NOTE: This is an advance copy of the dated document. The final document from Defense Automated Printing Service may be slightly different in format due to electronic conversion processes. Actual technical content will be the same.

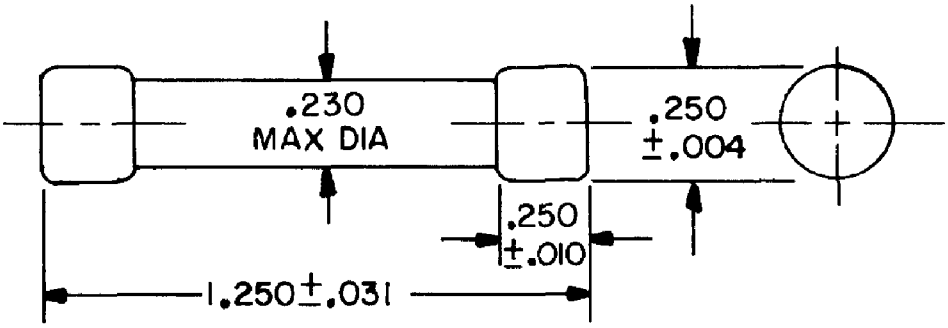
INCH-POUND
MIL-PRF-15160/3F
12 October 1999
SUPERSEDING
MIL-PRF-15160/3E
29 October 1990

PERFORMANCE SPECIFICATION SHEET

FUSES, INSTRUMENT, POWER, AND TELEPHONE (NONINDICATING), STYLE F03

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 and MIL-PRF-15160.



Inches	mm
0.004	0.10
0.010	0.25
0.031	0.79
0.230	5.84
0.250	6.35
1.250	31.75

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

FIGURE 1. Style F03, fuse.

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

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REQUIREMENTS:

Interface and physical dimensions: See figure 1.

Terminals: Ferrule type.

Material: Brass, copper, or copper alloy.

Finish: Nickel or bright alloy plate, silver plated when specified.

Strength: Method 211 of MIL-STD-202, test condition E, 2 inch-pound torque between ferrules and fuse body.

Body: Plastic or ceramic tube.

Electrical:

Current rating: See table I.

Voltage rating: See table I.

Characteristic: See table I.

Overload interrupt: See table I (at all temperatures between minus 55°C and plus 85°C).

Short circuit interrupt: See table I.

Shock:	F03A 1/4A through 1/2A	MIL-STD-202, method 213, test condition I
	F03A 1A through 30A	MIL-STD-202, method 207, (HI shock)
	F03B 1/100A through 8/10A	MIL-STD-202, method 213, test condition I
	F03B 1A through 30A	MIL-STD-202, method 207, (HI shock)
Vibration:	F03A 1/4A through 30A	MIL-STD-202, method 204, test condition A (except 5g peak)
	F03B 1/100A through 8/10A	MIL-STD-202, method 201
	F03B 1A through 30A	MIL-STD-202, method 204, test condition A (except 5g peak)

Type designation: Type designation shall be as specified in table I.

TABLE I Type designations and electrical rating.

Type designation				Overload interrupt time 2/		AC short circuit interrupt.		
Style	Characteristic	Maximum voltage	Current rating 3/ (amperes)	135% of rating – Max. 1 hour				
				200% of rating (seconds)	300% of rating (seconds)	32 volts	125 volts	250 volts
F03 1/	A	250V	1/4A	0.02 – 2.0	0.01 – 0.20	10,000A	10,000A	35A
F03 1/	A	250V	1/2A	0.03 – 3.0	0.01 – 0.30	10,000A	10,000A	35A
F03	A	250V	1A	0.05 – 3.0	0.015 – 0.50	10,000A	10,000A	35A
F03 1/	A	250V	1 1/4A	0.05 – 3.0	0.02 – 0.50	10,000A	10,000A	35A
F03 1/	A	250V	1 1/2A	0.05 – 3.0	0.02 – 0.50	10,000A	10,000A	35A
F03 1/	A	250V	2A	0.08 – 3.0	0.04 – 0.50	10,000A	10,000A	35A
F03	A	250V	3A	0.08 – 3.0	0.04 – 0.70	10,000A	10,000A	35A
F03 1/	A	250V	4A	0.10 – 5.0	0.05 – 1.00	10,000A	10,000A	35A
F03	A	250V	5A	0.20 – 60.0	0.05 – 6.00	10,000A	10,000A	100A
F03 1/	A	250V	6A	0.20 – 60.0	0.05 – 6.00	10,000A	10,000A	100A
F03	A	250V	8A	0.30 – 60.0	0.05 – 6.00	10,000A	10,000A	100A
F03	A	250V	10A	0.30 – 60.0	0.05 – 6.00	10,000A	10,000A	100A
F03	A	250V	12A	0.30 – 60.0	0.05 – 6.00	10,000A	10,000A	200A
F03	A	250V	15A	0.5 – 60.0	0.05 – 6.00	10,000A	10,000A	200A
F03	A	125V	20A	0.5 – 60.0	0.05 – 6.00	10,000A	10,000A	Not rated
F03 1/	A	125V	25A	0.5 – 60.0	0.05 – 6.00	10,000A	10,000A	Not rated
F03	A	125V	30A	0.5 – 60.0	0.05 – 6.00	10,000A	10,000A	Not rated
F03	B	250V	1/100A	4.0 – 250.0	2.0 – 40.0	10,000A	10,000A	35A
F03	B	250V	1/32A	4.0 – 80.0	2.0 – 25.0	10,000A	10,000A	35A
F03	B	250V	1/16A	4.0 – 80.0	2.0 – 25.0	10,000A	10,000A	35A
F03 1/	B	250V	1/10A	4.0 – 80.0	2.0 – 25.0	10,000A	10,000A	35A
F03	B	250V	1/8A	4.0 – 80.0	2.0 – 25.0	10,000A	10,000A	35A
F03	B	250V	15/100A	4.0 – 80.0	2.0 – 25.0	10,000A	10,000A	35A
F03	B	250V	3/16A	4.0 – 80.0	2.0 – 25.0	10,000A	10,000A	35A
F03	B	250V	1/4A	4.0 – 80.0	2.0 – 25.0	10,000A	10,000A	35A
F03 1/	B	250V	3/10A	4.0 – 80.0	2.0 – 25.0	10,000A	10,000A	35A
F03	B	250V	3/8A	4.0 – 80.0	2.0 – 25.0	10,000A	10,000A	35A

