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**AEROFLEX UTMC ANNOUNCES  
ENHANCEMENTS TO THEIR  
16-BIT RadHard MICROCONTROLLER**

COLORADO SPRINGS, CO -- Aeroflex UTMC, (NASDAQ:ARXX), introduced the industry's first radiation-hardened version of the MCS-96 compatible 16-bit MicroController, the UT80CRH196KD, in 1997. The UT80CRH196KD was guaranteed to 100Krad(Si) with an Onset LET threshold of 14.4MeV-cm<sup>2</sup>/mg and has a proven track record for space applications ranging from LEO to GEO orbits. To meet the requirements of a next generation sensor system, a customer requested a higher total dose and single event upset (SEU) guarantee to allow the MicroController to operate in a GEO orbit.

The improved UT80CRH196KDS product is now guaranteed to 300Krad(Si) with an Onset LET threshold for single event upsets of 25MeV-cm<sup>2</sup>/mg and single event latchup immunity to a LET of 128MeV-cm<sup>2</sup>/mg. It continues to operate at 20MHz and features 1K byte of on-board SEU hardened SRAM, software and hardware timers, synchronous and asynchronous UARTs, high-speed capture inputs and outputs, and three pulse width modulated outputs. An on-board ALU supports fast 16-bit multiplies, 32- and 16-bit divides, and other logical and arithmetic operations. The combination of hardware utilities and on-board ALU makes the MicroController ideal for closed-loop control systems and mid-range digital signal processing applications.

In addition to its radiation performance enhancements, the new UT80CRH196KDS includes an early READ/WRITE indication signal. This signal provides the memory decode logic an advanced indication of the type of memory operation that is being performed by the UT80CRH196KDS. According to Tim Meade, senior applications engineer, “The ability to identify the type of memory access being performed during the address phase of a memory cycle affords circuit designers the opportunity to integrate complex memory architectures in an efficient manner. For microcontrollers with limited addressing capability, this feature is extremely useful.”

Said Anthony Jordan, director-standard products, “Aeroflex UTMC’s 16-bit RadHard MicroController continues to be the only RadHard version on the market and serves the aerospace industry by providing an embedded processing capability. The product has been a very attractive tool for system designers building satellite systems requiring embedded control. The UT80CRH196KDS does not serve as the heart of a space computer, but fits instead into the embedded control system, sensor, experiment or other embedded control applications.”

“We have a long history of working side-by-side with our customers to provide the products and solutions they need. In the case of the UT80CRH196KDS, we increased the total-ionizing dose (TID) and SEU hardness, assured QML V compliance while maintaining drop-in capability with the older product at the request of the customer. The drop-in capability alleviates designers from restructuring their boards to increase the survivability of the 16-bit MicroController.”

During system development, customers have used commercially available development tools compatible with the MCS-96 architecture, including evaluation boards, in-circuit emulators, and C compilers with great success. Aeroflex UTMC has also developed proven reference designs with the UT80CRH196 family to help customers quickly integrate the number of components.

The UT80CRH196KDS is packaged in a 68-lead quad flatpack. It is QML Q and V qualified and available off-the-shelf via a Standard Microcircuit Drawing (SMD) 5962-02523. The SMD simplifies procurement of the UT80CRH196KDS allowing for off-the-shelf delivery and elimination of the costly paperwork of source control drawings.

The UT80CRH196KDS production begins in 4Q02. Please contact us at 800-645-8863 for pricing.

Aeroflex UTMC is a supplier of semicustom and standard VLSI circuits and custom circuit card assemblies. Aeroflex UTMC has received Qualified Manufacturer List (QML) certification for Class Q, Class T and Class V. Additionally, Aeroflex UTMC has received a letter of compliance for ISO 9001 from the Defense Supply Center Columbus.

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**EDITOR'S NOTE:** Please send all inquiries to: Aeroflex UTMC, Attn: Teresa Farris, 4350 Centennial Blvd., Colorado Springs, CO 80907. Color slides are available.