

Certification

The following is an explanation of the markings on fuses and their packaging:

PSE Mark

This is a marking based on the Electrical Appliance and Material Safety Law (EAMSL) of Japan. As per the EAMSL, parts of electrical facilities for general use, or machines, appliances or materials for use in connection thereto, stipulated by one of the cabinet orders (the Enforcement Ordinance of the EAMSL), are regulated as electrical appliances and materials.


In regard to fuses, those rated AC 100 V to 300 V and 1 A to 200 A inclusive are categorized as electrical appliances and materials according to the cabinet order. SOC is a fuse manufacturer and notifies the Ministry of Economy, Trade and Industry (METI) of the type classifications, specified in the Enforcement Regulations of the EAMSL, of the electrical appliances and materials that SOC manufactures in accordance with the EAMSL.

Fuses produced by SOC and rated AC 100 V to 300 V inclusive and 1A or more are categorized as specific electrical appliances and materials, as per the cabinet order. Unless they satisfy the requirements provided in the EAMSL, they shall not, as a general rule, be sold in Japan.


One of the requirements is that these fuses shall be marked with the items stipulated to be marked in the Enforcement Regulations of the EAMSL in a certain way prescribed therein.

In order to be allowed to bear such marking, fuses are required to be in compliance with the technical requirements stipulated in the METI Ordinance establishing technical requirements for electrical appliances and materials, and samples of the fuses must be tested by a testing laboratory registered with the METI to receive at least one certificate for each type classification that the fuses fall within.

In the case where SOC intends to sell fuses for use in Japan and where those fuses fall within one of the type classifications that have been notified to the METI, SOC applies to the Japan Electrical Safety & Environment Technology Laboratories (JET) for a conformity test certificate and obtains at least one conformity test certificate for the fuse that falls within the same type classification.

In principle, SOC labels the packing boxes for the fuses with the PSE Mark () with the abbreviated name of the Japan Electrical Safety & Environment Technology Laboratories, JET, next to it, as shown on the right. Additionally, "SOC" is marked on the fuses. Furthermore, when there is sufficient space on cartridge fuses, the PSE Mark is die-stamped on the side of one of their end-caps.



Some fuses, however, despite being specific electrical appliances and materials, are not marked with "  JET", nor are the packing boxes for these fuses. These are fuses which have been manufactured entirely for export to countries outside of Japan.



Cautions about fuses to be used in Japan

Fuses which fall within the ratings listed below and are intended to be employed for the protection of electrical appliances to be used in Japan shall not be sold in Japan unless they are marked in accordance with the Electrical Appliance and Material Safety Law (EAMSL) of Japan.

Therefore, when purchasing fuses falling within the following ratings for employment in electrical appliances to be used in Japan, make sure the fuses are marked as stipulated in the EAMSL. Never use such fuses in electrical appliances to be used in Japan if they are not marked in this way.

Applicable ratings: AC 100 V – 300 V, 1 A – 200 A

Certification marks for North America

Here follows an explanation of the markings shown on products which have received either UL (Underwriters Laboratories Inc.) or CSA (Canadian Standards Association) product certification services.

■ UL Listing Mark

This is a mark based on the UL Listing and Follow-Up Services. UL tests product samples (fuses) to confirm conformity with the applicable UL standards. After a set of reports are issued by UL, authorization to use the UL Listing Mark is provided based on the conditions listed in the reports.



UL Listing Mark

In order to confirm that the fuses produced afterward are continuously in conformance to the requirements described in the reports, UL conducts quarterly on-site inspections and sampling tests as Follow-Up Services.

The standard with which SOC fuses must conform is UL 248-14: Supplemental Fuses, in principle. This standard is Part 14 of UL 248 Low-Voltage Fuses, which consists of 16 parts. The UL 248 standards are harmonized among the United States, Canada and Mexico. The requirements of the UL and CSA standards are the same for Part 14 as listed below:

ANSI / UL 248-14 = CAN / CSA C22.2 No. 248.14

In 1992, the Standards Council of Canada (SCC) granted UL Canadian Certification Organization and Testing Organization status providing services for Canada to complement its United States program, which accredits UL to conduct tests and issue certifications to Canadian National Standards.

Several years ago, SOC began applying for the Canadian as well as the United States certification, when it applied for new UL product certification. In this instance, as the requirements of both the UL and CSA standards are the same, use of the C-UL US Listing Mark is accepted in the issued reports without the need for additional testing, with a description stating that, in addition to UL 248-14, the requirements of CSA C22.2 No. 248.14 have also been evaluated.



C-UL US
Listing Mark

The first edition of UL 248-14 was published in 1994 as a harmonized standard for UL 198G: Fuses for Supplementary Overcurrent Protection and CSA C22.2 No. 59.2: Supplemental Fuses. Accordingly, fuses which are marked with UL Listing Mark and were consistently sold from before 1994 conform to UL 198G as well.

