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Descrizione fisica	1 online resource (273 p.)
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Nota di contenuto	Front cover; Designer's Guide to the Cypress PSoC™; Contents; Foreword; Acknowledgments; What's New with PSoC?; What's on the CD-ROM?; Introduction to Microcontroller Basics; What is a Microcontroller?; What About Peripherals?; What's in the CPU?; What Can a Microcontroller Do?; How Does a Microcontroller Work?; A Little Bit About Numbers; Basic Logic; Instructions and Data Handling; Addressing Methods; A Little Bit About Paging; More Information; CHAPTER 1: Why Use the Cypress PSoC?; Notable Qualities of the PSoC Family; My Experience with the PSoC Family; Getting Over Those Speed Bumps A True System on a Chip A Work in Progress; CHAPTER 2: Structure of the PSoC; M8C Core; Oscillator; RAM Organization; Supervisory ROM; Interrupt Controller; General-Purpose I/O; Analog I/O; Digital and Analog Programmable Blocks; CHAPTER 3: PSoC Designer; Device Editor; Application Editor; Debugger; CHAPTER 4: Limitations of the PSoC; Analog Limitations; Digital Limitations; Interconnects on the Newer Parts; CHAPTER 5: Improvements of the PSoC; Analog Improvements; Improved Interconnects; LUTs in Key Locations; CHAPTER 6: PSoC Modules; Analog-to-Digital Converters (ADCs);

Amplifiers

Analog CommCounters; DACs; Digital Comm; Filters; Generic; Miscellaneous Digital; MUXs; PWMs; Random Sequence; Temperature; Timers; CHAPTER 7 :Interconnects; 25xxx/26xxx Interconnection System; 22xxx/24xxx/27xxx/29xxx Interconnection System; Analog Interconnects; CHAPTER 8: PSoC Memory Management; Areas; Where Does My RAM Go?; CHAPTER 9: Multiple Configurations; LoadConfigInit; LoadConfig_ProjectName; UnloadConfig_multipleconfig; ReloadConfig_multipleconfig; LoadConfig_Config1; UnloadConfig_Config1; LoadConfig_Config2; UnloadConfig_Config2; UnloadConfig_Total; NO_SHADOW
CHAPTER 10: Project PruningOptions Within PSoC Designer; Sublimation; Configuration Initialization Type; Design Practices; Other Common Practices; CHAPTER 11: Design Tips; Working with Data Sheets; Shortcut Keys and Navigation Within PSoC Designer; One Project for Multiple Parts; Versions; PSoC Designer Versions; Saving Space; Boot.asm File; Temporary Removal of Routines; Control Systems; Bit Manipulation; CHAPTER 12: PSoC Express; Design; Simulation; Build; Program; Other Transfer Functions; Making a Stimulus File; What is Really Being Done in the Background?; The Valuator and Interface
The Future of PSoC ExpressAPPENDIX A: Global Resources; CPU Clock; APPENDIXA; 32K_Select; PLL_Mode; Sleep_Timer; VC1 ($24V1=24MHz/N$); VC2 ($24V2=24V1/N$); Analog Power; Ref Mux; Op-Amp Bias; A_Buff_Power; Switch Mode Pump; Trip Voltage[LVD (SMP)]; Supply Voltage; Watchdog Enable; APPENDIX B: Project Walkthrough; Setting Up the Project; User Module Selection View; Interconnect View; Application Editor; Project File Sections; Some Important Files; Variable Declaration; Constant Declarations; Timer Interrupt; Main.asm; Building the Project; Goals of This Exercise; APPENDIX C: Limited Analog System About the Author

Sommario/riassunto

This is the first technical reference book available on the PSoC, and it offers the most comprehensive combination of technical data, example code, and descriptive prose you'll find anywhere. Embedded design expert Robert Ashby will guide you through the entire PSoC world, providing thorough coverage of device feature, design, programming and development of the software-reconfigurable PSoC. He shares his best tips, tricks, and techniques that will help you to utilize the flexible and inexpensive PSoC to its greatest potential, with a minimum of heartaches and late nights. With
