

## **Optical Leak Testing of Small Devices – OLT Technology**

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### **Abstract**

Optical Leak Testing (OLT) is a proven technique for fine leak testing of electronic packages for space applications and implantable devices such as pace makers and hearing implants. The hearing implant can be inserted in the skull of a toddler and is expected to last 80+ years.

OLT has been used for wafer level MEMS devices with a 5 mm square internal cavity. However customer demand is driving down the size of electronic packages. OLT utilizes a full field interferometer that measures lid deflection down to nanometers. As the package size gets smaller the lids get stiffer which push the limits of the technology. This paper discusses recent advances to leak test a 3 mm device and a 1.2 mm diameter tube with a 4 micron membrane. The technique will be explored in detail, with leak test data being presented.