(UL Listing Mark for Canada
and the United States)

As long as space permits, the UL Listing Mark is marked on fuses. As for cartridge fuses, it is die-stamped on the side of one of their end-caps. Along with either the UL Listing Mark or the C-UL US Listing Mark, "Listed" and "360C" are also printed on their packing box. "360C" is the identification code assigned to SOC.

■ UL Recognized Component Mark

This mark is based on the UL Component Recognition and Follow-Up Services. As in the UL Listing Service, UL tests product samples (either fuses or fuseholders) in order to issue a set of reports and authorize the use of the UL Recognized Component Mark under the conditions as specified in the reports. Additionally, in order to confirm that the fuses produced afterward are continuously in conformance to the requirements described in the reports, UL conducts quarterly on-site inspections and sampling tests as Follow-Up Services.



UL Recognized
Component Mark

Although the Listing Service requires that the fuses conform to the UL standard, the Component Recognition Service does not necessarily require this as it is possible to change a portion of the UL standard requirements. For example, although the 5 × 20 mm cartridge fuses based on IEC 60127-2 do not meet the time/current characteristic of the UL standards, they can be applied for the Component Recognition Service according to the characteristic and the breaking capacity stipulated by the IEC standard. Fuses having only the DC rating can also be applied for this service. SOC applies for this service for some of its fuseholders as well.

The Recognized Components which have undergone the Component Recognition Service are, as the name suggests, components to be employed in equipment. UL evaluates whether the fuse or fuseholder is appropriate for use in the end-equipment, and if it is a fuse, whether the fuse can appropriately protect the equipment.

As with the Listing Service, when certification for both the United States and Canada is applied for under the Component Recognition Service, use of the C-UL US Recognized Component Mark is accepted.



C-UL US Recognized
Component Mark
(Recognized Component
Mark for Canada
and the United States)

In principle, SOC marks the Recognized Component Mark or the C-UL US Recognized Component Mark on the packing box instead of on the product itself.

■ CSA Mark

This mark is based on the CSA Certification Service, which is essentially the same as the UL Listing Service. Use of this mark is authorized under the conditions as stated in the reports issued under this service. On-site inspections and sampling tests are conducted as Factory Audit.



CSA Mark

As long as space permits, this mark is marked on fuses. As for cartridge fuses, it is die-stamped on the side of one of their end-caps. This mark is also printed on the packing box.

■ CSA Component Acceptance Mark

This mark is based on the CSA Component Acceptance Service, essentially same as the UL Component Recognition Service. For the CSA Component Acceptance Mark, a triangle is added to the CSA Mark. On-site inspections and sampling tests are conducted as Factory Audit as well.



CSA Component
Acceptance Mark

In principle, SOC prints the CSA Component Acceptance Mark on the packing box instead of on the product itself.

Certification marks for Europe

■ S Mark

This mark is based on the certification service provided by ETL SEMKO AB (SEMKO)^{*1}.

SEMKO tests product samples in accordance with the requirements of the applicable EN standards, and issues a certificate and accepts the use of the S Mark for products which can be confirmed as conforming to those requirements.

Should SEMKO judge that product samples conform to minimum safety requirements, it is possible to partially modify the testing conditions of the EN standard. Testing, issuance of a certificate, and approval of the use of the certification mark are then carried out under these modified testing conditions.

In contrast to the case of UL or CSA, the certification mark in this situation is the same as the one which is approved for usage for conforming to EN standards, the S Mark.

For marking on the packing box for SOC fuses which have received this certification, the S Mark is used. For marking on the fuse itself, however, use of the S mark without the tagline is accepted as it is difficult to provide the S Mark due to limited space on the fuse.



S Mark



S Mark
without the tagline

■ Kitemark

This is a certification mark based on the Kitemark Licence issued by the British Standards Institution (BSI). BSI issues the Kitemark Licence in those cases where the product sample is confirmed by testing to conform to the relevant British Standards, and additionally where the quality system for its production conforms to BS EN ISO 9001. BSI grants the right to use the Kitemark based on the Kitemark Licence. Twice yearly on-site inspections and sampling tests are conducted for continued use of the mark. For those cartridge fuses which have received the Kitemark Licence, the Kitemark is marked on the side of one of their end-caps.



Kitemark

BSI has granted two Kitemark Licences to SOC's Akita Factory based on the following standards, respectively:

BS EN 60127-2: Miniature fuses. Cartridge fuse-links (5 × 20 mm)

BS 6885 : Specification for miniature cartridge fuse links for use on printed wiring boards (5 × 15 mm)

The quality management systems employed in SOC's Akita Factory and Tochigi Factory have been certified in accordance with BS EN ISO 9001: 2000 and the both factories are approved as registered firms by BSI.

^{*1} ETL SEMKO AB (SEMKO) was established through a joint venture between Svenska Elektriska Materielkontroll Anstalten AB, a testing body set up in Sweden in 1925, and Electrical Testing Laboratories (ETL) originally founded in 1896 through a joint venture with the Edison Electric Illumination Company. At present, however, SEMKO is a division of Intertek Group plc, one of the world's largest testing bodies.