ide for TWR-K60N512

TOWER SYSTEM

TWR-K60N512

Low-power MCU with USB, Ethernet and security

freescale™ semiconductor

Get to Know the TWR-K60N512

Figure 1: Front Side of TWR-K60N512 Module Not Including TWRPI.

TWR-K60N512

The TWR-K60N512 microcontroller module is part of the Freescale Tower System, a modular development platform that enables rapid prototyping and tool re-use through reconfigurable hardware. Take your design to the next level and begin constructing your Tower System today by visiting **freescale.com/tower** for additional Tower System microcontroller modules and compatible peripherals.

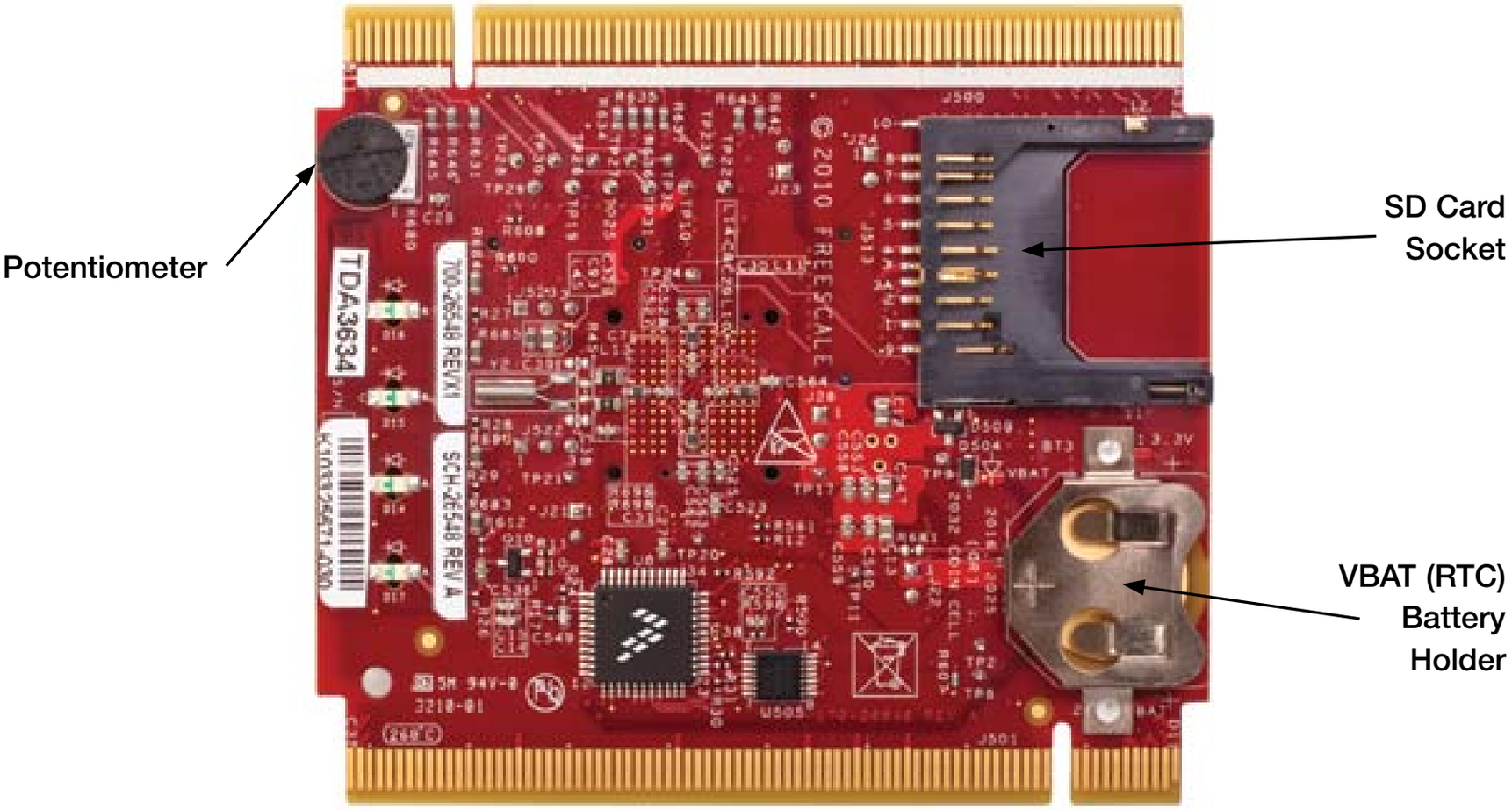

Figure 2: Back Side of TWR-K60N512 Module.

Step-by-Step Installation Instructions

In this Quick Start Guide, you will learn how to set up the TWR-K60N512 module and run the default demonstration.

STEP 1 Install the Software and Tools

Install the P&E Micro Kinetis Tower Toolkit to install the OSJTAG and USB-to-Serial drivers. These can be found on the DVD under Software.

STEP 2 Configure the Hardware

Install the included battery into the VBAT (RTC) battery holder. Then, connect one end of the USB cable to the PC and the other end to the Power/ OSJTAG mini-B connector on the TWR-K60N512 module. Allow the PC to automatically configure the USB drivers if needed.

STEP 3 Tilt the Board

Tilt the board side to side to see the LEDs on E1–E4 light up as it is tilted. While the board is held flat, touch the pads on E1–E4 to toggle the LEDs.

STEP 4 Play the Memory Game

Press **SW2** to play a memory recall game using the touch pads **E1–E4**. A sequence will light up, and then press the touch pads in the order flashed. If an incorrect sequence is touched or you take too long, all the lights will blink rapidly and the game will reset.

Press **SW1** to go back to the accelerometer demo.

