Features	Benefits
Clock Generation Module with Phase-Lock Loop (PLL)	
> Clock monitor with self clock mode in case of no external clock > Programmable clock frequency with 1024 options ranging from divide by 16 to multiply by 64 from base oscillator > Real-time interrupt > Watchdog	> Reliable, robust operation > Provides high performance using low-cost reference crystals > Reduces generated noise > Reduces power consumption > Easily able to implement real-time clock
Enhanced Capture Timer	
> 8-channel, 16-bit with input capture, output compare and pulse accumulator > 16-bit modulus down counter	> Flexible, programmable timer system
8-bit or 16-bit Pulse-Width Modulation (PWM)	
> 8-channel, 8-bit or 4-channel, 16-bit PWM > PWM supports center-aligned operation	> Efficiently implement motor control, battery charging or digital-to-analog (DAC) functions
Two Serial Communications Interfaces	
> 8192 prescaler options	> Asynchronous communication between the MCU and a terminal, computer or a network of MCUs > Exact baud rate matching
Three Serial Peripheral Interfaces	
> Up to 6.25 Mbps	> High-speed synchronous communication between multiple MCUs or between MCU and serial peripherals
Inter-IC (I^2C) Bus	
> 256 clock-rate options	> Provides a simple, efficient method of data exchange between devices > Minimizes the need for large numbers of connections between devices and eliminates he need for an address decoder
Up to 91 Input/Output (I/O) Lines	
> Programmable pull-ups/pull-downs > Dual drive capability	> Reduce system cost > Able to tailor application for minimum EMC or high current loads

Application Notes and Engineering Bulletins

AN2206	Security and Protection on the HCS12 Family
AN2213	Using Cosmic Software's M68HC12 Compiler for MC9S12DP256 Software Development
AN2216	MC9S12DP256 Software Development Using Metrowerks CodeWarrior™
AN2250	Audio Reproduction on HCS12 Microcontrollers
EB386	HCS12 D-Family Compatibility

Data Sheets

9S12DP256BDGV2	MC9S12DP256 Device Guide
S12DP256PIMV2	MC9S12DP256 Port Integration Module Block Guide
S12BDMV4	HCS12 Background Debug (BDM) Block Guide
S12BKVD1	HCS12 Breakpoint (BKP) Block Guide
S12CPUV2	HCS12 CPU Reference Manual
S12MSCANV2	HCS12 Motorola Scalable Controller Area Network Block Guide
S12ATD10B8CV2	HCS12 10-bit 8-channel Analog to Digital Block Guide
S12CRGV3	HCS12 Clock Reset Generator Block Guide
S12ECT16B8CV1	HCS12 16-bit 8-channel Enhanced Capture Timer Block Guide
S12EETS4KV2	HCS12 4K EEPROM Block Guide
S12FT256KV2	HCS12 256K Flash Block Guide
S12IICV2	HCS12 I^2C Block Guide
S12INTV1	HCS12 Interrupt (INT) Block Guide
S12MEBIV3	HCS12 Multiplexed External Bus Interface (MEBI) Block Guide
S12MMCV4	HCS12 Module Mapping Control (MMC) Block Guide
S12PWM8B8CV1	HCS12 8-bit 8-channel Pulse-Width Modulator Block Guide
S12SCIV2	HCS12 Serial Communications Interface Block Guide
S12SPIV2	HCS12 Serial Peripheral Interface Block Guide
S12VREGV1	HCS12 Voltage Regulator Block Guide

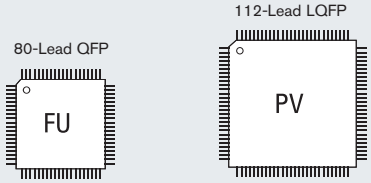
Cost-Effective Development Tools

For more information on development tools, please refer to the Freescale Development Tool Selector Guide (SG1011).

M68KIT912DP256 ***$495****	Evaluation kit for development and evaluation of HCS12 application code that includes the M68EVB912DP256 and USBMULTILINKBDM
M68CYCLONEPRO ***$499****	HC08/HCS08/HC12/HCS12 stand-alone Flash programmer or in-circuit emulator, debugger, Flash programmer; USB, serial or Ethernet interface options
USBMULTILINKBDM ***$99****	Universal HCS08/HCS12 in-circuit emulator, debugger, and Flash programmer; USB PC interface
CWX-H12-SE ***Free****	CodeWarrior™ Special Edition for HCS12 MCUs; includes integrated development environment (IDE), linker, debugger, unlimited assembler, Processor Expert™ auto-code generator, full-chip simulation and limited C compiler

Package Options

Part Number	Package	Temp. Range
MC9S12DJ256BCFU	80 QFP	-40°C to +85°C
MC9S12DJ256BVFU	80 LQFP	-40°C to +105°C
MC9S12DJ256BMFU	80 QFP	-40°C to +125°C
MC9S12DJ256BCPV	112 LQFP	-40°C to +85°C
MC9S12DJ256BVPV	112 LQFP	-40°C to +105°C
MC9S12DJ256BMPV	112 LQFP	-40°C to +125°C



Learn More: For more information about Freescale products, please visit **www.freescale.com**.

*Price indicated is MSRP.

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