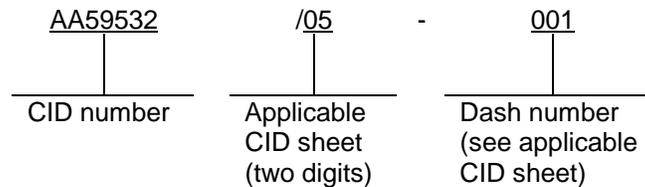


## COMMERCIAL ITEM DESCRIPTION

### FUSE, INCLOSED LINK, SURFACE MOUNT (SM), 250 VOLTS (V) AC/DC, QUICK ACTING

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

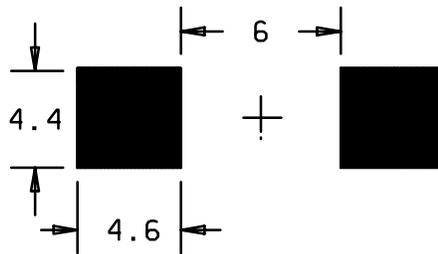
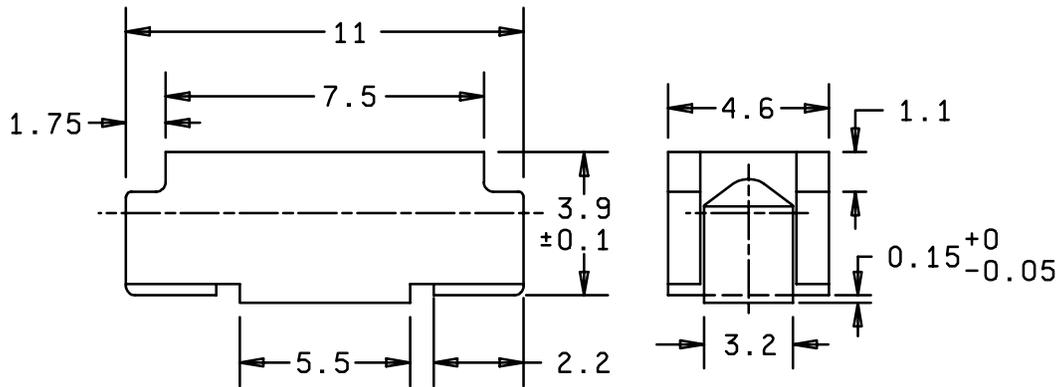
1. **SCOPE.** This CID covers the general requirements for a quick acting, SM, 250 V ac/dc, inclosed link fuse. Fuses covered by this CID are intended for commercial/industrial applications.
2. **CLASSIFICATION.** This CID uses a classification system which is included in the Part Identification Number (PIN) as shown in the following example (see 7.1).



### 3. SALIENT CHARACTERISTICS.

- 3.1 Interface and physical dimensions. Fuses 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 250 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 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 +125°C (257°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.



SOLDER PADS

mm	Inches	mm	Inches
0.1	.004	4.4	.173
0.15	.006	4.6	.181
1.1	.043	5.5	.217
1.75	.069	6	.236
2.2	.087	7.5	.295
3.2	.126	11	.433
3.9	.154		

NOTES:

1. Dimensions are in millimeters.
2. Tolerance is ± 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.

AA59532/05-	Ampere rating	Breaking capacity	Voltage drop at rated current. Max. mV	Power dissipation at rated current. typical watts	Fusing $I^2t$ at 4 times rated current	
					Typical $A^2s$	Maximum $A^2s$
001	250 m A	100A/ 250V ac p.f. =1  100A/ 250V dc	800	0.109	0.009	0.063
002	315 m A		750	0.125	0.017	0.099
003	400 m A		700	0.19	0.02	0.16
004	500 m A		600	0.19	0.04	0.25
005	630 m A		500	0.23	0.08	0.4
006	800 m A		400	0.33	0.13	0.64
007	1 m A		300	0.39	0.23	1
008	1.25 m A		300	0.39	0.47	1.53
009	1.6 m A		300	0.49	0.84	2.56
010	2 A		300	0.6	1.4	4
011	2.5 A		300	0.67	2.6	6.3
012	3.15 A		300	0.87	4.3	9.9
013	4 A		300	0.95	8.6	16

TABLE II. Opening time characteristics.

Industry standard tested to:	100 percent of rated current	200 percent of rated current	1000 percent of rated current
IEC 127-4/UL 248-14	> 1 hour	< 120 seconds	1 ms – 10 ms
CSA C22.2	> 1 hour	< 60 seconds	1 ms – 10 ms

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  $198 \text{ m/s}^2$  (10g)).

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

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.

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  $260^\circ\text{C}$  ( $500^\circ\text{F}$ )).

### 3.4 Physical specifications.

#### 3.4.1 Materials.

3.4.1.1 Housing material. The fuses 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 Marking. Fuses supplied to this CID shall be marked with the manufacturer's (MFR) standard commercial PIN.

3.6 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 fuses may be supplied individually or in a quantity of 2,000 on a 30.4 mm (1.197 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 fuses 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.

(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 1016 Clegg Court Petaluma, CA 94954-1152 (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 (see table I)	Vendor commercial P/N <u>1/</u>	
	MFR's CAGE	MFR's P/N <u>1/</u>
AA59532/05-		
001	61935	3403.0010.11
002	61935	3403.0011.11
003	61935	3403.0012.11
004	61935	3403.0013.11
005	61935	3403.0014.11
006	61935	3403.0015.11
007	61935	3403.0016.11
008	61935	3403.0017.11
009	61935	3403.0018.11
010	61935	3403.0019.11
011	61935	3403.0020.11
012	61935	3403.0021.11
013	61935	3403.0022.11

1/ 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 fuses 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.

A-A-59532/5

CIVIL AGENCY COORDINATING ACTIVITY:

GSA - 7FXE

Preparing Activity:

DLA-CC

Project 5920-0617-05