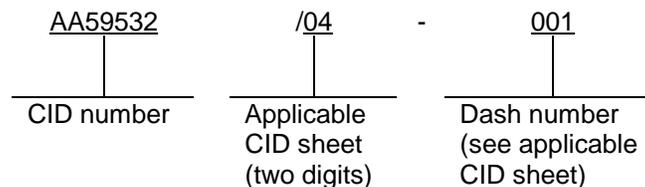


## COMMERCIAL ITEM DESCRIPTION

### FUSE, INCLOSED LINK, SURFACE MOUNT (SM), 125 VOLTS (V) AC/DC, QUICK ACTING, HIGH BREAKING CAPACITY, WITH A FUSEHOLDER, BLOCK

The General Services Administration has authorized the use of this commercial item description (CID) for all federal agencies.

1. **SCOPE.** This CID covers the general requirements for a quick acting, SM, 125 V ac/dc, inclosed link fuse installed in a fuseholder block. Fuses and fuseholders covered by this CID are intended for commercial/industrial applications.
2. **CLASSIFICATION.** This CID uses a classification system which is included in the Part Identification Number (PIN) as shown in the following example (see 7.1).



### 3. SALIENT CHARACTERISTICS.

3.1 Interface and physical dimensions. Fuses and fuseholders supplied to this CID shall be as specified herein (see figure 1).

3.2 Electrical specifications.

3.2.1 Ampere rating. The ampere rating shall be as specified in table I.

3.2.2 Voltage rating. The voltage rating shall be 125 V ac/dc.

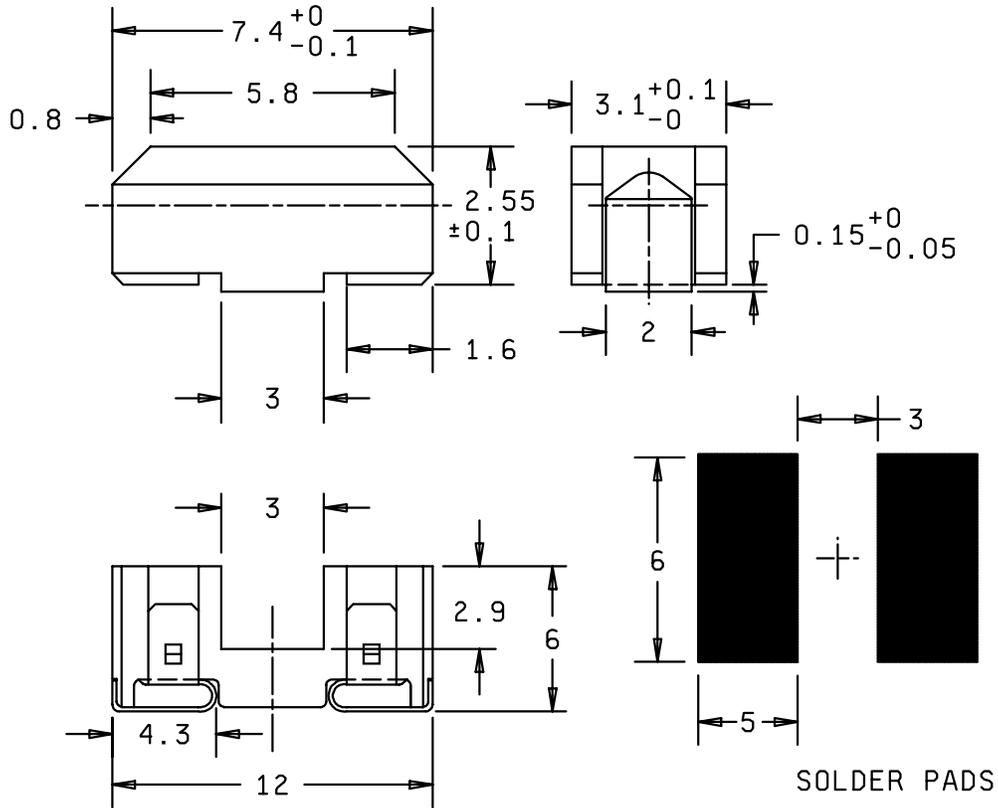
3.2.3 Time current characteristics. The time current characteristics shall be as indicated in table II.

3.3 Environmental specifications. Fuses and fuseholders supplied to this CID shall be subject to the following tests and there shall be no electrical or mechanical damage to the fuse.

