

# MaXimized Efficiency

The S12X Family drives higher performance without sacrificing the high code efficiency and cost efficiency of the S12 16-bit CISC architecture. An integrated XGATE coprocessor enhances the CPU running at 40 MHz...



## S12X Microcontrollers

The next generation of the best-selling HCS12 Family: Cost-effective, high-performance 16-bit microcontrollers for automotive body applications such as gateways, instrumentation and door modules.

# EXceptional Performance

...allowing outstanding 16-bit automotive performance. The XGATE module delivers a peak of 80 MIPS additional processing power to offload interrupt-related processing from the CPU.



**Faster. Smarter. More efficient. The industry's favorite 16-bit architecture just got better.**

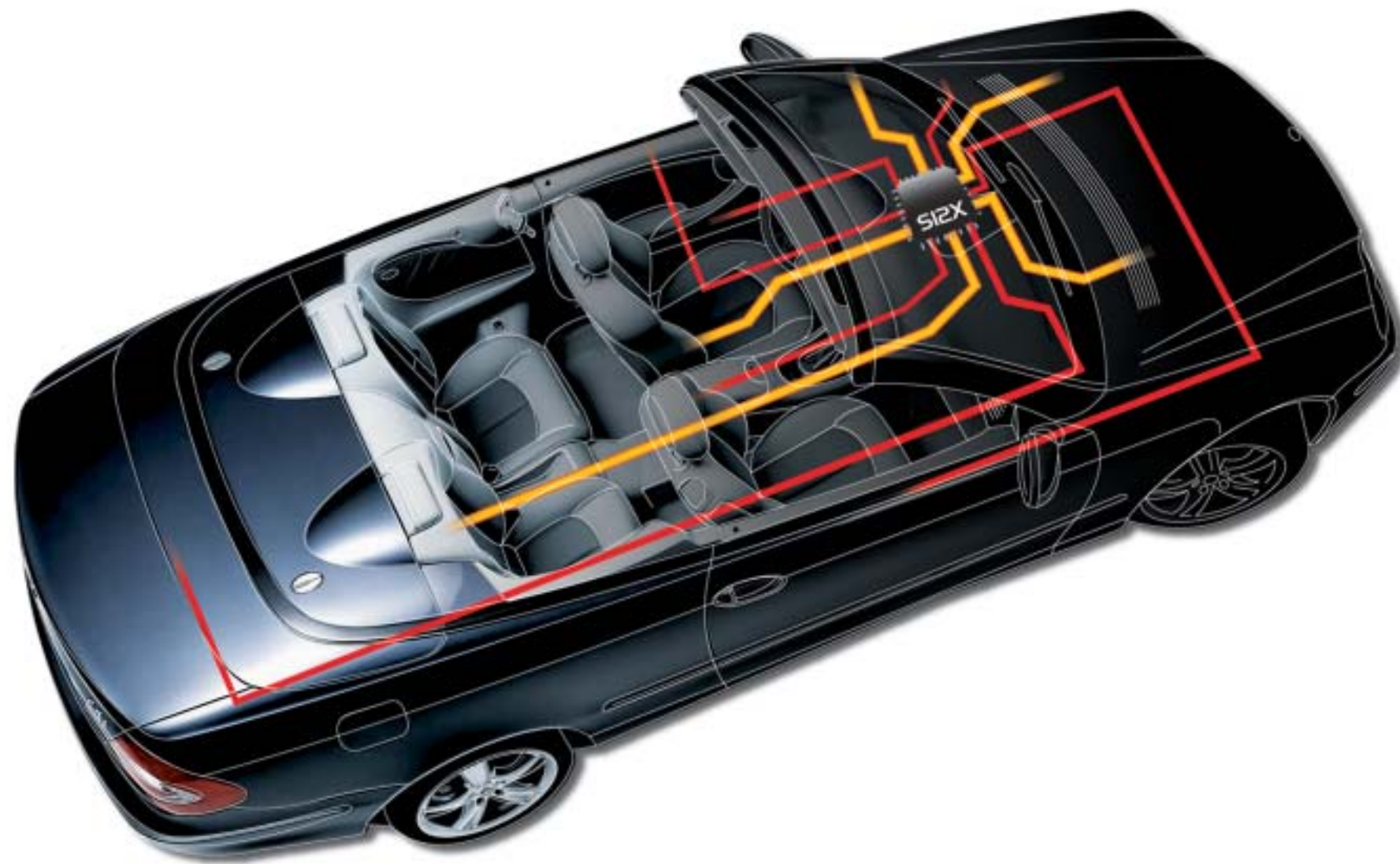
Freescale Semiconductor welcomes you to the next generation of automotive body applications with the S12X family of 16-bit microcontrollers. A higher performing extension of our popular S12 Family, S12X microcontrollers are ideal for body control and gateway applications.

The HCS12X Family offers up to five times the performance of our HCS12 microcontrollers, with an enhanced core, enhanced peripherals, increased bus speeds (up to 40 MHz, compared to 25 MHz for the HCS12), full CAN capability and improved interrupt handling. The addition of parallel processing with the XGATE module—a smart, programmable, Direct Memory Access (DMA) module—boosts performance by handling interrupt processing, communication and data pre-processing, freeing the CPU for other tasks.

At the same time, the S12X Family retains the 16-bit efficiency of the HCS12 and creates a migration path to help you preserve your investment. S12X microcontrollers use the same development tools and same code modules as the HCS12 Family. They offer a 16-bit CISC architecture and the same features as the HCS12 Family, with additional low-power features, new timer features and enhanced debug features.

Learn more about our 16-bit microcontrollers at [www.motorola.com/mcu](http://www.motorola.com/mcu).

Freescale™ and the Freescale logo are trademarks of Freescale Semiconductor, Inc. All other product or service names are the property of their respective owners. This product incorporates SuperFlash® technology licensed from SST.  
© Freescale Semiconductor, Inc. 2004



# Welcome to the NeXt Generation

**The S12X Family retains all of the qualities that have made the HCS12 a major force in automotive body applications—and delivers even more.**

Launched by Motorola  
**freescale**  
semiconductor