

5mm × 15mm Fuses



C515 (Axial Leads) C519

Time-Delay

Physical Size:

0.197" × 0.591" (5mm × 15mm)

Construction: Glass Tube

Agency Approvals:

UL Listing File E75865, Guide JDYX
125mA-250mA and 375mA-3A
CSA Certification File LR65063,
Class 1422-01, 125mA-250mA and
375mA-3A
UL Recognized, File E75865,
Guide JDYX2, 350mA and 3.5A-7A

CE logo denotes compliance with European Union Low Voltage Directive (50-1000V AC, 75-1500V DC). Refer to BIF document #8002 or contact Bussmann Application Engineering at 636-527-1270 for more information.

Electrical Characteristics

Current Rating	Rated Voltage AC	Interrupting Rating
125mA	250V	35A/250V 10kA/125V p.f. = 0.7 - 0.8
250mA		35A/250V 10kA/125V 25A/600V p.f. = 0.7 - 0.8
350mA		
375mA		35A/250V 10kA/125V p.f. = 0.7 - 0.8
500mA		
600mA		
750mA		
1A		100A/250V 10kA/125V p.f. = 0.7 - 0.8
1.25A		
1.5A		
1.6A		
2A		
2.25A		
2.5A	125V	400A/125V p.f. = 1.0
3A		
3.5A		
4A		
5A		
7A		

BIF document: 2006 (C515)
& 2007 (C519)



C518 (Axial Leads) C520

Fast-Acting

Physical Size:

0.197" × 0.591" (5mm × 15mm)

Construction: Glass Tube

Agency Approvals:

UL Listing File E75865, Guide JDYX
CSA Certification File LR65063,
Class 1422-01

CE logo denotes compliance with European Union Low Voltage Directive (50-1000V AC, 75-1500V DC). Refer to BIF document #8002 or contact Bussmann Application Engineering at 636-527-1270 for more information.

Electrical Characteristics

Current Rating	Rated Voltage AC	Interrupting Rating
100mA	250V	35A/250V 10kA/125V p.f. = 0.7 - 0.8
125mA		
250mA		
375mA		
500mA		
750mA		100A/250V 10kA/125V p.f. = 0.7 - 0.8
1A		
1.5A		
2A		
2.5A		
3A		200A/250V 10kA/125V5A p.f. = 0.7 - 0.8
3.5A		
4A		
5A		

BIF document: 2026 (C518)
& 2027 (C520)



C517 (Axial Leads) Fast-Acting, Light Ballast Protection

Physical Size:

0.197" × 0.591" (5mm × 15mm)

Construction: Ceramic

Agency Approvals:

UL Listing File E75865, Guide JDYX
CSA Certification File LR65063,
Class 1422-01
UL Recognized, File E75865,
Guide JDYX2

CE logo denotes compliance with European Union Low Voltage Directive (50-1000V AC, 75-1500V DC). Refer to BIF document #8002 or contact Bussmann Application Engineering at 636-527-1270 for more information.

Electrical Characteristics

Current Rating	Max. Rated Voltage AC	Interrupting Rating
3A	350V	100A/350V AC p.f. = 1.0
		100A/250V AC p.f. = 0.7 - 0.8
		10kA/125V AC p.f. = 0.7 - 0.8

BIF document: 2025

5mm × 20mm — IEC Standards

GDA GDA-V (Axial Leads)

**Fast-Acting,
High Breaking
Capacity**

Physical Size:
0.197" × 0.788"
(5mm × 20mm)

Construction:
Ceramic Tube

End caps: Nickel or silver plated brass

Voltage Rating: 250V AC or less

Interrupting Rating: 1500A @
250V AC

Agency Approvals:

UL Recognized, Guide JDYX2,

File E75865, 50mA and 315mA-6.3A

SEMKO Approval 50mA, 200mA and
315mA-6.3A

IEC 127-SI



GDB GDB-V (Axial Leads)

**Fast-Acting,
Low Breaking
Capacity**

Physical Size:
0.197" × 0.788"
(5mm × 20mm)

Construction:
Glass Tube

End caps: Nickel or silver plated brass

Voltage Rating: 250V AC or less

Interrupting Rating: 35A @ 250V AC
or 10 × rated current.

