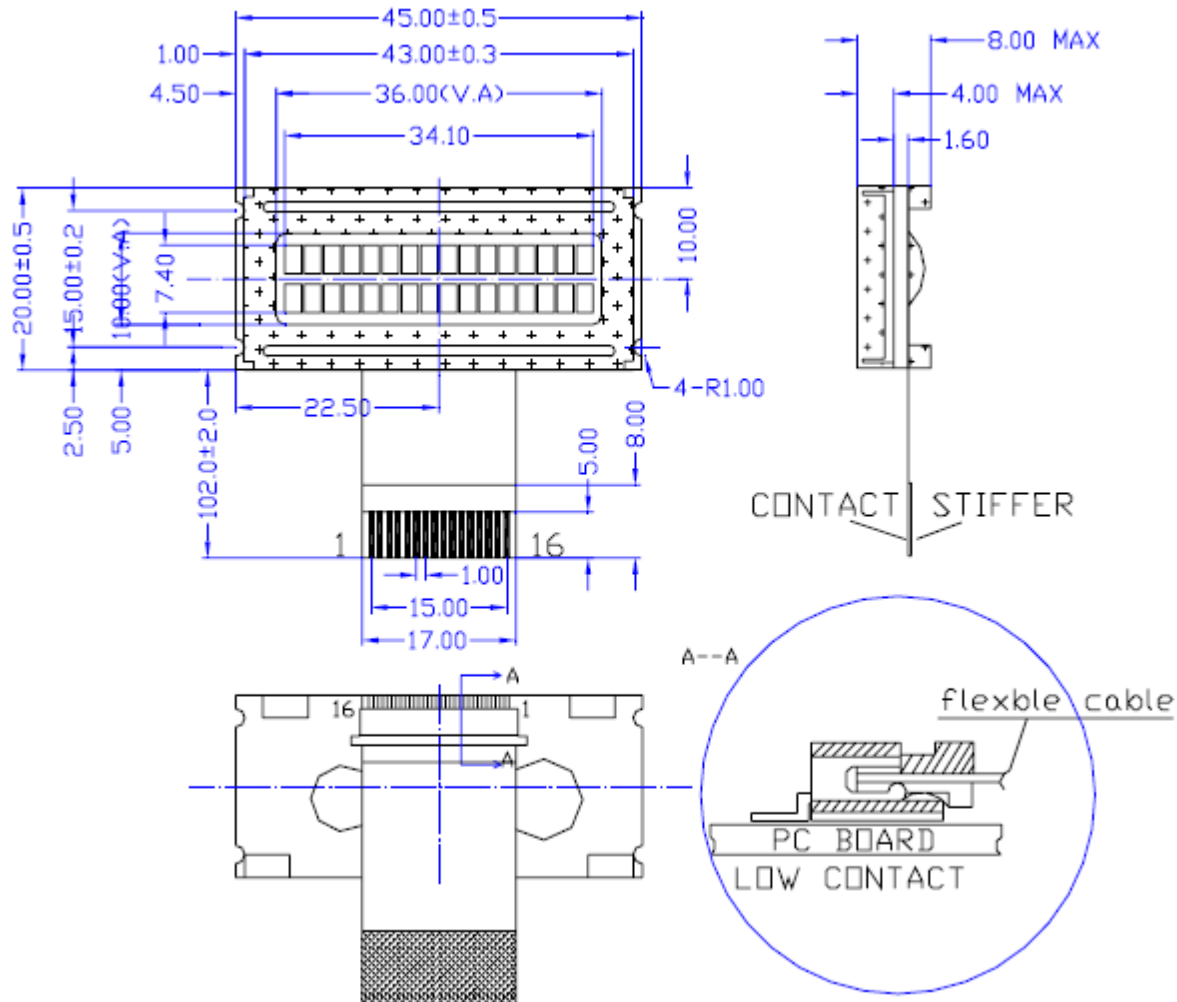




## Basic Character LCD Drawing

Part Number: FDS16x2(45x20)DBC



### Features:

1. 5x7 Dots with cursor
2. Built-in controller (SPLC780D or Equivalent)
3. +5V power supply
4. 1/16 duty cycle, 1/5 Bias



### Interface Pin Connections

| NO | SYM             | LEVEL | FUNCTION                                | NO | SYM             | LEVEL | FUNCTION      |
|----|-----------------|-------|---|----|-----------------|-------|---------------|
| 1  | V <sub>SS</sub> | 0     | GND                                     | 9  | DB <sub>2</sub> | H/L   | DATA BIT 2    |
| 2  | V <sub>DD</sub> | 4.7V  | Power Supply for Logic (+4.7V)          | 10 | DB <sub>3</sub> | H/L   | DATA BIT 3    |
| 3  | V <sub>0</sub>  | -     | Input Voltage for LCD                   | 11 | DB <sub>4</sub> | H/L   | DATA BIT 4    |
| 4  | RS              | H/L   | H:Data Signal,<br>L: Instruction Signal | 12 | DB <sub>5</sub> | H/L   | DATA BIT 5    |
| 5  | R/W             | H/L   | H:Read Mode, L:Write Mode               | 13 | DB <sub>6</sub> | H/L   | DATA BIT 6    |
| 6  | E               | H,H/L | ENABLE SIGNAL                           | 14 | DB <sub>7</sub> | H/L   | DATA BIT 7    |
| 7  | DB <sub>0</sub> | H/L   | DATA BIT 0                              | 15 | A               | +4.7V | BACKLIGHT (+) |
| 8  | DB <sub>1</sub> | H/L   | DATA BIT 1                              | 16 | K               | 0V    | BACKLIGHT (-) |

### Absolute Maximum Rating

| ITEM                     | SYMBOL              | MIN  | TYP | MAX                  | UNIT |
|--------------------------|---------------------|------|-----|----------------------|------|
| Supply Voltage for Logic | V <sub>DD-VSS</sub> | -0.3 | --- | 7.0                  | V    |
| Supply Voltage for LCD   | V <sub>DD-V0</sub>  | 0    | --- | 13.0                 |      |
| Input Voltage            | V <sub>I</sub>      | -0.3 | --- | V <sub>DD</sub> +0.3 |      |

### Electrical Characteristics

Electrical Characteristics at Ta=25 deg C, V<sub>dd</sub> = 4.7V + / - 5%

| ITEM   | SYM                 | CONDITION              | MIN  | TYP  | MAX             | UNIT |
|--|---------------------|------------------------|------|------|-----------------|------|
| Supply Voltage for Logic                     | V <sub>DD-VSS</sub> | ---                    | 4.5  | 4.7  | 5.5             | V    |
| Supply Voltage for LCD                       | V <sub>DD-V0</sub>  | V <sub>DD</sub> = 4.7V | --   | 4.5  | --              | V    |
| Input Signal Voltage (for RS, DB0-7, R/W, E) | V <sub>ih</sub>     | "H" Level              | 2.2  | --   | V <sub>DD</sub> | V    |
|  | V <sub>il</sub>     | "L" Level              | 0    | --   | 0.6             | V    |
| Supply Current for Logic                     | I <sub>CC</sub>     | ---                    | --   | 1    | 1.2             | mA   |
| Supply Current for LCD                       | I <sub>o</sub>      | ---                    | 0.15 | 0.22 | 0.27            | mA   |

### Mechanical Data

| ITEM             | STANDARD          | UNIT |
|------------------|-------------------|------|
| MODULE DIMENSION | 45.0 x 20.0 x 8.0 | mm   |
| VIEWING AREA     | 36.0 x 10.0       | mm   |
| CHARACTER SIZE   | 1.85 x 3.15       | mm   |