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

VORAGO Technologies | 1501 S MoPac Expressway, Suite 350, Austin, Texas, 78746 | info@voragotech.com
MCU ORDERING INFORMATION

<table>
<thead>
<tr>
<th>Description</th>
<th>Part number</th>
<th>Environment</th>
<th>Temperature Range</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radiation-hardened microcontroller</td>
<td>VA10820-D0000F0PCA</td>
<td>Rad-hard 300K rad (Si)</td>
<td>-55 to 125°C</td>
<td>Die</td>
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DEVELOPMENT BOARD ORDERING INFORMATION

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<td>Development Board</td>
<td>REB1-VA10820</td>
<td>Supported by Keil™ MDK-ARM Microcontroller Software Kit</td>
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<tr>
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<td></td>
<td>Board Support Package (BSP) includes example software for peripherals</td>
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<tr>
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<td>Segger J-Link OB</td>
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