3.3.1 Maximum storage temperature. The maximum storage temperature shall be 40°C (104°F) at 70 percent relative humidity.

3.3.2 Ambient temperature maximum. The ambient temperature shall be -40°C (-40°F) to +85°C (185°F).

Beneficial comments, recommendations, additions, deletions, clarifications, etc., and any data which may improve this document should be sent to: Defense Supply Center, Columbus, ATTN: DSCC-VAT, 3990 East Broad Street, Columbus, OH 43216-5000, or telephone (614) 692-0548, or facsimile (FAX) (614) 692-6939.



| mm   | Inches | mm  | Inches |
|------|--------|-----|--------|
| 0.05 | .002   | 3   | .118   |
| 0.1  | .004   | 3.1 | .122   |
| 0.15 | .006   | 4.3 | .169   |
| 0.8  | .031   | 5   | .197   |
| 1.6  | .063   | 5.8 | .228   |
| 2.0  | .079   | 6   | .236   |
| 2.55 | .100   | 7.4 | .291   |
| 2.9  | .114   | 12  | .472   |

NOTES:

1. Dimensions are in millimeters.
2. Tolerance is  $\pm 0.13$  mm (.005 inch), unless otherwise specified.
3. The US Government preferred system of measurement is the metric SI system. However, this item was originally designed using inch-pound units of measurement. In the event of conflict between the metric and inch-pound units, the inch-pound units shall take precedence.

FIGURE 1. Configuration and dimensions.

TABLE I. Electrical characteristics.

| AA59532/04-   | Ampere rating | Breaking capacity                | Voltage drop at rated current. typical mV | Power dissipation at rated current. typical watts | Fusing $I^2t$ at 4 times rated current |                |
|---------------|---------------|----------------------------------|---|---|--|----------------|
|               |               |                                  |   |   | Typical $A^2s$                         | Maximum $A^2s$ |
| 001           | 63 m A        | 300A ac<br>400 A dc<br>125V pf 1 | 2550                                      | 0.2   | 0.00011                                | 0.00064        |
| 002           | 100 m A       |                                  | 1770                                      | 0.2   | 0.0067                                 | 0.0016         |
| 003           | 125 m A       |                                  | 1770                                      |   | 0.0011                                 | 0.0025         |
| 004           | 160 m A       |                                  | 1700                                      | 0.2   | 0.0018                                 | 0.0041         |
| 005           | 250 m A       |                                  | 430                                       | 0.2   | 0.0045                                 | 0.01           |
| 006           | 350 m A       |                                  | 430                                       | 0.27  | 0.0084                                 | 0.02           |
| 007           | 375 m A       |                                  | 410                                       | 0.3   | 0.011                                  | 0.023          |
| 008           | 400 m A       |                                  | 360                                       | 0.1   | 0.0096                                 | 0.026          |
| 009           | 500 m A       |                                  | 350                                       | 0.3   | 0.016                                  | 0.04           |
| 010           | 630 m A       |                                  | 350                                       | 0.2   | 0.023                                  | 0.064          |
| 011           | 750 m A       |                                  | 300                                       | 0.3   | 0.052                                  | 0.09           |
| 012           | 1 A           |                                  | 220                                       | 0.2   | 0.086                                  | 0.16           |
| 013           | 1.25 A        |                                  | 220                                       | 0.3   | 0.14                                   | 0.25           |
| 014           | 1.5 A         |                                  | 200                                       | 0.45  | 0.24                                   | 0.36           |
| 015           | 1.6 A         |                                  | 200                                       | 0.3   | 0.27                                   | 0.41           |
| 016           | 2 A           |                                  | 200                                       | 0.4   | 0.44                                   | 0.64           |
| 017           | 2.5 A         |                                  | 190                                       | 0.4   | 0.79                                   | 1.0            |
| 018           | 3 A           |                                  | 190                                       | 0.4   | 1.1                                    | 1.4            |
| 019           | 3.15 A        |                                  | 190                                       |   | 1.1                                    | 1.6            |
| 020           | 3.5 A         |                                  | 140                                       |   | 1.6                                    | 2.0            |
| 021 <u>1/</u> | 4 A           |                                  | 140 <u>1/</u>                             |   | 2.1                                    | 2.6            |
| 022 <u>1/</u> | 5 A           |                                  | 140 <u>1/</u>                             |   | 2.9                                    | 4.0            |

1/ 3.5A maximum recommended rms current .5A rms possible at 12 V (trace width of test board outlined in IEC 127-4/9 is 10mm). Acceptability is determined in the end use application.

