56F8366

Target Applications
> Automotive control
> Industrial control/connectivity
> Advanced motion control
> Home appliances
> General-purpose inverters

Overview
If you find yourself needing a little more memory than what the 56F8365 has to offer or you simply need to interface to other devices in your system in a parallel fashion, then the 56F8366 is the device for you. Moving to this 144-pin LQFP package allows you to take advantage of its included external memory interface for these additional tasks. You will still enjoy 576 KB of on-chip Flash memory, pulse-width modulation (PWM) outputs, analog-to-digital converter (ADC) inputs and timer channels, along with the capability of interfacing with other devices in your system.

Whether you are adding performance to your control application or control capabilities to your signal processing system, you can benefit from the flexibility and compatibility provided by the 56F8365 and 56F8366.

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Memory Features
> Architecture permits as many as three simultaneous accesses to program and data memory
> On-chip memory includes high-speed volatile and nonvolatile components
  • 512 KB of Program Flash
  • 4 KB of Program RAM
  • 32 KB of Data Flash
  • 32 KB of Data RAM
  • 32 KB of Boot Flash
> All memories operate at 60 MHz (zero wait states) over temperature range (-40°C to +125°C), with no software tricks or hardware accelerators required
> Flash security feature prevents unauthorized accesses to its content
> Off-chip memory expansion capabilities provide a simple method for interfacing additional external memory and/or peripheral devices
  • Access up to 1 MB of external program memory or 1 MB of external data memory
> External accesses supported at up to 60 MHz (zero wait states)

56F8366 Peripheral Circuit Features
> Two PWM modules with 12 outputs and seven programmable fault inputs
> Two serial peripheral interfaces (SPIs)
> Two serial communications interfaces (SCIas)
> I²C communications master mode (emulated)
> Sixteen 16-bit timers with input and output compare capability
> Two four-input quadrature decoders
> Two FlexCAN modules, 2.0 B-compatible
> Temperature sense diode to monitor the on-chip temperature
> On-chip 3.3V to 2.6V voltage regulator
> Software-programmable Phase-Lock Loop (PLL)
> 12-bit ADCs with 16 inputs, self-calibration and current injection capability
> Up to 62 general-purpose input/output (GPIO) pins
> External reset input pin for hardware reset
> Computer operating properly (COP)
> Integrated power-on reset and low-voltage interrupt (LVI) module

Award-Winning Development Environment
> Processor Expert™ (PE) technology provides a rapid application design (RAD) tool that combines easy-to-use, component-based software application creation with an expert knowledge system.
> The CodeWarrior™ Integrated Development Environment (IDE) is a sophisticated tool for code navigation, compiling and debugging. A complete set of evaluation modules (EVMs) and development system cards will support concurrent engineering. Together, PE technology, CodeWarrior tools and EVMs create a complete, scalable tools solution for easy, fast and efficient development.

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