



偉詮電子股份有限公司
Weltrend Semiconductor, Inc.

WT6148
Digital Monitor Controller
(ROM Type)

Preliminary Data Sheet

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GENERAL DESCRIPTION

The WT6148 is a microcontroller for digital controlled monitor. It contains an 8-bit CPU, 60K bytes ROM, 1056 bytes RAM, 14 PWMs, parallel I/Os, SYNC signal processor, timer, DDC1/2B interface, master/slave I²C interface, 6-bit A/D converter and watch-dog timer.

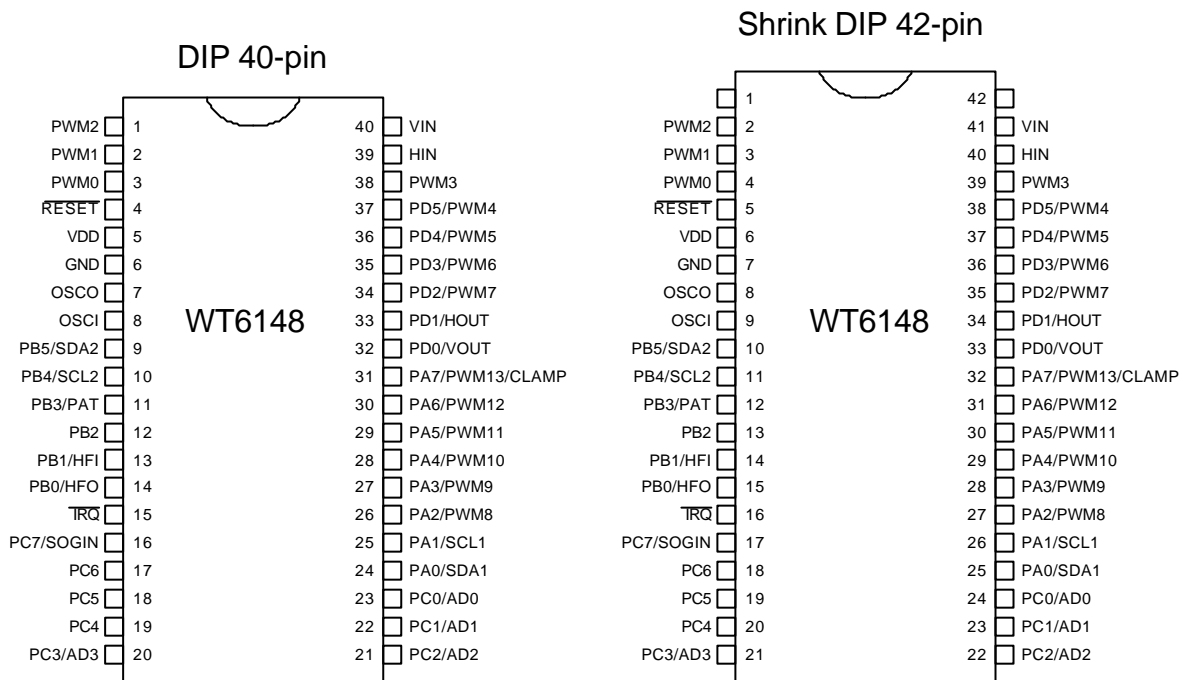
FEATURES

- 8-bit 6502 compatible CPU with 6MHz operating frequency
- 60K bytes ROM, 1024 bytes SRAM+32 bytes bit addressible SRAM
- 12MHz crystal oscillator
- 14 channels 8-bit PWM outputs
- Sync signal processor with H+V separation, H/V frequency counter, H/V polarity detection/control and clamp pulse output
- Six free-running sync signal outputs (Horizontal frequency up to 106KHz)
- Self-test pattern
- DDC1/2B supported
- Fast mode master/slave I²C interface (up to 400KHz)
- Watch-dog timer
- Maximum 28 programmable I/O pins
- One 8-bit programmable timer
- 6-bit A/D converter with 4 selectable inputs
- One external interrupt request input
- Low VDD reset

ORDERING INFORMATION

Package Type	Part Number
42-pin PDIP	WT6148-N42
42-pin Shrink PDIP	WT6148-K42
40-pin PDIP	WT6148-N40
44-pin SOP	WT6148-S44

PIN ASSIGNMENT AND PACKAGE TYPE



PIN DESCRIPTION

Pin No.		Pin Name	I/O	Description
42	40			
1	-	NC		No connection.
2	1	PWM2	O	PWM2 output (10V open-drain).
3	2	PWM1	O	PWM1 output (5V open-drain).
4	3	PWM0	O	PWM0 output (5V open-drain).
5	4	/RESET	I	Reset input.
6	5	VDD		+5V power supply.
7	6	GND		Ground.
8	7	OSCO	I/O	12MHz oscillator output.
9	8	OSCI	I	12MHz oscillator input.
10	9	PB5/ SDA2	I/O	Port B5 or I ² C interface data line.
11	10	PB4/ SCL2	I/O	Port B4 or I ² C interface clock line.
12	11	PB3/PAT	I/O	Port B3 or test pattern output
13	12	PB2	I/O	Port B2.
14	13	PB1/HFI	I/O	Port B1 or half frequency divider input.
15	14	PB0/HFO	I/O	Port B0 or half frequency divider output.
16	15	/IRQ	I	Interrupt request input, A low level on this can generate interrupt.
17	16	PC7/SOGIN	I/O	Port C7 or Sync on Green input.
18	17	PC6	I/O	Port C6.
19	18	PC5	I/O	Port C5.
20	19	PC4	I/O	Port C4.
21	20	PC3/AD3	I/O	Port C3 or ADC input 3.
22	21	PC2/AD2	I/O	Port C2 or ADC input 2.
23	22	PC1/AD1	I/O	Port C1 or ADC input 1.
24	23	PC0/AD0	I/O	Port C0 or ADC input 0.
25	24	PA0/SDA1	I/O	Port A0 or DDC interface SDA pin.
26	25	PA1/SCL1	I/O	Port A1 or DDC interface SCL pin.
27	26	PA2/PWM8	I/O	Port A2 or PWM8 output.
28	27	PA3/PWM9	I/O	Port A3 or PWM9 output.
29	28	PA4/PWM10	I/O	Port A4 or PWM10 output.
30	29	PA5/PWM11	I/O	Port A5 or PWM11 output.
31	30	PA6/PWM12	I/O	Port A6 or PWM12 output.
32	31	PA7/PWM13/ CLAMP	I/O	Port A7 or PWM13 output or clamp pulse output.
33	32	PD0/VOUT	I/O	Port D0 or Vsync output.
34	33	PD1/HOUT	I/O	Port D1 or Hsync output.
35	34	PD2/PWM7	I/O	Port D2 or PWM7 output.
36	35	PD3/PWM6	I/O	Port D3 or PWM6 output.
37	36	PD4/PWM5	I/O	Port D4 or PWM5 output.
38	37	PD5/PWM4	I/O	Port D5 or PWM4 output.
39	38	PWM3	I/O	PWM3 output (10V open-drain).
40	39	HIN	I	Hsync Input.
41	40	VIN	I	Vsync input.
42	-	NC		No connection.