TABLE II. Opening time characteristics.

| Rated current | 100 percent of rated current | 200 percent of rated current | 400 percent of rated current |
|---------------|------------------------------|------------------------------|------------------------------|
| 63mA – 5A     | ≥ 4 hours                    | < 1 second                   | < 10 milliseconds            |
| 6.3A – 8A     | ≥ 4 hours                    | < 5 seconds                  | < 50 milliseconds            |
| 10A           | ≥ 4 hours                    | < 20 seconds                 | < 60 milliseconds            |

3.3.3 Vibration resistance. Fuses shall meet vibration requirements in accordance with IEC 68-2-6, Test Fc. (10-2000 Hz, cross-over frequency 60 Hz, resp. acceleration  $100 \text{ m/s}^2$  (10g)).

3.3.4 Shock resistance. Fuses shall meet the shock requirements in accordance with IEC 68-2-27, test Ea ( $981 \text{ m/s}^2$ , 6ms).

3.3.5 Solderability (reflow and wave soldering). Fuses shall be able to withstand, without electrical or mechanical damage to the fuse, a wave or reflow solder of  $+235^\circ\text{C}$  ( $455^\circ\text{F}$ ) for 2 seconds maximum in accordance with IEC 68-2-58 test Td.

A-A-59532/4

3.3.6 Resistance to soldering heat. Fuses shall meet resistance to soldering heat requirements in accordance with IEC 68-2-58 test Td (10 seconds at 260°C (500 °F)).

3.4 Physical specifications.

3.4.1 Materials.

3.4.1.1 Housing material. The fuse and fuseholder shall be temperature resistance plastic with a UL 94VO flammability rating as a minimum.

3.4.1.2 Terminal plating. Terminals shall be tin-plated brass. Use of pure tin plating is prohibited as a final finish and as an undercoat. Use of tin-lead (Sn-Pb) finishes are acceptable provided that the minimum lead content is 3 percent.

3.5 Additional fuses and fuseholders. Fuses and fuseholders described in this CID may be supplied separately. Additional Fuses may be obtained under A-A-59532/3 and additional fuseholders may be obtained under A-A-59533.

3.6 Marking. Fuses and fuseholders supplied to this CID shall be marked with the manufacturer's (MFR) standard commercial PIN.

3.7 Recycled/recovered materials. The offeror/contractor is encouraged to use recovered materials to the maximum extent practicable, in accordance with paragraph 23.403 of the Federal Acquisition Regulation (FAR).

4. REGULATORY REQUIREMENTS. This section is not applicable to this CID sheet.

5. QUALITY ASSURANCE PROVISIONS. Quality assurance provisions shall be as specified in A-A-59532.

6. PACKAGING. Packaging shall be as specified in A-A-59532. In addition, these fuse-fuseholder assemblies may be supplied individually or in a quantity of 1,500 on a 22.4 mm (.881 inches) wide tape reel in accordance with IEC 286-3.

7. NOTES.

7.1 PIN. The PIN should be used for Government purposes to buy commercial products to this CID. See section 2 for PIN format example.

7.2 Commercial and Government Entity (CAGE) code. For ordering purposes, inventory control, and submission of these fuse-fuseholder assemblies to DSCC under the Military Parts control Advisory Group (MPCAG) evaluation program, CAGE code 58536 should be used.

7.3 Source of documents.

Commercial Item Description

- A-A-59532 - Fuse, Inclosed Link, Surface Mount (SM), General Requirements for.
- A-A-59532/3 - Fuse, Inclosed Link, Surface Mount (SM), 125 Volts (V) AC/DC, Quick Acting, High Breaking Capacity.
- A-A-59533 - Fuseholder Block, 5 Ampere (A), 125 Volt (V) AC/DC, Surface Mount (SM), General Requirements for.

(Copies of commercial item descriptions are available from the Defense Printing Service Detachment Office, Building 4D (Customer Service), 700 Robbins Avenue, Philadelphia, PA 19111-5094.)

