n | o |
| 0070 | p | q | r | s | t  | u | v | w | x | y | z | { |   | } | ~ |   |
| 0080 | À | á | Â | ã | Ä  | å | Č | ć | Č | č | Č | č | Č | č | Đ | d |
| 0090 | Ð | đ | Ē | ē | Ē  | ě | Ē | ě | Ē | ě | Ē | ě | Ē | ě | Ē | ě |
| 00A0 |   | ı | ç | £ | ¤  | ¥ | ı | š | ı | © | ª | « | ¬ | - | ® |   |
| 00B0 | ° | ± | ² | ³ | ´  | µ | ¶ | · | ¸ | ¹ | º | » | ¼ | ½ | ¾ | ¿ |
| 00C0 | À | Á | Â | Ã | Ä  | Å | Æ | Ç | È | É | Ê | Ë | Ì | Í | Î | Ï |
| 00D0 | Ð | Ñ | Ò | Ó | Ô  | Õ | Ö | × | Ø | Ù | Ú | Û | Ü | Ý | Þ | ß |
| 00E0 | à | á | â | ã | ä  | å | æ | ç | è | é | ê | ë | ì | í | î | ï |