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Miniature fuses –
Part 8: Fuse resistors with particular overcurrent protection

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FOREWORD

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In this Redline version, a vertical line in the margin shows where the technical content is modified by amendment 1. Additions are in green text, deletions are in strikethrough red text. A separate Final version with all changes accepted is available in this publication.

International Standard IEC 60127-8 has been prepared by subcommittee SC 32C: Miniature fuses, of IEC technical committee 32: Fuses

This first edition of IEC 60127-8 cancels and replaces IEC PAS 60127-8:2014.

This international standard is to be used in conjunction with IEC 60127-1.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 60127 series, published under the general title *Miniature fuses*, can be found on the IEC website.

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INTRODUCTION

In recent years, so-called “fuse resistors” have increasingly been used in electrical and electronic applications. The term “fuse resistor”, however, which has become established in the market, is misleading. The actual function of a fuse resistor is that of a resistor in an electrical or electronic circuit. Only when an overload of multiple times the rated dissipation occurs can fuse resistors interrupt an electric current. In a wide range between the rated dissipation and the manufacturer’s specified breaking dissipation, fuse resistors provide poor or no overcurrent protection. Therefore if they are incorrectly rated and improperly used in an application, this may result in potential risk of fire.

Fuse resistors perform the function of a fuse only within a particular overcurrent range, and, from a technical point of view, must therefore be referred to as “fuse resistors with particular overcurrent protection”.

Fuse resistors with particular overcurrent protection can safely interrupt ~~high~~ short-circuit currents, but are not capable of interrupting overload currents.

For safety reasons, they are only used in combination with an accompanying overload current protection device, if overload currents cannot be excluded to occur in the respective application.

MINIATURE FUSES –

Part 8: Fuse resistors with particular overcurrent protection

1 Scope

This part of IEC 60127 relates to fuse resistors with particular overcurrent protection rated up to AC 500 V and/or DC 500 V for printed circuits and other substrate systems, used for the protection of electric appliances, electronic equipment and component parts thereof, normally intended to be used indoors.

It does not apply to fuse resistors with particular overcurrent protection for appliances intended to be used under special conditions, such as in a corrosive or explosive atmosphere.

The object of this part of IEC 60127 is

a) to establish uniform requirements for fuse resistors with particular overcurrent protection so as to protect appliances or parts of appliances in the most suitable way;

b) to define the performance of the fuse resistors with particular overcurrent protection, so as to give guidance to manufacturers of electrical appliances and electronic equipment and to ensure replacement of fuse resistors with particular overcurrent protection by those of similar dimensions and characteristics;

c) to establish uniform test methods for fuse resistors with particular overcurrent protection, so as to allow verification of the values (for example rated dissipation, functioning characteristic and rated breaking capacity values) specified by the manufacturer.

With exceptions of 3.5 and 3.8 of IEC 60127-1:2023, manufacturers of fuse resistors with particular overcurrent protection shall ensure on their own responsibility that their products comply with the requirements of the resistor-related standards IEC 60115-1, IEC 60115-4-101[1] and IEC 60115-4-102[1].

Fuse resistors with particular overcurrent protection are not intended to be replaced by the end-user of an electrical / electronic appliance.

This part of IEC 60127 applies in addition to the requirements of IEC 60127-1.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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IEC 60695-2-12:2010, *Fire hazard testing – Part 2-12: Glowing/hot-wire based test methods – Glow-wire flammability index (GWFI) test method for materials*

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