PD ISO/IEC PAS 60127-8:2014

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Miniature fuses

Part 8: Fuse resistors with particular overcurrent protection

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MINIATURE FUSES –

Part 8: Fuse resistors with particular overcurrent protection

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Following publication of this PAS, which is a pre-standard publication, the technical committee or subcommittee concerned may transform it into an International Standard.

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A list of all parts in the IEC 60127, 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. So 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 shall therefore only be used in combination with an accompanying overload current protection device, i.e. a true fuse, if overload currents cannot be excluded to occur in the respective application.

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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 500 V a.c. and/or 500 V d.c. 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 PAS 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 define methods of testing.

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

NOTE Manufacturers of fuse resistors with particular overcurrent protection must ensure on their own responsibility that their products comply with the requirements of the resistor-related standards IEC 60115-1, IEC 60115-4-101 and IEC 60115-4-102 (withdrawn).

The object of this PAS is 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.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60063:1963, *Preferred number series for resistors and capacitors*
Amendment 1:1967
Amendment 2:1977

IEC 60068-2-21:2006, *Environmental testing – Part 2-21: Tests – Test U: Robustness of terminations and integral mounting devices*

IEC 60127-1:2006, *Miniature fuses – Part 1: Definitions for miniature fuses and general requirements for miniature fuse-links*

IEC 60194:2006, *Printed board design, manufacture and assembly – Terms and definitions*

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