See footnotes at end of table.

TABLE I Type designations and electrical rating - Continued.

Type designation				Overload interrupt time 2/		AC short circuit interrupt.		
Style	Characteristic	Maximum voltage	Current rating 3/ (amperes)	135% of rating – Max. 1 hour				
				200% of rating (seconds)	300% of rating (seconds)	32 volts	125 volts	250 volts
F03	B	250V	1/2A	4.0 – 80.0	2.0 – 25.0	10,000A	10,000A	35A
F03 1/	B	250V	6/10A	4.0 – 80.0	2.0 – 25.0	10,000A	10,000A	35A
F03	B	250V	3/4A	4.0 – 80.0	2.0 – 25.0	10,000A	10,000A	35A
F03 1/	B	250V	8/10A	4.0 – 80.0	2.0 – 25.0	10,000A	10,000A	35A
F03	B	250V	1A	4.0 – 80.0	2.0 – 25.0	10,000A	10,000A	35A
F03 1/	B	250V	1 1/4A	4.0 – 80.0	2.0 – 25.0	10,000A	10,000A	35A
F03 1/	B	250V	1 1/2A	4.0 – 80.0	2.0 – 25.0	10,000A	10,000A	35A
F03 1/	B	250V	1 6/10A	4.0 – 80.0	2.0 – 25.0	10,000A	10,000A	35A
F03 1/	B	250V	2A	4.0 – 80.0	2.0 – 25.0	10,000A	10,000A	35A
F03	B	250V	2 1/2A	10.0 – 250.0	2.0 – 25.0	10,000A	10,000A	35A
F03 1/	B	250V	2 8/10A	10.0 – 250.0	2.0 – 25.0	10,000A	10,000A	35A
F03	B	250V	3A	10.0 – 250.0	2.0 – 25.0	10,000A	10,000A	35A
F03 1/	B	250V	3 2/10A	10.0 – 250.0	2.0 – 25.0	10,000A	10,000A	35A
F03 1/	B	125V	4A	10.0 – 250.0	2.0 – 25.0	10,000A	10,000A	Not rated
F03	B	125V	5A	10.0 – 250.0	0.05 – 10.0	10,000A	10,000A	Not rated
F03 1/	B	125V	6 1/4A	10.0 – 250.0	0.05 – 10.0	10,000A	10,000A	Not rated
F03 1/	B	125V	7A	10.0 – 250.0	0.05 – 10.0	10,000A	10,000A	Not rated
F03	B	125V	8A	10.0 – 250.0	0.05 – 10.0	10,000A	10,000A	Not rated
F03	B	125V	10A	10.0 – 250.0	0.05 – 10.0	10,000A	10,000A	Not rated
F03	B	125V	12A	10.0 – 250.0	0.05 – 10.0	10,000A	10,000A	Not rated
F03	B	125V	15A	10.0 – 250.0	0.05 – 10.0	10,000A	10,000A	Not rated
F03	B	125V	20A	10.0 – 250.0	0.05 – 10.0	10,000A	10,000A	Not rated
F03 1/	B	125V	25A	10.0 – 250.0	0.05 – 10.0	10,000A	10,000A	Not rated
F03	B	125V	30A	10.0 – 250.0	0.05 – 10.0	10,000A	10,000A	Not rated

1/ INACTIVE FOR NEW DESIGN AFTER 30 JANUARY 1970.

