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LAND AND MARITIME  
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6 October 2016

MEMORANDUM FOR MILITARY/INDUSTRY DISTRIBUTION

SUBJECT: Initial Draft Notification

<u>Document</u>	<u>Project Number</u>
MIL-PRF-23419/8J AM 1	5920-2016-021

The subject document is being sent to you for review and comments regarding the following actions:

In Table I, replace "125 + 2V" with "125V" in the maximum voltage column.

Please provide any comments within the 30-day coordination period. If no comments are received in the allotted coordination period, concurrence is assumed. Draft documents are available at <https://landandmaritimeapps.dla.mil/programs/MilSpec/initialdrafts.aspx>.

Military departments are required to identify their comments as "Essential" or "Suggested". Essential comments that do not meet the requirements of DoD 4120.24-M will be treated as a suggested comment. Military review activities should forward comments to their custodians, or this office as applicable, in sufficient time to allow for consolidating comments.

All comments should be directed to Kurt Anderson, [Kurt.Anderson@dlamail](mailto:Kurt.Anderson@dlamail), (614) 692-0506, or DSN 850-0506. If you have further questions or concerns, you may contact me at [Michael.Radecki@dlamail](mailto:Michael.Radecki@dlamail), (614) 692-0561, or DSN 850-0561. Our mailing address, as a last resort, is DLA Land and Maritime-VAT, P.O. Box 3990, Columbus, OH 43218-3990.

/signed/

MICHAEL A. RADECKI  
Chief  
Electronic Components Branch

NOTE: This draft, dated 6 October 2016, prepared by DLA-CC, has not been approved and is subject to modification. DO NOT USE PRIOR TO APPROVAL. (Project 5920-2016-021)

INCH-POUND  
MIL-PRF-23419/8J  
w/ Amendment 1  
DRAFT  


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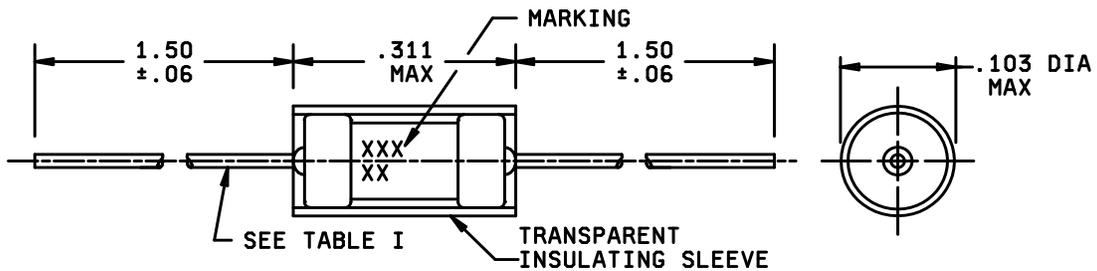
SUPERSEDING  
MIL-PRF-23419/8 J  
17 April 2012

PERFORMANCE SPECIFICATION SHEET

FUSE, CARTRIDGE, INSTRUMENT TYPE, STYLE FM08,  
(SUBMINIATURE - HIGH PERFORMANCE)

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification sheet and MIL-PRF-23419.



Inches	mm
.06	1.52
.103	2.62
.311	7.90
1.50	38.1

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.

FIGURE 1. Style FM08 fuses.



REQUIREMENTS:

Interface and physical dimensions: See figure 1.

Applicable fuseholder: Grayhill type 2-42, ultra miniature test clip (or equivalent). For 7 Ampere (A), 10A, and 15A fuses, use Grayhill pushpost number 29-100 or equivalent.

Case material: Ceramic or glass.

Terminals:

Materials: Caps, 90/10, commercial bronze; leads, copper.

Finish: For gold finish leads, caps shall have a gold finish. Caps and leads shall be gold plated in accordance with [SAE AMS2422](#), or equivalent method. For solder coated leads (suffix "T"), the leads of the gold plated cap and lead assemblies shall be solder dipped (see table I).

Strength: 5 pounds along terminal axis.

Current rating: See table I.

Characteristic: See table I.

Voltage rating: See table I.

Current carrying capacity: 100 percent at +25°C; 110 percent at -55°C; 80 percent at +125°C. The temperature of the case, body, or terminals shall, at no point, rise more than +70°C above the ambient air temperature. The maximum temperature rise for 10A and 15A fuses shall be +85°C.

Resistance: See table I.

Overload interrupt: Percentage of nominal rating, interrupt time -55°C through +125°C, 200 percent in 0 second to 5 seconds; 300 percent in 0 second to 0.1 second. Interrupt time for 15A fuses shall be 10 seconds maximum at 200 percent of rated current and .3 second maximum at 300 percent of rated current.

Short circuit interrupt: 300 amperes at maximum voltage dc.

Shock: Method I of [MIL-PRF-23419](#).

Thermal shock: [Method 107](#), [MIL-STD-202](#), test condition B.

Qualification: Qualification may be granted to style FM08 fuses to those qualified for style FM04 fuses, provided they meet the verification requirements shown below:

Verification: The following tests shall be conducted on 100 percent of the units, in the order shown, prior to any tests referenced in MIL-PRF-23419. Nonconforming units shall be removed from the lot.

