

ZeDry®/VOC Lid



HIGHLIGHTS

General Features

- Lid design and materials according to customers' specs
- High moisture and Volatile Organic Compounds (VOCs) sorption capacity
- Reversible getter for moisture and VOCs
- Moisture and VOC sorption is thermally activated
- Solvent free getter, epoxy based
- Extremely low outgassing
- Compatible with seam welding or laser welding processes
- No loose particles

Applications

- Microelectronic devices
- Optoelectronic devices
- Optical modules
- Hermetic or semi-hermetic packages

making innovation happen, together

SAES

www.saesgroup.com

getters_dispensers@saes-group.com

D.OE.197.0.22

Product Description

ZeDry®/VOC Lid consists of a metal lid, coated with a solventless, thermally cured getter layer engineered for high capacity moisture and volatile organic compounds (VOCs) uptake. Lid material, shape, dimensions and finishing are specified by customers: SAES provides the ZeDry/VOC Lid according to their specific design, plating layers and with the getter coating size optimized in relation to the amount of moisture and VOCs to be sorbed, taking into account any technical constraints of the final device packaging.

ZeDry/VOC Lid is designed for optoelectronic and microelectronic device packaging, both hermetic and semi-hermetic architectures.

The ZeDry/VOC getter coating deposited on the lid works as a reversible getter for moisture and for VOCs (e.g. methyl-ethyl ketone or toluene): it has to be activated with a thermal process at 100°C-120°C, just before the device sealing.

The high decomposition temperature of the getter assures full compatibility with seam or laser sealing processes, without affecting the functional properties.

Getter material property	Value
Appearance	Light Grey Film
Nominal moisture capacity (wt %) (*)	8.0
Nominal VOC capacity (wt %) (*)	5.0
Decomposition temperature (°C)	> 300

(*) guaranteed capacity is 20% less than the nominal one

How it Works

ZeDry/VOC Lids can be provided in a variety of metals (e.g. Al, Ni, Au, Stainless Steel, KOVAR) and engineered metal alloys (e.g. Ni/Au-plated KOVAR). Ceramic and glass can also be considered as options, for special applications.

The getter layer is deposited and cured by SAES in suitable conditions to maximize sorption performances. The ZeDry/VOC Lid can be easily handled in air until the device module packaging process, when the activation procedure must be performed, in order to achieve the product nominal performances in terms of moisture and VOCs uptake.

The proper activation procedure consists of a single heating step at 120 °C under vacuum conditions for 1 hour, at least.

Different activation procedures could be also considered and tailored according to specific sealing processes. For example, the getter layer can be activated by heating under dry nitrogen or dry air conditions for few hours.

Additional Processing and Storage Information

Before use, the ZeDry/VOC Lids can be stored at ambient temperature and atmosphere in close bag or box. Once activated, the ZeDry/VOC Lids must be handled in inert atmosphere (< 10 ppm H₂O) or vacuum, in order to ensure the nominal gettering properties.

The SAES manufacturing companies are ISO9001 certified, the Asian and Italian companies are also ISO14001 certified. Full information about our certifications for each company of the Group are available on our website at: www.saesgroup.com

© SAES. Printed in Italy. All rights reserved. SAES® and ZeDry® are registered trademarks. SAES reserves the right to change or modify product specifications at anytime without notice.