2/ The overload interrupt time ranges, as shown, cover the temperature range from minus 55°C to plus 85°C. For characteristic B, the overload interrupt time at room ambient temperature shall be not less than 12 seconds at 200 percent rating.

3/ For silver plated terminals the designator “S” is added after the current rating.

INSPECTION ROUTINE:

Overload tests (group II): Fuses for the overload interrupt test shall be selected and tested as specified in table II for qualification test.

TABLE II. Overload tests.

Examination of test	Number of sample fuses
Group II	20
Terminal strength	12
Overload interrupt 1/	
135% at room ambient	4
200% at –55°C	4
200% at +85°C	4
300% at –55°C	4
300% at +85°C	4
Insulation resistance	20

1/ For characteristic B fuses, only, four additional fuses shall be tested at 200 percent of rating at room ambient temperature.

Low voltage overload interrupt (group V for qualification; group III for group C inspection): Four sample characteristic B fuses of each current rating shown in table III shall be subjected to 135 percent current at the voltage specified in the table. The fuses shall interrupt the circuit within 1 hour. The test shall be conducted at room ambient.

TABLE III. Low voltage overload interrupt.
(Characteristic B fuses only).

Ampere rating	Test voltage
1/100A	36V
1/4A	15V
1/2A	10V
6/10A	8V
8/10A	6V
1A	5V

Note - for low voltage applications, see 6.1.5.1 for caution regarding low voltage applications.

Short circuit test: The number of group III samples for qualification and qualification retention (group C) testing shall consist of 4 sample fuses of each of the type and of the current ratings as shown in table IV. Short circuit interrupt tests shall be conducted at the as voltage indicated, and the fuses shall withstand a minimum short circuit current as shown in table IV. Insulation resistance test shall be in accordance with MIL-PRF-15160.

TABLE IV. Short circuit tests.

Fuse type	Current rating	Short circuit current	AC test voltage
F03A	4A	35A	250V
F03A	10A	100A	250V
F03A	15A	200A	250V
F03A	30A	10,000A	125V
F03B	3 2/10A	35A	250V
F03B	30A	10,000A	125V

Cross-reference: For applicable cross-reference see table V. The existing stocks of superseded items may be used. When exhausted, the superseding parts shall be used.

TABLE IV. Cross reference - Continued.

Superseding number	Superseded numbers for CAGE							
	81349	96906	71400	71400	75915	75915	75915	98997
F03A250V1/4A 1/			ABC1/4	MBO 1/4	394.250	314.250	3AB1/4	3AB1/4
F03A250V1/2A			ABC1/2	MBO 1/2	394.500	314.500	3AB1/2	3AB1/2
F03A250V1A	F03G1R00A 1/	MS90079-1 1/	ABC1	MBO 1	394001	314001	3AB1	3AB1
F03A250V1 1/4A			ABC1 1/4	MBO1 1/4	3941.25	3141.25	3AB1 1/4	3AB1 1/4
F03A250V1 1/2A			ABC1 1/2	MBO1 1/2	39401.5	31401.5	3AB1 1/2	3AB1 1/2
F03A250V2A			ABC2	MBO2	394002	314002	3AB2	3AB2
F03A250V3A	F03G3R00A	MS90079-2	ABC3	MBO3	394003	314003	3AB3	3AB3
F03A250V4A			ABC4	MBO4	394004	314004	3AB4	3AB4
F03A250V5A	F03G5R00A	MS90079-3	ABC5	MBO5	394005	314005	3AB5	3AB5
F03A250V6A			ABC6	MBO6	394006	314006	3AB6	3AB6
F03A250V8A	F03G8R00A	MS90079-4	ABC8	MBO8	394008	314008	3AB8	3AB8
F03A250V10A	F03G10R0A	MS90079-5	ABC10	MBO10	394010	314010	3AB10	3AB10
F03A250V12A	F03G12R0A	MS90079-6	ABC12	MBO12	394012	314012	3AB12	3AB12
F03A250V15A	F03G15R0A	MS90079-7	ABC15	MBO15	394015	314015	3AB15	3AB15
F03A125V20A	F03D20R0A	MS90079-8	ABC20	MBO20	394020	314020	3AB20	3AB20
F03A125V25A			ABC25	MBO25	394025	314025	3AB25	3AB25
F03A125V30A	F03D30R0A	MS90079-9	ABC30	MBO30	394030	314030	3AB30	3AB30
F03A250V1/100A	F03GR010B	MS90079-10	MDA1/100	MBF 1/100	390.010	323.010		3ABTL1/100
F03A250V1/32A	F03GR031B	MS90079-11	MDA1/32	MDF1/32	390.031	323.031		3ABTL1/32
F03A250V1/16A	F03GR062B	MS90079-12	MDA1/16	MDF1/16	390.062	323.062		3ABTL1/16
F03A250V1/8A	F03GR125B	MS90079-13	MDA1/8	MDF1/8	390.125	323.125		3ABTL1/8
F03A250V15/100A	F03GR150B	MS90079-14	MDA15/100	MDF15/100	390.150	323.150		3ABTL15/100
F03A250V3/16A	F03GR187B	MS90079-15	MDA3/16	MDF3/16	390.187	323.187		3ABTL3/16
F03A250V1/4A	F03GR250B	MS90079-16	MDA1/4	MDF1/4	390.250	323.250		3ABTL1/4
F03A250V3/10A			MDA3/10	MDF3/10	390.300	323.300		3ABTL3/10
F03A250V3/8A	F03GR375B	MS90079-17	MDA3/8	MDF3/8	390.375	323.375		3ABTL3/8
F03A250V1/2A	F03GR500B	MS90079-18	MDA1/2	MDF1/2	390.500	323.500		3ABTL1/2
F03A250V6/10A			MDA6/10	MDF6/10	390.600	323.600		3ABTL6/10
F03A250V3/4A	F03GR750B	MS90079-19	MDA3/4	MDF3/4	390.750	323.750		3ABTL3/4
F03A250V8/10A			MDA8/10	MDF8/10	390.800	323.800		3ABTL8/10