Agency Approvals:

Designed to IEC (Pub 127) Sheet II

British Standard Approval

SEMKO Approval

VDE Approval, IMQ

UL Recognized, Guide JDYX2,

File E75865, 32mA-6.3A



GDC GDC-V (Axial Leads)

**Time Delay,
Low Breaking
Capacity**

Physical Size:
0.197" × 0.788"
(5mm × 20mm)

Construction:
Glass Tube

End caps: Nickel or silver plated brass

Voltage Rating: 250V AC or less

Interrupting Rating: 35A @ 250V AC
or 10 × rated current.

Agency Approvals:

Designed to IEC (Pub 127) Sheet III

British Standard Approval

SEMKO Approval

VDE Approval, IMQ

UL Recognized, Guide JDYX2,

File E75865, 32mA-6.3A



CE CE logo denotes compliance with European Union Low Voltage Directive (50-1000V AC, 75-1500V DC). Refer to BIF document #8002 or contact Bussmann Application Engineering at 636-527-1270 for more information.

CE CE logo denotes compliance with European Union Low Voltage Directive (50-1000V AC, 75-1500V DC). Refer to BIF document #8002 or contact Bussmann Application Engineering at 636-527-1270 for more information.

CE CE logo denotes compliance with European Union Low Voltage Directive (50-1000V AC, 75-1500V DC). Refer to BIF document #8002 or contact Bussmann Application Engineering at 636-527-1270 for more information.

Electrical Characteristics

Current Rating	I ² t	Max Voltage Drop (mV)
50mA	0.0017	9000
63mA	0.0005	3300
80mA	0.0011	2600
100mA	0.0018	2300
125mA	0.0037	1900
160mA	0.008	1600
200mA	0.020	1350
250mA	0.027	1300
315mA	0.010	1400
400mA	0.018	1200
500mA	0.038	1050
630mA	0.064	1200
800mA	0.097	490
1A	0.480	230
1.25A	0.9	200
1.6A	1.9	180
2A	2.0	205
2.5A	3.9	190
3.15A	8.1	160
4A	14	160
5A	25	155
6.3A	48	150

Electrical Characteristics

Current Rating	I ² t*	Max Voltage Drop (mV)
32mA	0.000047	10000
40mA	0.00011	8000
50mA	0.00020	3200
63mA	0.00057	2500
80mA	0.0012	2200
100mA	0.003	2100
125mA	0.005	2000
160mA	0.008	1950
200mA	0.016	1600
250mA	0.028	1400
315mA	0.058	1150
400mA	0.018	950
500mA	0.018	220
630mA	0.035	220
800mA	0.067	180
1A	0.60	200
1.25A	0.84	200
1.6A	1.6	190
2A	4.2	160
2.5A	6.1	145
3.15A	13	130
4A	22	120
5A	42	115
6.3A	69	110
8A*	—	—
10A*	—	—
12A*	—	—
16A*	—	—

*IEC Standard 127 Sheet II does not include ratings above 6.3 amps.

Electrical Characteristics

Current Rating	I ² t	Max Voltage Drop (mV)
32mA	0.0014	1050
40mA	0.0034	920
50mA	0.006	800
63mA	0.012	760
80mA	0.015	580
100mA	0.022	490
125mA	0.034	390
160mA	0.052	320
200mA	0.078	340
250mA	0.17	270
315mA	0.41	250
400mA	0.61	210
500mA	0.75	168
630mA	1.3	158
800mA	3.1	132
1A	3.6	85
1.25A	7	80
1.6A	10	80
2A	17	80
2.5A	34	80
3.15A	56	75
4A	91	75
5A	133	75
6.3A	270	65

BIF document: 2014

BIF document: 2015

BIF document: 2016



5mm × 20mm – N. American Standards

GMA GMA-V (Axial Leads)

Fast Acting

Physical Size:

0.197" × 0.788"
(5mm × 20mm)

Construction:

Glass Tube
End Caps; nickel or silver plated brass

Agency

Approvals:

Std. 248-14
UL Listed Guide JDYX, File E75865, 0-6A
UL Recognized, Guide JDYX2, File E75865, 7-15A
CSA Certified, Class 1422-01, File E65063, 0-6A



CE CE logo denotes compliance with European Union Low Voltage Directive (50-1000V AC, 75-1500V DC). Refer to BIF document #8002 or contact Bussmann Application Engineering at 636-527-1270 for more information.

