

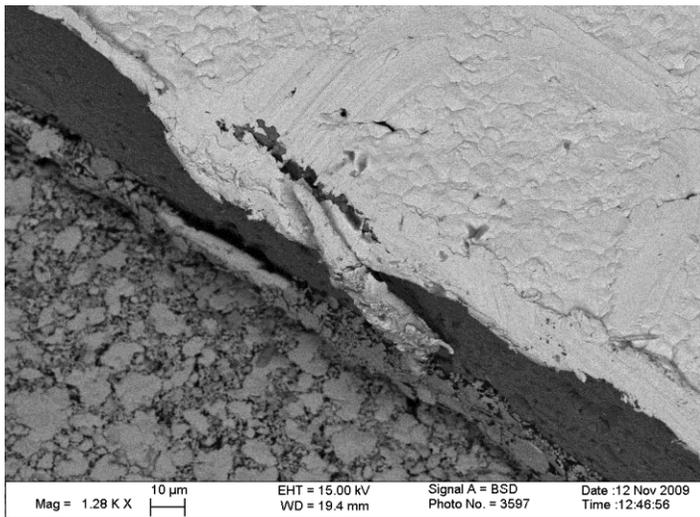
EEE Parts Bulletin

Electrical, Electronic, and Electromechanical

A periodic newsletter of the JPL/OSMS Assurance Technology Program Office (ATPO), NASA EEE Parts Assurance Group (NEPAG), and Section 514, of the Jet Propulsion Laboratory.

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A Look at Failure: Gold Metallization Shards



Gold metallization shards short a ceramic capacitor.
JPL's Failure Analysis Lab.

GIDEP Alerts/Advisories

Contact your GIDEP Representative for a copy of:

Suspect Counterfeit	<p>A3S-A-09-01A TI TPS62110RSA Adjustable 1.5-A, 17-V VIN Step-Down Converter; ZF-P-10-01 OP-270A Microcircuit; G2-P-10-01A Microcircuit, Serial Comms. Controller; G2-P-10-01A Microcircuit, Serial Comms Controller; GG5-A-10-01 Microcircuit, In-System Programmable High Density PLD; EQ3-P-10-01A, Microcircuit, Ser. Controller; CE9-P-10-01 United States Customs Seizures of Counterfeit Microcircuits; 6L-A-10-01, Flash Memory – Intel PN: RC28F128K3.</p>
Misc.	<p>RS2-P-10-01 JANS1N5806, Metal Separation FV5-C-10-0001 Product Change Notice International Rectifier: Case Isolation Testing for TO-254/TO-257/TO-258/TO-259 Style Packages SC7-P-10-01A Actel RTSX-SU FPGAs are now under ITAR control; E4-A-10-01 Capacitor, Fixed Ceramic, Single Layer; EB7-P-10-01 Junction Field Effect Transistor (JFET); VV-A-10-02 Transformer MIL-PRF-21038; BZ9-P-10-01 Single Board Computer (SBC) for Space Applications, Type SCS7.</p>

Caution: Are those parts really QML?

A recent DSCC/NASA audit of a QML semiconductor assembly and test facility overseas raised concerns over non-QML brokers contracting with these facilities to assemble and test die obtained from unknown sources. The concern is finished product could be sold to brokers' customers as product built to a QML flow, but not from a QML die source. It is strongly advised flight parts be purchased only from authorized distribution channels to ensure parts are from a reliable die source. Contact: Shri Agarwal 818-354-5598.

Fake Parts Threaten Electronic Market: U.S. EE Times, Feb. 17, 2010. Printed with permission:

Based on its survey, the Bureau of Industry and Security offered the following recommendations, for combating counterfeiting in the electronics industry supply chain. Some of the recommendations were directed at the U.S. government but many are also applicable to most manufacturers in the industry. Recommendations include the following:

1. Consider establishing a centralized federal reporting mechanism for collecting information on suspected /confirmed counterfeit parts for use by industry and all federal agencies;
2. Modify Federal Acquisition Regulations, including Defense Federal Acquisition Regulations, to allow for "best value" procurement, and require U.S. government suppliers and federal agencies to systematically report counterfeit electronic parts to national federal reporting mechanism;
3. Issue clear, unambiguous legal guidance to industry and U.S. federal agencies with respect to civil and criminal liabilities, reporting and handling requirements, and points of contact in the Federal Bureau of Investigation regarding suspected/confirmed counterfeit parts;
4. Establish federal guidance for the destruction, recycling, and/or disposal of electronic systems and parts sold and consumed in the United States;
5. Establish dialogue with law enforcement agencies on need to increase prosecution of counterfeiters and entities knowingly distributing counterfeit electronic parts;

6. Consider establishing a government data repository of electronic parts information, and for disseminating best practices to limit counterfeit infiltration of supply chains;
7. Develop international agreements covering information sharing, supply chain integrity, border inspection of electronic parts shipped to and from their countries, related law enforcement cooperation, and standards for inspecting suspected/confirmed counterfeits;
8. Address funding and parts acquisition planning issues within DOD and industries associated with the procurement of obsolete parts.
Contact: Lori Risse 818-354-5131.

A New QML Class for Non-Hermetic Space Products, such as Xilinx Virtex-4 FPGAs

In the joint JC-13.2 and G-12 meeting at San Antonio, Texas Jan. 13, 2010, a new task group (TG 10-01) was convened to address Class Y for non-hermetic space products such as Xilinx Virtex-4 FPGAs. Class Y is a concept conceived by Mike Sampson. NASA was asked to lead this task group. Shri Agarwal was named Chair with Ramin Roosta and Tom Wilson assisting. The NEPAG community, manufacturers and contractors have been requested to provide inputs regarding what screening and QCI tests should apply for Class Y. Contact: Shri Agarwal 818-354-5598.

Xilinx Digitally Controlled Impedance (DCI) – Design Assistance

Xilinx DCI (Digitally Controlled Impedance) is a series of I/O standards in which a Xilinx I/O pin can be made to emulate a resistor. The technology has some pitfalls but can be safely used if one knows exactly how it works. Some of the application notes on DCI should be carefully interpreted. For assistance with worst case analysis or troubleshooting of a DCI circuit, contact Andy Berkun 818-354-0742.

Using Passive Elements in IC Packages

DSCC initiated an EP (Engineering Practice) study to resolve issues including: screening and qualification of passives, workmanship, labeling microcircuits containing one or more passive elements, etc. Contact: Shri Agarwal 818-354-5598.

Actel RTSX-SU ITAR Controlled: Effective Jan. 19, 2010, Actel's RTSX-SU joined other Actel parts which now come under ITAR control. Written approval of the U.S. Directorate of Defense Trade Controls (DDTC) must be obtained before the re-export or re-transfer of RTSX-SU FPGAs from any country to another country, from one end-user to another end-user, or if the end use is changed. Actel publicized this information in document CN1001. For more information contact Ramin Roosta 818-354-7385.

NASA parts specialists recently supported

DSCC Audits of: Aeroflex/Metelics, Microsemi Lawrence, Leach International, Babcock Inc., Micropac Industries, Hamby Corp., Delta Circuit Technology, Racaar Circuit Industries, Accurate Engineering, Millenium-MicroTech Bangkok, Trio-Tech Bangkok, International Rectifier Corp., Teledyne Electronic Technologies, and Linear Technology Corp.

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<http://atpo.jpl.nasa.gov/nepag/index.html>

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