

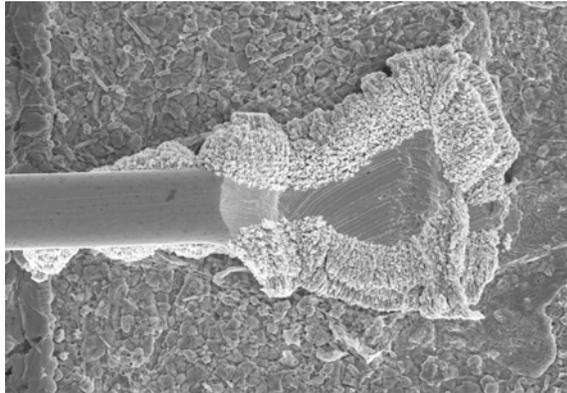


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Gold and Indium Don't Mix

Using Indium solder with gold-plated wires does not make for a good combination. Over time the indium consumes the gold via a solid-state diffusion process and an inter-metallic gold is formed. *See image below.* Contact Mike Sampson 301-614-6233.

A Look at Failure: Contamination



From JPL's Failure Analysis Lab: Gold wire bond pad contaminated with Indium

JEDEC/G11/G12 Meetings

Support was garnered for changing the MIL-STD-883 Test Method 1014.12 leak rate limits to match that of MIL-STD-750. Contact Shri Agarwal 818-354-5598.

Radiation Hardened Electronics Technology (RHET) Meeting

The 30th annual RHET meeting, which focuses on newly available, advanced radiation hardened device technologies, was sponsored by AFRL and Boeing and held in Seattle, WA Oct. 21 and 22, 2009. RHET is a meeting for all segments of the space avionics marketplace, bringing together suppliers, users and government program managers who exchange of information on requirements, plans and near to mid-term

technology developments. The emphasis this year was on space qualified memory, both volatile and non-volatile. Contact Chuck Barnes for details 818-354-4467.

Microcircuits, FPGAs: Is it really 'V' Level (Space grade)?

There have been a few cases in which microcircuit manufacturers, including FPGA manufacturers, claimed their products have been screened and qualified as V-level products based on the MIL-PRF-38535 standard without DSCC approval. These manufacturers have not been certified for QMLV products, but they are advertising their products as such. DSCC has been informed of such cases, and corrective action is being taken to remedy the situation. There have been instances where a non-space grade product was designed in based on the manufacturer's claim that it was a QMLV product. Projects should check the latest status of approved V-level manufacturers by contacting Ramin Roosta at 818-354-7385.

National Semiconductor PCN MA2008-11B Issued:

P/N JL1558BGA, M38510/10108BGA lifetime buy extended to 9Dec11. View the entire document here: [PCN MA2008-11B](#)

Non-Volatile Memory Technology Symposium

The NVMTS in Portland Oregon had over 50 papers and posters on new nonvolatile memory technologies.

The largest group of papers was for phase change memories. Research in phase change memories continues to focus on defects and materials changes that limit retention and endurance performance. The main trend in nonvolatile memories is that for IC

processes that are below 22 nm, nonvolatile memories will no longer be based on charge storage like today's flash memories. Instead, all of the nonvolatile memories for these ultra scaled/nanometer manufacturing processes will be based on resistive switching in which logic 1 or 0 is defined by changes in resistance.

There are at least 8 broad types of physical effects that can be used to make nonvolatile memory cells. These include research areas of nano-mechanical, molecular configuration, phase change and several others. The conference is a mix of academic researchers and large company research divisions reporting on their latest results. Contact Doug Sheldon 818-393-5113.

IMAPS/NASA/JPL Workshop 2009: Counterfeit Electronic Parts

Disclosures from semiconductor manufacturers regarding known instances of counterfeiting were reported at this workshop. Company A reported over 100 part numbers counterfeited in the last 3 years. Company B cited 19 cases involving 97,000 units. Company C reported 4 seizures of counterfeits ranging from 6,000 to 60,000 of their products by U.S. Customs since June 2006. Company D estimates that 2 to 3% of purchases of their brand are counterfeit. Company E said a broker website indicated 40,000 of their devices were available, but their company had made less than 200 units of those devices with that date code. Contact Lori Risse 818-354-5131.

Microsemi to Close Scottsdale Site

Microsemi announced consolidation plans that will result in the closure of their Scottsdale, AZ manufacturing facility by April 2011. Microsemi plans to obtain all required DSCC certifications related to the closure. The link to the press release may be viewed on their website:

<http://investor.microsemi.com/releasedetail.cfm?ReleaseID=419303>

GIDEP Alerts/Advisories

Contact your GIDEP Representative to obtain a copy of these documents:

- **AH6-P-10-01** Microcircuit, Metal Can: Visual Anomalies
- **MT2-P-10-01A** Microcircuit, Hybrid, DC/DC Converter: Radiation Specification
- **H1-P-10-01** Diode, Lead Fractures, Lead Indentations, Radiography Inspection
- **3X-P-10-01** Suspect Counterfeit, High Precision 2.5V IC Reference

Recent DSCC Audits supported by NASA parts specialists:

Avago Technologies; Microsemi Corp.; Solid State Devices; Teledyne Cougar; and four Vishay Israel facilities located in Ashkelon, Beersheba, Dimona and Holon.

Upcoming Meeting:

Components for Military and Space Electronics Conference, Los Angeles, February 8-11, 2010 <http://www.cti-us.com>

Contacts

NEPAG

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

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Other NASA centers:

<http://nepp.nasa.gov/index.cfm/12753>

Public Link (best with Internet Explorer):

<http://trs-new.jpl.nasa.gov/dspace/handle/2014/41402>