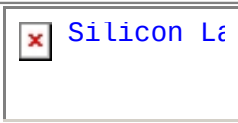


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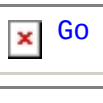


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Si825x Multi -Phase POL Reference Design

MULTIPHSPOL-RD

The Si825x Multi -Phase POL Reference Design demonstrates the Si8250 [digital power controller](#) in a multi -phase point -of -load (POL) application. The kit, available for \$199, includes an assembled and tested evaluation board, real -time application firmware, development tools and documentation.



Hardware Overview

The Si825x Multi -Phase POL Reference Design demonstrates a digitally -controlled POL power supply operating at a switching frequency of 391 kHz. The Si8250 -based multi -phase POL turnkey evaluation board contains power stage circuits and a digital controller, complete with a development tool interface and an SMBus™ port (directly accessible using the included USB to SMBus bridge board).

Application Builder

The reference design kit includes a real -time firmware kernel (fully -documented C -language source code) with all control algorithms pre -written, including nonlinear control for fast transient response and real -time efficiency optimization. Using the Application Builder development tool suite included in the kit, the user can configure, supplement or completely change the kernel without restriction to best suit the end application requirements. The Application Builder includes compensation filter and DPWM timing design and simulation tools, system configuration wizards and Silicon Labs ' [MCU Integrated Development Environment \(IDE\)](#) . For more details on the Application Builder Firmware see Digital Power Development Tools.

The Si825x Multi -Phase POL Reference Design contains the following:

40 amp Si8250 -based multi -phase POL evaluation board

USB to SMBus bridge board

USB debug adapter

USB cable

Product Information CD -ROM

[Silicon Laboratories Integrated Development Environment \(IDE\)](#)

Keil 8051 Development Tools (macro assembler, linker, evaluation C compiler)

Source code examples and register definition files

[Multi -Phase POL Firmware Kernel](#)

Application Builder tool suite (waveform editor, compensator, system and MCU wizards)

Documentation: kernel flowcharts and Si825x data sheet

Si825x Multi -Phase POL Reference Design User 's Guide

Note: The full version of the kernel when compiled is approximately 14 kB. This exceeds the 4 kB limit of the compiler that is shipped with the kit 's software development tools. To avoid a compiler issue, either buy the full Keil compiler toolset or compile the limited version of the kernel.

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