dsCORE
E8100

FEATURES

- Full speed 256 Kbytes program FLASH, 20 Kbytes SRAM with 2 Kbytes DMA buffer and on-board 128 bytes serial EEPROM
- Heavy duty 3 Amp power regulation
- Choice of 8 or 16 buffered Analog I/O with 12-Bit A/D
- 8 PWM Output Channels
- Up to 56 Digital I/O with optional jumper selectable 3.3/5V Pull Ups
- Dual UART with TTL or software selectable RS-232/ RS-485 communications
- Dual SPI (4 chip selects) and Dual I2C interfaces
- Dual on-board CanBUS (DeviceNet) drivers
- Dual Port RAM and DMA
- External CPU Reset and External Device Reset
- -40 to +85ºC industrial components with optional High-Reliability version
- Credit Card format with dual 50 pin (0.1" x 2 standard) headers
- Microchip's CodeGuard™ Security for Embedded Intellectual Property protection
- Fully compatible with all Microchip based software development tools
- Production licenses available for high volumes

APPLICATIONS

M2M

Industrial Automation

Instrumentation

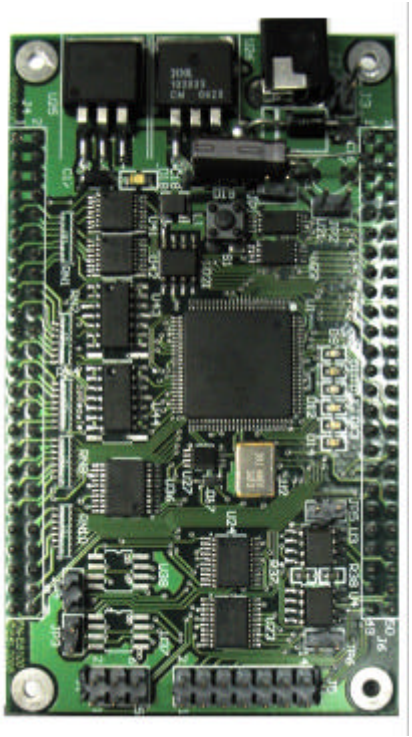
Advanced Energy Management

Wireless Devices

Data Collection & Logging

Asset Management

Security Systems



(Actual Size)

The dsCORE family of Embedded Digital Signal Controllers are intended for demanding, high-performance device control and intelligence applications. Based on the Microchip dsPIC33F 16-bit DSC (0-40 MIPS), the E8100 delivers exceptional processing power, performance features and versatility—all in a package the size of a business card.

With a full complement of I/O, the E8100 is ideal for product integration in a variety of applications. As a design building block, the E8100 shortens product development cycles and accelerates time-to-market by reducing design risk to zero.

With all the necessary interface drivers, power regulators and buffered I/O provided, connecting the E8100 to virtually any peripheral technology is a one step process.

Microchip's rich software support for the dsPIC line also eases integration of the 8100 into your product designs by streamlining code development.

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EMBEDDED Sense

www.embeddedsense.com

dsCORE 8100 Specifications

Functional

CPU:	dsPIC33FJ256GP710, DC-40MHz
FLASH / EEPROM:	256 Kbytes / 128 byte
RAM:	30 KBytes
Analog Inputs:	Available configurations of 0, 4, 8, 12 or 16 Buffered Inputs (8, 12, 16, 20 or 24 Un-Buffered Inputs)
PWM Outputs:	8 max.
Digital I/O:	57 Inputs/41, 45, 49, 53, or 57 Outputs (Depending on Analog Input Configuration)
Peripherals:	2 x SPI (max.), 2 x I2C (max.), 2 x CAN
Communications:	TTL or selectable RS-232/RS-485 (2 Ports max.)

Electrical

Operating Voltage:		5 - 12 VDC
Power Consumption:	Operating (No I/O Loading)	38 mA (typical)

Mechanical

Dimensions:	2.0 x 3.5 x 0.9 in. (5.1 x 8.9 x 2.29 cm.)
Top Clearance:	.33 in (0.84 cm.)
Bottom Clearance:	.33 in (0.84 cm.)
Connectors:	0.025 Dia. Header Pin, 0.100 Spacing

