16-bit Modular Student Learning Kit
Featuring the HCS12 "DT" family

Use the HCS12DT256 for external bus visibility

Use the HCS12XDT512 for integrated X-Gate features

Common Course Applications

- External addressable interfacing (HCS12DT256)
- Critical, rapid response interrupts using X-Gate (HCS12XDT512)

Use for courses/projects which:

- Include large memory requirements
- Focus on motors or automotive
- Are targeted for intermediate to advanced level

This application module can be:

- Used independently
  - Each kit includes required hardware, CodeWarrior™ Development Software, and informational CD
- Connected with the Freescale project board (PBMCUSLK) for:
  - Increased I/O features
  - A more hands-on approach
  - Larger bread-board area
  - Acceptance of multiple microcontrollers

To order, search by part number on www.freescale.com.

Part Number	Description
APS12DT256SLK	Independent Application Module (pictured)
PBS12DT256SLK	Project Board and Application Module Bundle
APS12XDT512SLK	Independent Application Module (pictured)
PBS12XDT512SLK	Project Board and Application Module Bundle

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University Programs
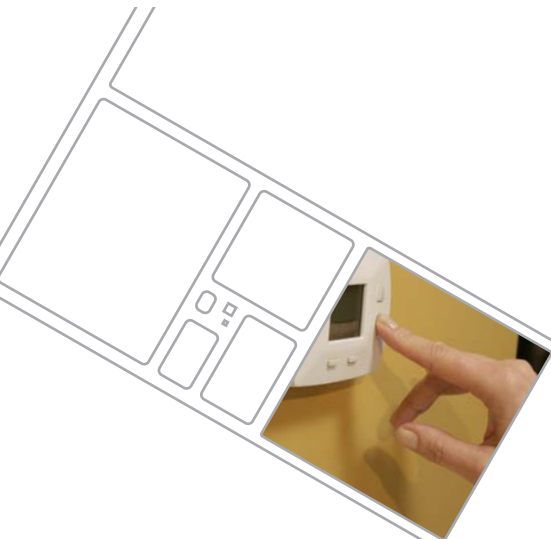
Features

Integrated USB-BDM

- Allows for debug, programming and power to board and device

RS-232 transceiver w/DB9 connector

4 MHz Clock Oscillator

Low Voltage Reset Supervisor

Flexible Power Input Sources

Selectable through Jumpers

- USB Cable: 5V DC, 500 mA max
- 5V DC to 12V DC power jack: 2.5/5.5 mm barrel connector, center positive

User Components Provided

- One DIP Switch, 4-pos
- Two push button switches
- Four LED indicators

Connectors

- 60-pos pin-header providing access to MCU I/O signals
- 2.0 mm barrel connector power input
- 6-pin BDM interface connector
- 3-pos CAN interface connector
- DB9 connector

Microcontroller General Features

- 4 KB EEPROM
- 8-ch, 10-bit, ATD w/external trigger
- 8-bit enhanced capture timer with IC, OC and pulse accumulate capabilities
- 7-ch, 8-bit PWM
- 9 KBI inputs
- 3 CAN channels
- CAN 2.0 A/B PHY w/ 3-pos header
- 2 SCI and 2 SPI channels
- 1 I^2C Channel
- 56 GPIO

Specifications

- Module sSize: 3.8" x 2.0"
- Power input: +9V typical, +6V to +20V range
- Supplied with USB cable, documentation (CD) and manual

MC9S12DT256 MCU Specifics 80 QFP

- 256 KB flash EEPROM
- 12 KB RAM
- SAE J1850 byte data link controller
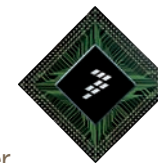
MC9S12XDT512 MCU Specifics 80 QFP

- X-GATE coprocessor
- 512 KB flash EEPROM
- 20 KB SRAM

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