

## Solutions for Discrete MEMS

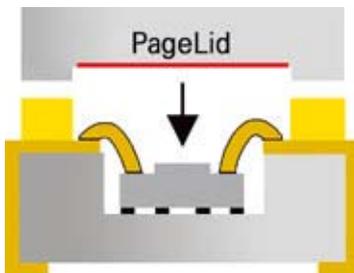


Discrete packages such as ceramic and metallic, TO-can assure an excellent hermeticity in many different microelectronics devices including MEMS. Due to the very high surface to volume ratio, maintaining the needed vacuum level in such packages for the entire MEMS device life is a real technical challenge that can be matched only through the use of specifically developed getter solutions.

Main characteristics of getters for hermetic discrete MEMS packages can be summarized as follows:

- Feasibility in a large variety of shapes and sizes fitting MEMS package typical space constraints
- Capability of being activated at temperatures compatible with the sealing process
- Absence of loose particles
- High sorption capacity at room temperature

SAES St 122 High Porosity Thick Film getter (HPTF), a titanium-based proprietary gettering material deposited in 100-200 micron thick layers on 50 micron Nicrofer substrates, meets all the listed requirements and has been long and successfully used in vacuum packaged discrete MEMS.



However, the trend of increased package miniaturization hindered the future widespread use of HPTF technology for this application, since it implies the necessity of handling and welding a discrete getter component in a reduced space.

An issue that SAES Getters faced by engineering PageLid, an advanced technical way to integrate a patterned getter film in a discrete hermetic ceramic or metallic package of moving or resonating devices, in particular MEMS.

Through chemical sorption of all contaminant gases, it ensures that there will not be any drift of performance due to vacuum degradation during the entire MEMS lifetime, even in harsh environments such as in the automotive industry, which is growing as a strategic application field for MEMS.

PageLid substrate can be any material typically used for manufacturing hermetic package lids, such as glass, ceramic or germanium, while its sizes and shapes can fit any package base.

Boost your product performance with SAES Getters solutions:

- PageLid
- High-Porosity Thick Film (HPTF) Getter

making innovation happen, together



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