Application Notes for Micro Fuse

1. Circuit Design

Before using High Current Micro Fuse, be sure to fully check after confirming operating conditions and Micro Fuse characteristics.
When determining the rated current, be sure to observe the following items :
(1) High Current Micro Fuse should always be operated below the value considered in the rated derating rate and temperaturederating rate for rated current.
(2) High Current Micro Fuse should always be operated below rate for rated current.
(3) High Current Micro Fuse should be selected with rated value to be certainly fused at overload current.
(4) When High Current Micro Fuse are used in inrush current applications, please confirm sufficiently inrush resistance of High Current Micro Fuse.
(5) Please do not apply the current exceeding the rated breaking current to High Current Micro Fuse.
In addition, I would like confirmation beforehand not to have possibilities to cut if off normally when you uses it by a high inductance circuit.
(6) Use High Current Micro Fuse under the condition of category temperature.
(7) High Current Micro Fuse should not be used in the primary power source (AC side).
(8) In a 25°C environment under normal circumstances, please design substrate wiring so that the surface temperature of a fuse does not exceed 80°C.
And, please use after checking that turn on operating current and overload current by an actual substrate in advance, and it is satisfactory.

Please confirm whether the selection of the rating of High Current Micro Fuse was appropriate in the actual device (state of final product).
In that case, after considering the variation due to the product, repeat the tests for normal use and predictable abnormalities to confirm the validity of the selection.

2. Assembly and Mounting

During the entire assembly process, observe High Current Micro Fuse body temperature and the heating time specified in the performance table. In addition, observe the following items :
(1) Mounting and adjusting with soldering irons are not recommendable since temperature and time control is difficult.
(2) Once High Current Micro Fuse mounted on the board, they should never be remounted on boards or substrates.
(3) During mounting, be careful not to apply any excessive mechanical stresses to the High Current Micro Fuse.

3. Solvents

High Current Micro Fuse has no effect when immersed in is isopropyl alcohol for 90 seconds (at 20 ~ 30°C liquid temp.)
If organic solvents will be used to High Current Micro Fuse, be sure to preliminarily check that the solvent will not damage High Current Micro Fuse .

4. Ultrasonic Cleaning

Ultrasonic cleaning is not recommended for High Current Micro Fuse. This may cause damage to High Current Micro Fuse such as broken terminals which results in electrical characteristics effects, etc. depending on the conditions.

5. Caution During Usage

(1) High Current Micro Fuse with electricity should never be touched.
High Current Micro Fuse with electricity may cause burning due to High Current Micro Fuse high temperature.
Also, in case of touching High Current Micro Fuse without electricity, please check the safety temperature of High Current Micro Fuse.
(2) Protective eye glasses should always be worn when performing fusing tests.
However, there is a fear that High Current Micro Fuse will explode during test.
During fusing tests, please cover particles not to fly outward from the board or testing fixture. Caution is necessary during usage at all times.

6. Environmental Conditions

(1) High Current Micro Fuse should not be stored or operated in the presence of acids, or alkalis, or corrosive atmosphere.
(2) High Current Micro Fuse should not be vibrated, shocked, or pressed excessively.
(3) High Current Micro Fuse should not be operated in a flammable or explosive atmosphere.
(4) High Current Micro Fuse should not be used under dew condensation environment.
(5) Covering High Current Micro Fuse with resin after mounting it on the board may affect the electrical characteristics, so perform thorough evaluation in advance.

7. Emergency

In case of fire, smoking, or offensive odor during operation, please cut off the power in the circuit or pull the plug out.

8. Storage

(1) High Current Micro Fuse should not be stored in an environment with high temperature, low temperature, high humidity, condensation and dust and avoid direct sunlight.
High Current Micro Fuse should not be stored in corrosive atmosphere such as H2S(hydrogen sulfide) or SO2(sulfur dioxide).
Direct sunlight may cause decolorization and deformation of the exterior and taping.
Also, there is a fear that solderability will be remarkably lower in high humidity.
(2) If the products are stored for an extended period of time, please contact Matsuo Sales Department for recommendation. The longer storage term causes packages and tapings to worsen. If the products are stored for longer term, please contact Matsuo Sales Department for advice.
(3) The products in taping, package, or box should not be given any kind of physical pressure. Deformation of taping or package may affect automatic mounting.
(4) The plastic reel (made of PS) used for packaging the product is intended for use in ambient temperatures (5-35℃). To prevent issues during automated insertion due to reel deformation or other factors, please keep the reel away from direct sunlight and heat sources, and ensure it does not reach high temperatures (above 60℃), including during transportation.

9. Disposal

When High Current Micro Fuse are disposed of as waste or “scrap”, they should be treated as “industrial waste”.

10. Samples

High Current Micro Fuse received as samples should not be used in production applications. A sample is provided for the special use (in such cases as the one for the form sample, the electriccharacteristic confirmation)

MATSUO ELECTRIC CO., LTD.

Please feel free to ask our Sales Department for more information on Micro Fuse.

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