

TECHNICAL PAPER

Lead-Free Termination



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LEAD-FREE TERMINATION

Introduction

Around the world, legislation is being developed to reduce the LEAD content in many products and thereby reduce environmental impact when such products are discarded.

The reasons for this include:

- Lead leaches from discarded circuit boards and pollutes underground water sources and rivers
- It can be absorbed into the human body from drinking water and food causing a variety of harmful effects on people's health
- Lead has an impact to development/function of many organ systems, especially the central nervous system and can cause:
 - Encephalopathy & irreversible brain damage
 - Hematological (anemia), gastrointestinal (colic), kidney, and thyroid
- Increased levels of lead in the blood of children has an effect on their IQ
- It has been implicated in many types of cancer
- Lead is EPA classified "Probable Human Carcinogen Class B2"
 - Symptoms of lead poisoning noted at levels as low as 10 µg/dL (infants) and 30 µg/dL (adults)

As previously announced in March 2000, AVX Tantalum intends to remove LEAD from the current tin-lead leadframe plating material to a LEAD-FREE tin based system. This will affect the TAJ, THJ and TPS series. The TAC series is lead-free.

The plating system chosen is capable of being used with existing tin-lead solder pastes and the new lead-free solder pastes.

Implementation Timeline

- Mechanical samples with pure tin finish **July 2000**
- Lead-Free samples and Data package containing details of the mechanical properties and compatibility with existing tin/lead solder systems of the new termination finish **September 2000**
- Mass manufacture **January 1st, 2001**

Contacts

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