Explore Further by Conducting Lab 1: TWR-K60N512 Quick Start Demo

Explore all the features and capabilities of the pre-programmed demo by reviewing the lab document located at **freescale.com/TWR-K60N512**.

Learn More About the Kinetis K60 Microcontrollers

Find more MQX and bare-metal labs and software for the Kinetis K60 microcontrollers at **freescale.com/TWR-K60N512**.

Jumper Options

The following is a list of all the jumper options. The **default** installed jumper settings are shown in **bold**.

Jumper	Option	Setting	Description
J8	MCU Power Connection	**ON**	Connect on-board 3.3V supply to MCU
		OFF	Isolate MCU from power (connect an ammeter to measure current)
J9	VBAT Power Selection	**1-2**	Connect VBAT to on-board 3.3V supply
		2-3	Connect VBAT to the higher voltage between on-board 3.3V supply or coin-cell supply
J6	Clock Input Source Selection	**1-2**	Connect main EXTAL to on-board 50 MHz clock
		2-3	Connect EXTAL to the CLKIN0 signal on the elevator connector
J10	OSJTAG Bootloader Selection	ON	OSJTAG bootloader mode (OSJTAG firmware reprogramming)
		OFF	Debugger mode

Jumper	Option	Setting	Description
J12	JTAG Board Power Connection	ON	Connect on-board 5V supply to JTAG port (supports powering board from JTAG pod supporting 5V supply output)
		OFF	Disconnect on-board 5V supply to JTAG port
J2	IR Transmitter Connection	ON	Connect PTD7/CMT_IRO to IR Transmitter (D507)
		OFF	Disconnect PTD7/CMT_IRO from IR Transmitter (D507)
J1	VREGIN Power Connection	**ON**	Connect USB0_VBUS from Elevator to VREGIN
		OFF	Disconnect USB0_VBUS from Elevator to VREGIN

To learn more about the **TWR-K60N512** and other Freescale Kinetis microcontroller products, please visit **freescale.com/TWR-K60N512, freescale.com/Kinetis** and **freescale.com/Tower.**

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