1/ See notes at end of table.

TABLE IV. Cross reference - Continued.

Superseding	Superseded numbers for CAGE							
number	81349	96906	71400	71400	75915	75915	75915	93997
F03B250V1A	F03G1R00B	MS90079-20	MDA1	MDF1	390001	323001		3ABTL1
F03B250V1 1/4A			MDA1 1/4	MDF1 1/4	390.250	3231.25		3ABTL1 1/4
F03B250V1 1/2A			MDA1 1/2	MDF1 1/2	390.500	3231.5		3ABTL1 1/2
F03B250V1 6/10A			MDA1 6/10	MDF1 6/10	390.600	32301.6		3ABTL1 6/10
F03B250V2A	F03B125V2A		MDA2	MDF2	390002	323002		3ABTL2
F03B250V2 1/2A	F03B125V1/2A		MDA2 1/2	MDF2 1/2	39002.5	32302.5		3ABTL2 1/2
F03B250V2 8/10A	F03B125V28/10A		MDA2 8/10	MDF2 8/10	39002.8	32302.8		3ABTL2 8/10
F03B250V3A 1/	F03GR00B 1/ F03B125V3A	MS90079-21 2/	MDA3	MDF3	390003	323003		3ABTL3
F03B250V3 2/10A	F03B125V32/10A		MDA3 2/10	MDF3 2/10	39003.2	32303.2		3ABTL3 2/10
F03B125V4A			MDA4	MDF4	390004	323004		3ABTL4
F03B125V5A	F03G5R00B F03D5R00B F03B32V5A	MS90079-22	MDA5	MDF5	390005	323005		3ABTL5
F03B125V6 1/4A 1/	F03B32V6 1/4A 1/		MDA6 1/4	MDF6 1/4	3906.25	3236.25		3ABTL6 1/4
F03B125V7A	F03B32V7A		MDA7	MDF7	390007	323007		3ABTL7
F03B125V8A	F03G8R00B F03B32V8A	MS90079-23 2/	MDA8	MDF8	390008	323008		3ABTL8
F03B125V10A	F03G10R0B F03B32V10A	MS90079-24	MDA10	MDF10	390010	323010		3ABTL10
F03B125V12A	F03G12R0B F03B32V12A	MS90079-25	MDA12	MDF12	390012	323012		3ABTL12
F03B125V15A	F03G15R0B F03B32V15A	MS90079-26	MDA15	MDF15	390015	323015		3ABTL15
F03B125V20A	F03D20R0B F03B32V20A	MS90079-27	MDA20	MDF20	390020	323020		3ABTL20
F03B125V25A	F03D25R0B F03B32V25A		MDA25	MDF25	390025	323025		3ABTL25
F03B125V30A	F03D30R0B F03B32V30A	MS90079-28	MDA30	MDF30	390030	323030		3ABTL30

1/ A letter "S" following the part number signifies silver plating.
2/ A second dash number (-1) signifies silver plating.

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Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

Custodians:
Army - CR
Navy - SH
Air Force - 11
DLA - CC

Review activities:
Army - AR, AT, CR4, MI
Navy - AS, CG, MC, OS, YD2
Air Force - 11, 19, 99

Preparing activity:
DLA - CC

(Project 5920-0607-03)