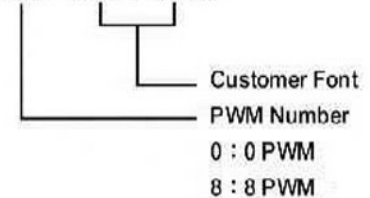


# D1642 OSD Controller

## D1642 X<sub>1</sub> X<sub>2</sub> X<sub>3</sub>



D1642 is an advanced low cost On Screen Display (OSD) controller specifically designed for monitor display application. It's OSD special effects like color fonts, fade-in/fade-out effect, character border/shadow allows the monitor designer to construct fresh and elegant OSD messages that stands out in the crowd. 256 character/symbol make more choice and flexibility for designer.

I<sup>2</sup>C bus MCU interface fits the trend of monitor design. 30 columns and 15 rows are huge room for clear and concise messages. Rich features and low price, D1642 is your best choice for OSD display monitor at a low budget.

### Feature

- Package Options:
  - 16 pin DIP
  - 24 pin DIP
- OSD Screen:
  - 30 columns x 15 rows
- Character:
  - 12 (H) x 18 (V) dot matrix
- Font
  - 256 characters, including 16 color fonts
- Max Internal PLL System Clock:
  - 92.2 MHz
- Wide Operating Frequency Range:
  - 15KHz ~ 120KHz
- Fancy Fade-In/Fade-Out Effects
- Character Bordering or Shadowing
- Character/Symbol Blinking Function
- Shadowing on Windows with Programmable
  - Shadow Width/Height
- Two Resolutions: 384 (CGA) or 768 (SVGA) Dots/Line
- MCU interface:
  - I<sup>2</sup>C bus
- Programmable Vertical and Horizontal Positioning for Display Center
- Color ( R,G,B with intensity attribute )
  - Character foreground ..... 8 ( R,G,B )
  - Character background ... 7 ( no black )
  - Window ..... 8 ( R,G,B )
- Programmable Height of Character to Meet Multi-Sync Requirement
- PWM ports ( D16428XX only )
  - 8 Channels 8-bit Synchronous PWM DAC with Push-Pull Output

## D1642 Pin Assignment & Description

| Pin#<br>D16428 | Pin#<br>D16420 | Symbol     | Pin name        | Input/ Output | Description                               |
|----------------|----------------|------------|-----------------|---------------|-------------------------------------------|
| 1              | 1              | VSSA       | Analog ground   | —             |                                           |
| 2              | 2              | NC         | No connection   | —             |                                           |
| 3              | 3              | VCO        | VCO             | —             | Connected to external loop filter circuit |
| 4              | 4              | VDDA       | Analog power    | —             | +5 V                                      |
| 5              | 5              | HS         | Horizontal SYNC | Input         | Horizontal synchronous input signal       |
| 6              | 6              | NC         | No connection   | —             |                                           |
| 7              | 7              | SDA        | Serial data     | Input/output  | I <sup>2</sup> C data                     |
| 8              | 8              | SCL        | Serial clock    | input         | I <sup>2</sup> C clock                    |
| 9-16           |                | PWM0- PWM7 | PWM             | output        | 8 channels of 8-bit PWM DACs.             |
| 17             | 9              | VDD        | Digital power   | —             | +5 V                                      |
| 18             | 10             | VS         | Vertical SYNC   | input         | Vertical synchronous input signal         |
| 19             | 11             | INTN       | Intensity       | output        | Color intensity                           |
| 20             | 12             | BLANK      | Blank           | output        | Blank signal                              |
| 21             | 13             | B          | Blue            | output        | Blue signal                               |
| 22             | 14             | G          | Green           | output        | Green signal                              |
| 23             | 15             | R          | Red             | output        | Red signal                                |
| 24             | 16             | VSS        | Digital ground  | —             |                                           |

Developed and Manufactured by: \_\_\_\_\_

Represented by: \_\_\_\_\_

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