



**Weltrend Semiconductor, Inc.**

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**WT6801**  
**Monitor On-Screen Display**  
**Data Sheet**

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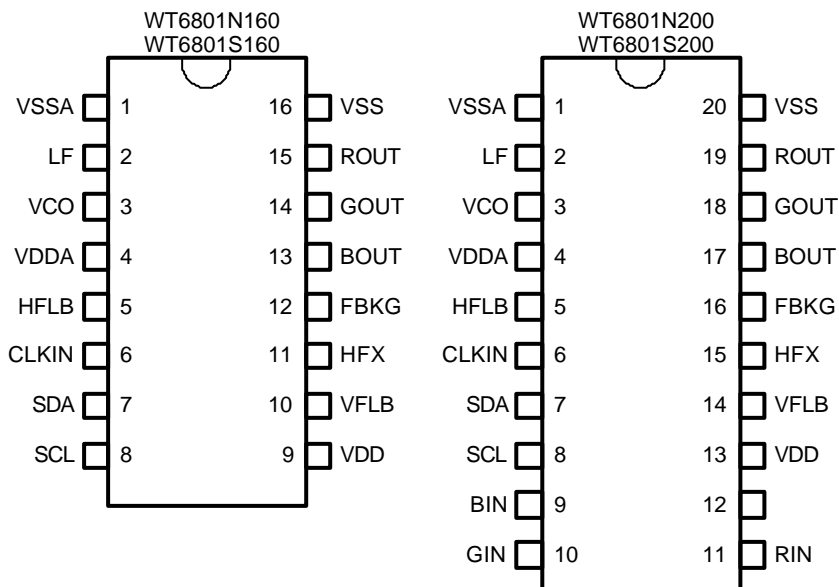
## GENERAL DESCRIPTION

The WT6801 is designed to display color symbols or characters onto monitor. By storing display data in its RAM and control information in the registers via I<sup>2</sup>C interface, WT6801 can carry out screen refresh without any MCU supervision.

## FEATURES

- Programmable horizontal resolutions up to 1530 dots per line
- Horizontal frequency up to 120KHz
- On-chip PLL up to 96MHz
- Fully programmable character array of 15 rows by 30 columns
- 12x18 dot matrix per character
- 256 characters and graphic symbols ROM including 16 multi-color fonts
- 8 colors per display character
- 7 colors per display character background
- 4 programmable windows
- Double character height and width control
- Programmable character height (18 to 71 lines)
- Programmable row-to-row spacing
- Programmable vertical and horizontal positioning for display screen center
- Bordering, shadowing and blinking effect
- Fade-in/Fade-out effect
- Video timing capture for auto sizing
- I<sup>2</sup>C interface with slave address \$7AH
- Package type : 16-pin and 20-pin plastic DIP/SOP

## PIN CONFIGURATION



## PIN DESCRIPTION

Pin No.		Pin Name	I/O	Description
N160 S160	N200 S200			
1	1	VSSA		Analog ground.
2	2	LF	I/O	Loop filter of PLL.
3	3	VCO	I/O	VCO control voltage input.
4	4	VDDA		Analog power supply
5	5	HFLB	I	Horizontal sync input.
6	6	CLKIN	I	External clock input.
7	7	SDA	I/O	Serial data of I <sup>2</sup> C interface.
8	8	SCL	I	Serial clock of I <sup>2</sup> C interface.
	9	BIN	I	Blue color input.
	10	GIN	I	Green color input.
	11	RIN	I	Red color input.
	12	NC		No Connection.
9	13	VDD		Digital power supply
10	14	VFLB	I	Vertical sync input.
11	15	HFX	O	Output a sync signal with N times Hsync input frequency.
12	16	FBKG	O	Fast Blanking output. This pin controls the mixer of video amplifier to cutoff the video signal while displaying character or window.
13	17	BOUT	O	Blue color output
14	18	GOOUT	O	Green color output
15	19	ROUT	O	Red color output
16	20	VSS		Digital ground