

ECIA Statement on the Reliability Impact of Procuring Devices through Non-Authorized Sources

Over the past decade, the number of non-authorized sources for electronic components has greatly increased. These sources range from individuals selling electronic components out of their homes, to large web-based traders and independent distributors/brokers. Frequently, more than one of these traders/brokers is involved in fulfilling an order placed with a non-authorized source. There is no way to conclusively determine the storage/handling conditions and legitimacy of origin of products bought through non-authorized sources. Product supplied through non-authorized sources may appear to be legitimate, but issues with such product can include:

- Electronic components with seemingly proper markings and package labeling (including logos) are actually counterfeits. For details on one form of counterfeiting (salvaging and re-marking) common to all types of electronic components, see the BusinessWeek article and video at http://www.businessweek.com/magazine/content/08_41/b4103034193886.htm.
- Moisture-sensitive products are supplied by non-authorized sources without dry-pack, or these products are not properly baked prior to dry-packing.
- ESD-sensitive products are not properly handled by non-authorized sources.
- Electronic components with OEM-specific markings are re-sold to brokers that then sell them to others. Note: This re-sale is easily recognized by manufacturers and frequently voids the original warranty.

The net result of the above issues is that products that pass electrical testing after board mounting may still result in significant field reliability problems for integrated circuits (ICs) and other electronic components such as:

- Die-level corrosion during field use due to chemicals used by counterfeiters (to strip markings and/or to clean components) penetrating plastic packages over time.
- Time-/temperature-dependent lifted wire-bonds due to package delamination induced during board mounting of ICs that were not properly dry-packed.
- Die and/or package cracking due to improper component rework or storage/handling.
- Time-dependent electrical failures due to latent ESD damage from mishandling.

Customers that buy components from non-authorized sources may save money in the short-term, but they run the risk of major reliability issues that can damage their reputation and prove enormously expensive in the long-term due to warranty expenses, field replacements, and liability claims. Customers that nonetheless turn to non-authorized channels for electronic components trade risk for reliability. For these reasons, ECIA strongly encourages all customers to buy electronic components exclusively through manufacturer authorized sources.

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