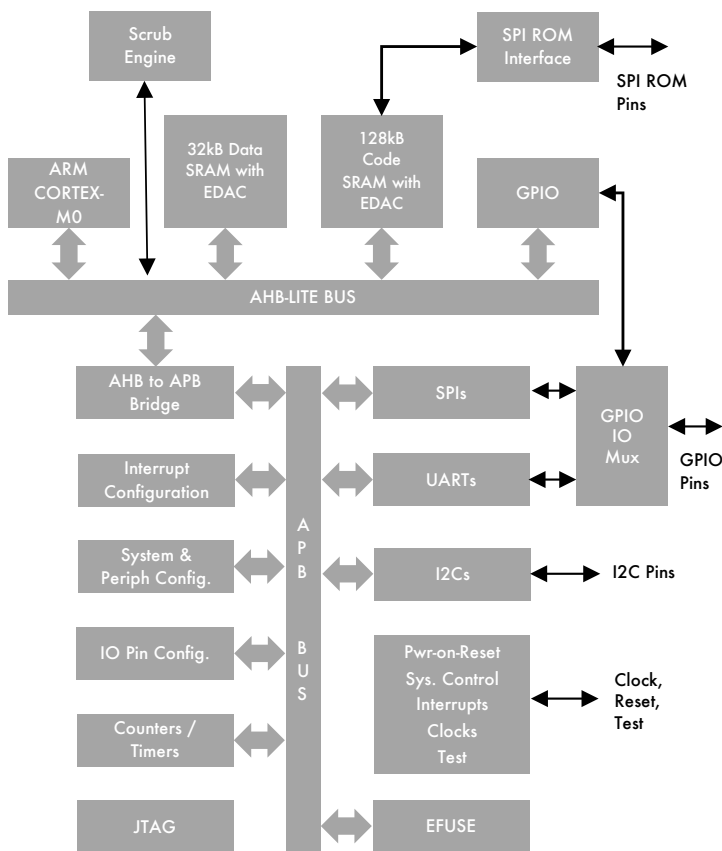


Radiation Hardened ARM® Cortex®-M0 Microcontroller VA10820



**32-Bit ARM® Cortex®-M0
Microcontroller manufactured with
HARDSIL® technology offering
superior radiation performance
>300K rad (Si) and latch-up immunity
for extreme environments.**



KEY FEATURES

- Manufactured with HARDSIL® technology
- 32-bit ARM® Cortex®-M0 processor
 - JTAG based debug interface
- Operating voltages
 - Core voltage 1.5 +/- 0.15V
 - I/O voltage 3.3 +/- 0.33V
- Clock rate 50MHz
- Memory
 - 32KB on-chip data and 128KB on-chip program memory
 - 1Kb Efuse for custom boot and unique ID support
 - On-chip Error Detection & Correction (EDAC) and Scrub
- Peripherals
 - 54 configurable GPIO pins
 - 2 UART interfaces
 - 2 I2C interfaces
 - 3 SPI interfaces (2 master / slave, 1 master)
- Timer System
 - 24 configurable 32-bit counters / timers
 - Input capture, Output compares
 - PWMs, Pulse Counters, Watchdog timer
- System Redundancy
 - Triple Modular Redundancy (TMR) - all internal registers
- Temperature range -55 to 125C
- Package
 - Ceramic or plastic 128 pin LQFP (14 x 14mm)
 - Die option available

RADIATION HARDENED PERFORMANCE

- Total Ionizing Dose (TID) > 300K rad (Si)
- Soft Error Rate (SER) with EDAC enabled: < 1e-15 errors / bit-day
- Latchup immunity > LET = 110 MeV-cm² / mg (T = 125C)

SUPPORT

- REB1 development board
- Keil™ MDK-ARM microcontroller software kit

APPLICATIONS

- Industrial
- Aerospace
- Space
- Medical
- Military

For more information, contact below or visit our web site at www.voragotech.com

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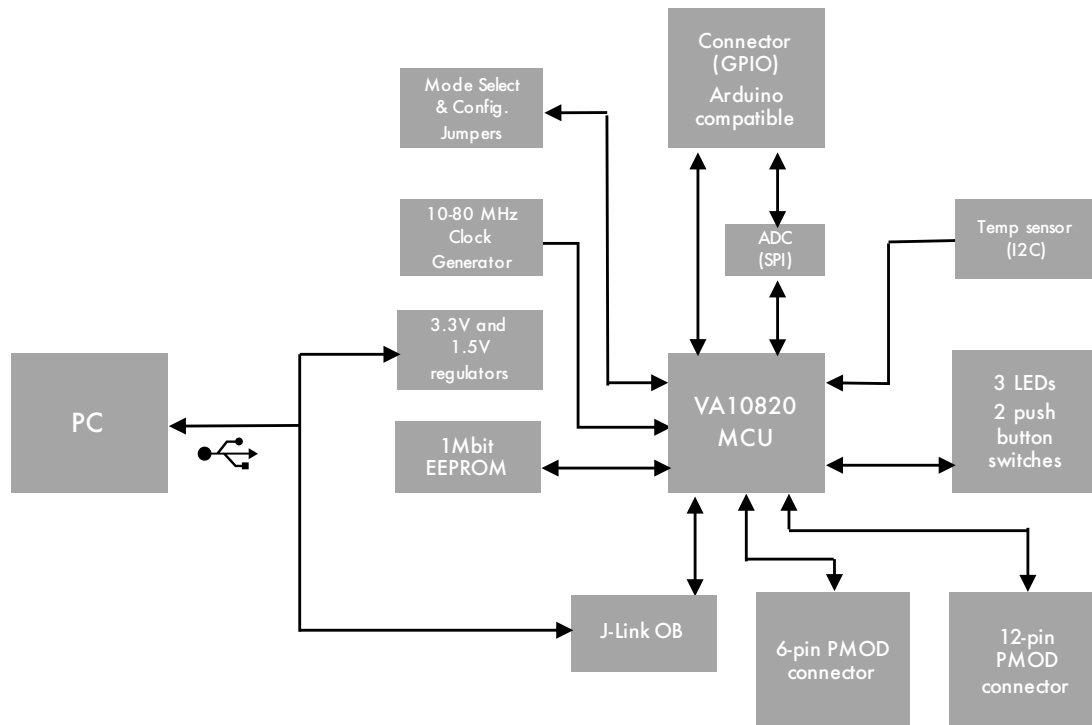
MCU ORDERING INFORMATION

| Description | Part number | Environment | Temperature Range | Package |
|------------------------------------|--------------------|------------------------|-------------------|------------------|
| Radiation-hardened microcontroller | VA10820-D0000F0PCA | Rad-hard 300K rad (Si) | -55 to 125 °C | Die |
| Radiation-hardened microcontroller | VA10820-CQ128F0ECA | Rad-hard 300K rad (Si) | -55 to 125 °C | Ceramic 128 LQFP |
| Radiation-hardened microcontroller | VA10820-PQ128F0PCA | Rad-hard 300K rad (Si) | -55 to 125 °C | Plastic 128 LQFP |

DEVELOPMENT BOARD ORDERING INFORMATION

| Description | Part number | Features |
|-------------------|--------------|--|
| Development Board | REB1-VA10820 | Supported by Keil™ MDK-ARM Microcontroller Software Kit Board Support Package (BSP) includes example software for peripherals Segger J-Link OB |

REB1-VA10820 DEVELOPMENT BOARD BLOCK DIAGRAM



For more information, contact below or visit our web site at www.voragotech.com
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