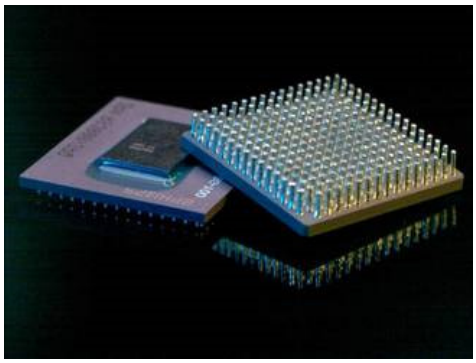
This article is from Surface Mount Technology

Experimental Satellite Integrates SIX SIGMA CGA



(May 11, 2007) MILPITAS, Calif. — SIX SIGMA, a division of Winslow Automation, Inc., integrated its SolderQuik reinforced column grid array technology onto six FPGAs on the Los Alamos National Laboratory Cibola Flight Experiment Satellite (CFEsat). SIX SIGMA reconfigured the FPGAs for Los Alamos to allow these components to withstand extreme thermal cycling while the satellite monitors weather patterns.

Los Alamos representatives refer to the experimental satellite as a "super computer in space," since the FPGAs can be reprogrammed and are radiation resistant. SIX SIGMA removes solder balls from the FPGAs, or other LGA and BGA components, and repackages the component with the SolderQuik reinforced column grid array (CGA). Designed for harsh environments, particularly military and aerospace, these columns are constructed with a high-lead solder wire wrapped with copper ribbon then coated with solder. "When a column eventually begins to fail, the copper ribbon abates the cracks, maintaining an electrical connection," explained Russ Winslow, president of SIX SIGMA. The expected life-cycle for FPGAs equipped with the reinforced circuits is about 20 years, though the CFEsat experiment will most likely be a shorter-term project.

The CFEsat was launched in March 2007, along with a pair of satellites that interact — one refueling and updating the other — which also incorporates the SolderQuick reinforced CGA technology. The objectives are to establish aerospace systems with high-performance computers that are easily upgraded and reprogrammed.