Environmental

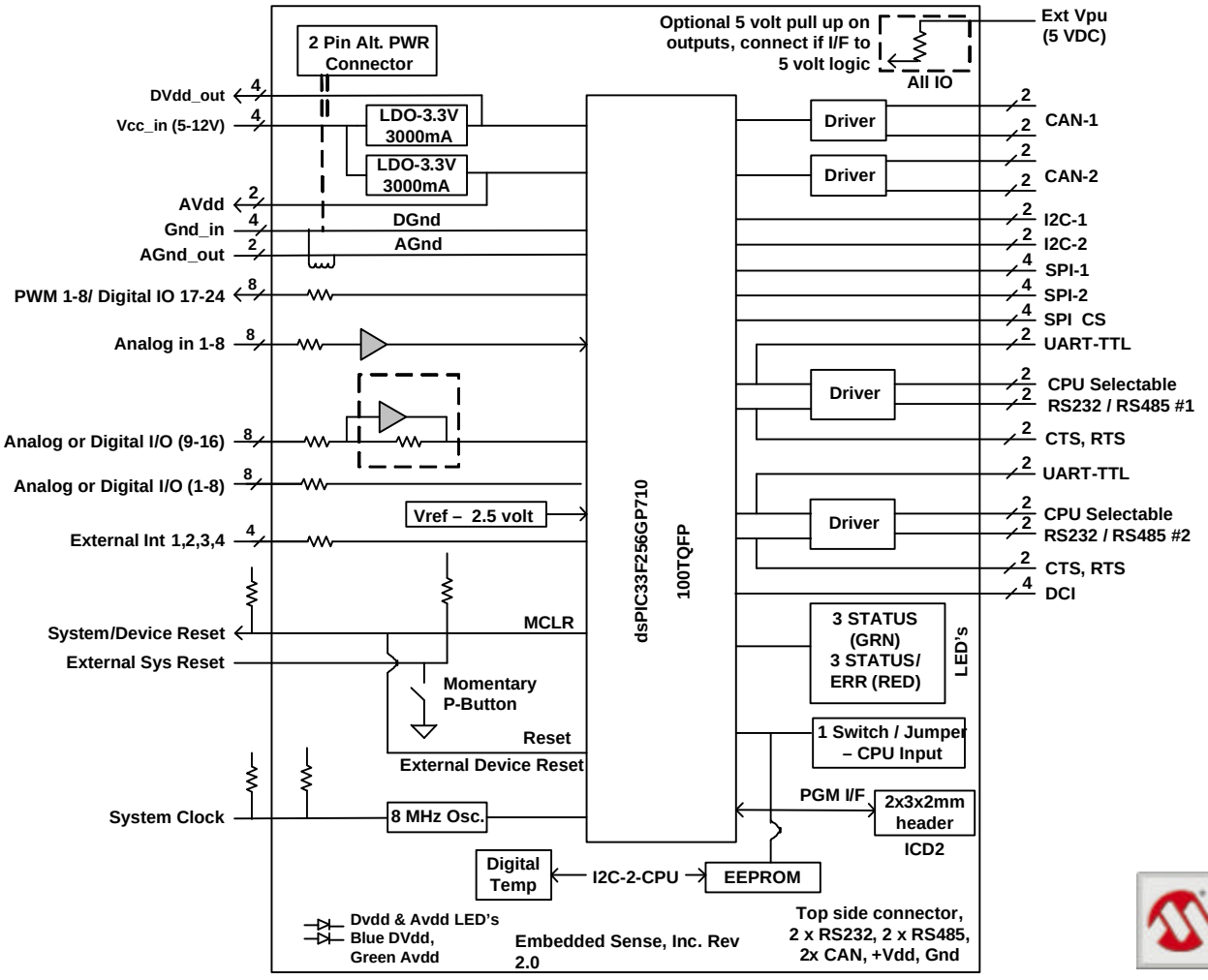
Operating / Storage:	-25 to +85 ºC
	95% Humidity (Non-Condensing)
High Reliability Option:	-40 to +85 ºC, 100% Humidity
	Conformal Coated
	100% Burn-In & Temperature Testing

Software Tools

- 100% compatible with MPLAB® Integrated Development Environment, MPLAB® C30, Embedded Workbench and dsPIC C Compilers.
- 100% compatible with the complete line of Microchip provided Software Libraries and Application Development Tools including Symmetric and Asymmetric Key Embedded Encryption Libraries.
- Ships with Pre-Installed Embedded Sense boot loader on UART#2.
- In-circuit debug (ICD) and In-circuit serial programming (ICSP) supported through 2 x 3 header.

Operating Systems

- 100% compatible with CMX Systems, Inc. CMX-Scheduler™.
- 100% compatible with CMX Systems, Inc. CMX-Tiny+™ and CMX-RTX+™ OS
- 100% compatible with OSEK/VDX v2.2 from Vector Informatik, GmbH



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