



WTD0002

LCD Front Panel Controller

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Weltrend Semiconductor Inc.

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V1.2

DESCRIPTION

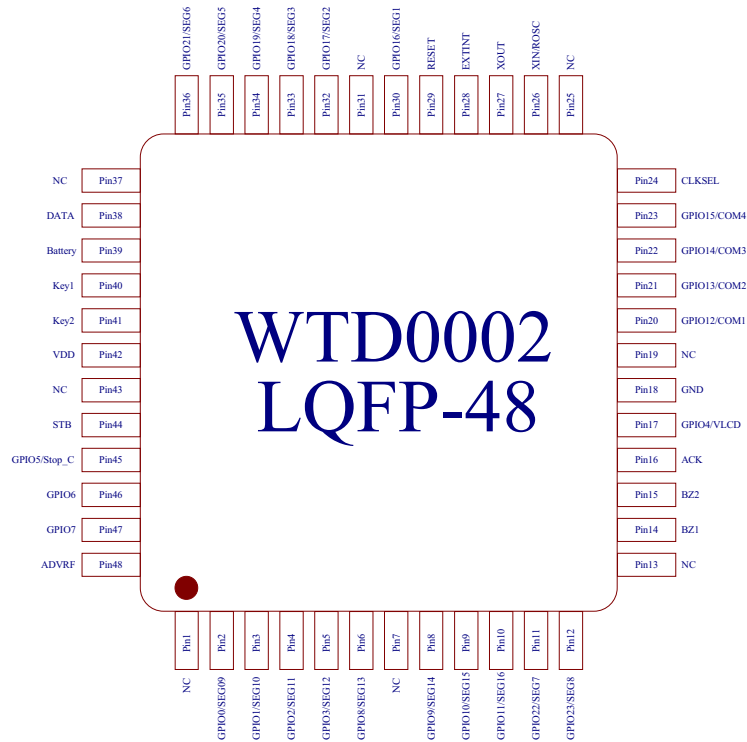
The WTD0002 is a peripheral device for portable equipments; with Handshake Talk bus, 16X4 LCD driver, analogs scan key and 8-bit ADC for battery voltage detection.

This chip is suitable for variable portable products, especially for portable CD line-remote controller and DSC front panel controller.

FEATURE

- ✧ Single-chip LCD driver with Scan-key and ADC
- ✧ Maximum LCD drivers 16 segment x 4 common
- ✧ Selectable LCD driver duty: 1/2, 1/3 or 1/4 duty
- ✧ Selectable LCD driver bias: 1/2, 1/3 bias
- ✧ LCD blink mode support
- ✧ LCD and logic supplies may be separated
- ✧ 16- analog scan keys
- ✧ 1-channel 8-bit ADC for battery voltage detect use
- ✧ Buzzer/Alarm output function
- ✧ Three Line Handshake Talk bus interface
- ✧ Key wake up from power-stop function
- ✧ Interrupt function (ACK pin) can wake-up master MCU
- ✧ Compatible with any 4-bit, 8-bit or 16-bit MCU
- ✧ 2.4 to 5.5 V power supply range
- ✧ Low power consumption (<1uA @ power-stop mode)

PACKAGE PIN ASSIGNMENT



CHIP FORM PIN ASSIGNMENT



PIN DESCRIPTION

SYMBOL	48 PIN LQFP	40 PAD DICE	I/O	FUNCTION DISCRIPTION
NC	1	*	*	*
GPIO0/SEG9	2	6	I/O	GPIO0/LCD driver segment 9
GPIO1/SEG10	3	7	I/O	GPIO1/LCD driver segment 10
GPIO2/SEG11	4	8	I/O	GPIO2/LCD driver segment 11
GPIO3/SEG12	5	9	I/O	GPIO3/LCD driver segment 12
GPIO8/SEG13	6	10	I/O	GPIO8/LCD driver segment 13
NC	7	*	*	*
GPIO9/SEG14	8	11	I/O	GPIO19/LCD driver segment 14
GPIO10/SEG15	9	12	I/O	GPIO10/LCD driver segment 15
GPIO11/SEG16	10	13	I/O	GPIO11/LCD driver segment 16
GPIO22/SEG7	11	14	I/O	GPIO22/LCD driver segment 7
GPIO23/SEG8	12	15	O	GPIO23/LCD driver segment 8
NC	13	*	*	*
BZ1	14	16	O	4K/2KHz frequency Buzzer/Alarm output positive
BZ2	15	17	O	4K/2KHz frequency Buzzer/Alarm output negative
ACK	16	18	O	Acknowledage Output Pin
GPIO4/VLCD	17	19	I/O	GPIO4/LCD bias voltage
GND	18	20	P	Ground
NC	19	*	*	*
GPIO12/COM1	20	21	I/O	GPIO12/LCD driver common 1
GPIO13/COM2	21	22	I/O	GPIO13/LCD driver common 2
GPIO14/COM3	22	23	I/O	GPIO/14LCD driver common 3
GPIO15/COM4	23	24	I/O	GPIO/15LCD driver common 4
CLKSEL	24	25	I	Connect to VDD
NC	25	*	*	*
XIN	26	26	I	Pull-up 10K ohm resistor
XOUT	27	27	O	Oscillator clock output
EXTINT	28	28	I	EXTINT Interrupt Input Pin
RESET	29	29	I	System reset pin
GPIO16/SEG1	30	30	I/O	GPIO16/LCD driver segment 1
NC	31	*	*	*
GPIO17/SEG2	32	31	I/O	GPIO17/LCD driver segment 2

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GPIO18/SEG3	33	32	I/O	GPIO18/LCD driver segment 3
GPIO19/SEG4	34	33	I/O	GPIO19/LCD driver segment 4
GPIO20/SEG5	35	34	I/O	GPIO20/LCD driver segment 5
GPIO21/SEG6	36	35	I/O	GPIO21/LCD driver segment 6
NC	37	*	*	*
DATA	38	36	I/O	Data in/out Pin
BATTERY	39	37	I	Battery voltage detect pin
KEY1	40	38	I	Switch 0~7 input pin
KEY2	41	39	I	Switch 8~F input pin
VDD	42	40	P	VCC power
NC	43	*	*	*
STB	44	1	I	Strob Input Pin
GPIO5/STOP_C	45	2	I/O	Output "0" at power-stop mode
GPIO6	46	3	I/O	General purpose I/O pin6
GPIO7	47	4	I/O	General purpose I/O pin7
ADVRF	48	5	P	ADC reference voltage input

***NOTE:** I: Input O: Output I/O: Input & Output P: Power Connect pin

*: No use