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Semiconductor devices - Micro-electromechanical devices - Part 53: MEMS electrothermal transfer device

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Semiconductor devices - Micro-electromechanical devices - Part 53: MEMS electrothermal transfer device

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IEC 62047-53 has been prepared by subcommittee 47F: Micro-electromechanical systems, of IEC technical committee 47: Semiconductor devices. It is an International Standard.

The text of this International Standard is based on the following documents:

Draft	Report on voting
47F/517/FDIS	47F/529/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

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– reconfirmed,

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– revised.

INTRODUCTION

The MEMS electrothermal transfer device is manufactured by MEMS technology and transfers electrical energy into thermal energy based on the electrothermal effect. When an electric current passes through a conductor, heat is generated (Joule heating).

The MEMS electrothermal transfer devices exhibit various types and structures according to different application and requirements, which include resistance type, thermocouple type, thin-film type.

The MEMS electrothermal transfer device is characterized by low ignition energy, high security, high integration and instantaneity. So, it is widely used for igniters, thrusters, space cutters, detonators, safety air bags, seismic detection, mineral and petroleum detection and so on.

1 Scope

This part of IEC 62047 defines the test methods for the performances of MEMS electrothermal transfer device.

The document is applicable to the MEMS electrothermal transfer devices used in airbags, petroleum and mineral detection, igniters and detonators.

2 Normative references

There are no normative references in this document.