**HCS12X**

**Target Applications**
- Climate control
- Body control module
- Dashboard cluster
- Security
- Chassis control

**16-bit Enhanced S12 CPU Core**
- C-optimized CISC architecture produces extremely compact code
- Improved 32-bit calculations and semaphore handling
- Access to large data segments independent of PPAGE
- Up to 40 MHz bus operation
- Opcode compatible with the 68HC11, 68HC12 and HCS12
- Industry-leading EMC performance
- 3V to 5.5V operation
- Wide range of high-performance peripherals

**Overview**
Freescale Semiconductor’s HCS12X family of microcontrollers (MCUs) is based on an enhanced S12 core and uses Freescale’s industry-leading, full automotive spec SG-Flash. The HCS12X MCUs deliver 32-bit performance with the advantages and efficiencies of a 16-bit MCU, including cost efficiency, power-consumption, EMC and code-size efficiency advantages currently enjoyed by users of Freescale’s existing HCS12 Family.

With the HCS12X Family, Freescale introduces the performance-boosting XGATE coprocessor module. Using enhanced direct memory access functionality, this parallel processing module offloads the CPU by providing high-speed data processing and transfer between peripheral modules, RAM and I/O ports. Running at up to 80 MHz in parallel to the CPU, the XGATE can handle 112 triggers and is fully user programmable in C language. All S12X Family members are LIN- and J2602-compliant.

The HCS12X Family initially ranges from 128 KB to 1 MB of Flash memory with additional integrated EEPROM.
Learn More: For more information about Freescale’s HCS12X Family, please visit www.freescale.com/S12X.