Other Publications

INTERNATIONAL ELECTROTECHNICAL COMMISSION (IEC)

- IEC-68-2-6 - Environmental Testing – Part 2: Tests – Test Fc: Vibration (Sinusoidal).
- IEC-68-2-27 - Environmental Testing – Part 2: Tests – Test Ea and Guidance: Shock.
- IEC-68-2-58 - Environmental Testing – Part 2-58: Tests – Test Td – Test Methods for Solderability, Resistance to Dissolution of Metallization and to Soldering Heat of Surface Mounting Devices (SMD).
- IEC-127-4 - Miniature Fuses – Part 4: Universal Modular Fuses – Links (UMF).
- IEC 286-3 - Packaging of Leadless Components on Continuous Tape.

(Applications for copies should be addressed to the International Electrotechnical Commission, 3 Rue De Varembe', PO Box 131, Geneve, Switzerland CH-1211.)

UNDERWRITERS LABORATORIES, INCORPORATED (UL)

- UL 94 - Safety Tests for Flammability of Plastic Materials for Parts in Devices and Appliances, Standard For.

(Applications for copies should be addressed to the Underwriters Laboratories, Incorporated, 333 Pfingsten Road, Northbrook, IL 60062-2096.)

(Industry association specifications and standards are generally available for reference from libraries. They are also distributed among technical groups and using Federal agencies.)

7.4 Ordering data. Ordering data shall be as specified in A-A-59532.

7.5 Commercial products. As part of the market analysis and research effort, this CID was coordinated with the following manufacturers of commercial products. At the time of CID preparation and coordination, these manufacturers were known to have commercial products that would meet the requirements of this CID. (NOTE: This information should not be considered as a list of approved manufacturers or be used to restrict procurement to only the manufacturers shown.)

| <u>Manufacturer's CAGE</u> | <u>Manufacturer's name and address</u>  |
|----------------------------|---|
| 61935                      | Schurter, Incorporated<br>1016 Clegg Court<br>Petaluma, CA 94954-1152<br>(707) 778-6311 |

7.6 Part number (P/N) supersession data. This CID supersedes the following manufacturers' P/N's as shown. This information is being provided to assist in reducing proliferation in the government inventory system.

TABLE II. P/N supersession data.

| CID dash number<br>(see table I) | MFR's<br>CAGE | MFR's<br>P/N <sup>1/</sup> | CID dash number<br>(see table I) | MFR's<br>CAGE | MFR's<br>P/N <sup>1/</sup> |
|----------------------------------|---------------|----------------------------|----------------------------------|---------------|----------------------------|
| AA59532/04-                      |               |                            | AA59532/04-                      |               |                            |
| 001                              | 61935         | 3404.2303.11               | 012                              | 61935         | 3404.2309.11               |
| 002                              | 61935         | 3404.2304.11               | 013                              | 61935         | 3404.2310.11               |
| 003                              | 61935         | 3404.2349.11               | 014                              | 61935         | 3404.2347.11               |
| 004                              | 61935         | 3404.2305.11               | 015                              | 61935         | 3404.2311.11               |
| 005                              | 61935         | 3404.2306.11               | 016                              | 61935         | 3404.2312.11               |
| 006                              | 61935         | 3404.2343.11               | 017                              | 61935         | 3404.2313.11               |
| 007                              | 61935         | 3404.2344.11               | 018                              | 61935         | 3404.2314.11               |
| 008                              | 61935         | 3404.2307.11               | 019                              | 61935         | 3404.2348.11               |
| 009                              | 61935         | 3404.2345.11               | 020                              | 61935         | 3404.2315.11               |
| 010                              | 61935         | 3404.2308.11               | 021                              | 61935         | 3404.2316.11               |
| 011                              | 61935         | 3404.2346.11               | 022                              | 61935         | 3404.2317.11               |

<sup>1/</sup> The manufacturer's P/N shall not be used for procurement to the requirements of this CID. At the time of preparation of this CID, the aforementioned commercial products were reviewed and could be replaced by the CID P/N shown.

7.7 Government users. To acquire information on obtaining these fuse-fuseholder assemblies from the Government inventory system, contact Defense Supply Center, Columbus, ATTN: DSCC-CS, Post Office Box 3990, Columbus, OH 43216-5000, or telephone (614) 692-7790.

CIVIL AGENCY COORDINATING ACTIVITY:

GSA - 7FXE

Preparing Activity:

DLA-CC

Project 5920-0617-04