- a. Seal - Immerse in a clear mineral oil bath at +125° C for 1 minute. No bubbles shall be detected. (See method 112, MIL-STD-202, test condition A.)
- b. Voltage drop - See table I.
- c. Resistance - See table I.
- d. Visual and mechanical - Inspection shall be by 3X minimum magnification.

Extent of qualification: Qualification may be extended to style FM04 fuses to those qualified for style FM08 fuses.

Solderability: Fuses shall be tested in accordance with MIL-PRF-23419. Gold plated leads shall have the gold removed by single or double dipping into a flowing or nonflowing hot solder of sufficient volume to assure complete gold removal.

Resistance to soldering heat: Fuses shall be tested in accordance with MIL-PRF-23419.

Marking: Fuses shall be marked with the manufacturer's name or trademark and current rating only.

Part or Identifying Number (PIN): The PIN is derived from table I and shall be as shown in table IV.

TABLE I. Style FM08 PIN designation, electrical parameters, and lead dimensions.

PIN designation <u>1/</u> <u>2/</u>			Cold resistance (ohms) <u>3/</u>		Voltage drop (volts) <u>4/</u>		Lead diameter	
Characteristic	Maximum voltage	Current rating (amperes)	Minimum	Maximum	Minimum	Maximum	Inches (± 0.002)	mm (± 0.05)
A	125V	1/8A	1.89	2.31	.850	1.15	.025	.64
A	125V	1/4A	.639	.781	.590	.800	.025	.64
A	125V	3/8A	.378	.462	.527	.713	.025	.64
A	125V	1/2A	.252	.308	.488	.660	.025	.64
A	125V	3/4A	.153	.187	.145	.197	.025	.64
A	125V	1A	.112	.138	.157	.213	.025	.64
A	125V	1 1/2A	.072	.088	.153	.207	.025	.64
A	125V	2A	.0495	.0605	.144	.196	.025	.64
A	125V	2 1/2A	.0378	.0462	.125	.169	.025	.64
A	125V	3A	.0315	.0388	.139	.187	.025	.64
A	125V	4A	.0207	.0253	.110	.150	.025	.64
A	125V	5A	.0126	.0154	.087	.118	.025	.64
A	125V	7A	.0090	.0110	.087	.118	.025	.64
A	125V	10A	.0059	.0070	.085	.110	.025	.64
A	32V	15A	.0036	.0044	.065	.087	.032	.82

1/ Add "T" suffix to PIN designation if optional solder coated leads are required.

2/ Example of complete PIN designation with optional lead finish: FM08A125V1/2AT.

3/ Cold resistance is measured at 10 percent or less of rated current.

4/ Voltage drop is measured after the fuse has been subjected to rated current for not less than one minute.

Qualification and group C Inspection:

Inspection routine: The number of group II samples for qualification and subgroup 2 samples for group C inspection shall be as shown in table II.

Table II. Group II and subgroup 2 samples.

Inspection	Number of sample fuses
Group II and subgroup 2	16
Terminal strength	4
Overload interrupt	
200% at -55° C	4
200% at +125° C	4
300% at -55° C	4
300% at +125° C	4

The number of group III samples for qualification (or first article) testing shall consist of four sample fuses of each of the current ratings as shown in table III. Short circuit interrupt tests shall be conducted at the direct current voltage indicated, and the fuses shall be capable of withstanding a minimum short circuit current as shown in table III

TABLE III. Short circuit tests.

Fuse style	Current rating	Short circuit current	DC voltage
FM08	10A	300A	125
FM08	15A	300A	32

Supersession data: See table IV.

TABLE IV. Supersession data.

Superseding PIN designation	Superseded numbers in accordance with MIL-PRF-23419/8B	Superseded numbers in accordance with MIL-PRF-23419/8A
FM08A125V1/8A	FM08125V1/8A	FM08-125V-1/8A
FM08A125V1/4A	FM08125V1/4A	FM08-125V-1/4A
FM08A125V3/8A	FM08125V3/8A	FM08-125V-3/8A
FM08A125V1/2A	FM08125V1/2A	FM08-125V-1/2A
FM08A125V3/4A	FM08125V3/4A	FM08-125V-3/4A
FM08A125V1A	FM08125V1A	FM08-125V-1A
FM08A125V1-1/2A	FM08125V1-1/2A	FM08-125V-1-1/2A
FM08A125V2A	FM08125V2A	FM08-125V-2A
FM08A125V2-1/2A	FM08125V2-1/2A	FM08-125V-2-1/2A
FM08A125V3A	FM08125V3A	FM08-125V-3A
FM08A125V4A	FM08125V4A	FM08-125V-4A
FM08A125V5A	FM08125V5A	FM08-125V-5A
FM08A125V7A	FM08125V7A	
FM08A125V10A	FM08125V10A	
FM08A32V15A	FM08125V15A	

Referenced documents. In addition to MIL-PRF-23419, this document references the following:

MIL-STD-202-107

MIL-STD-202-112

SAE AMS2422

The margins of this specification are marked with vertical lines to indicate where changes from the previous issue were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the last previous issue.

Custodians:

Army - CR  
Navy - EC  
Air Force - 85  
DLA - CC

Preparing activity:

DLA - CC

(Project 5920-2016-021)

Review activities:

Army - MI  
Navy - AS  
Air Force - 19, 99  
NSA - NS

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at <https://assist.dla.mil/>.