Electrical Characteristics

Current Rating	Rated Voltage (V AC)	Breaking Capacity
63mA 100mA 125mA 200mA 250mA 300mA 315mA 500mA 600mA 750mA 800mA 1A 1.2A 1.25A 1.5A 1.6A 2A 2.5A 3.15A 3.5A 4A 5A 6A 7A 8A 10A 15A	250	35A/250V 10kA/125V p.f. = 0.7 – 0.8
		100A/250V 10kA/125V p.f. = 0.7 – 0.8
	125	10kA/125V p.f. = 0.7 – 0.8
		200A/125V p.f. = 1.0
		150A/125V p.f. = 1.0

GMC GMC-V (Axial Leads)

Medium Time-Delay

Physical Size:

0.197" × 0.788"
(5mm × 20mm)

Construction:

Glass Tube
End Caps; nickel or silver plated brass

Agency Approvals:

Std. 248-14
UL Listed Guide JDYX, File E75865, 0-6.3A
UL Recognized, Guide JDYX2, File E75865, 7-10A
CSA Certified, Class 1422-01, File 65063, 0-6.3A



CE CE logo denotes compliance with European Union Low Voltage Directive (50-1000V AC, 75-1500V DC). Refer to BIF document #8002 or contact Bussmann Application Engineering at 636-527-1270 for more information.

Electrical Characteristics

Current Rating	Rated Voltage (V AC)	Breaking Capacity
50mA 63mA 80mA 100mA 125mA 150mA 160mA 200mA 250mA 300mA 315mA 400mA 500mA 600mA 630mA 750mA 800mA 1A 1.25A 1.5A 1.6A 2A 2.5A 3A 3.15A 3.5A 4A 5A 6A 6.3A 7A 8A 10A	250	35A/250V 10kA/125V p.f. = 0.7 – 0.8
		100A/250V 10kA/125V p.f. = 0.7 – 0.8
	125	10kA/125V p.f. = 0.7 – 0.8
		200A/125V p.f. = 1.0

BIF document: 2018

GMD GMD-V (Axial Leads)

Time-Delay

Physical Size:

0.197" × 0.788"
(5mm × 20mm)

Construction:

Glass Tube
End Caps; nickel or silver plated brass

Agency Approvals:

Std. 248-14
UL Listed Guide JDYX, File E75865, 0-3A
UL Recognized, Guide JDYX2, File E75865, 4A
CSA Certified, Class 1422-01, File 65063, 0-3A



CE CE logo denotes compliance with European Union Low Voltage Directive (50-1000V AC, 75-1500V DC). Refer to BIF document #8002 or contact Bussmann Application Engineering at 636-527-1270 for more information.

Electrical Characteristics

Current Rating	Rated Voltage (V AC)	Breaking Capacity
125mA 150mA 160mA 187mA 200mA 250mA 300mA 315mA 375mA 400mA 500mA 600mA 630mA 750mA 800mA 1A 1.2A 1.25A 1.5A 1.6A 2A 2.5A 3A 4A	250	100A/250V 10kA/125V p.f. = 0.7 – 0.8
		200A/250V 10kA/125V, p.f. = 1

BIF document: 2019



BIF document: 2017

1/4" Diameter x 5/8" to 1" Lengths



AGA AGA-V* (Axial Leads)

Fast Acting

Physical Size:

1/4" x 5/8" (1AG)
(6.4mm x 15.9mm)

Construction: Glass Tube

Voltage Rating: See table below.

Agency Approvals: Std. 248-14

UL File E19180,

UL Listed, Guide JDYX 0-1 1/2A

UL Recognized, Guide JDYX2 2-12A,

CE CE logo denotes compliance with European Union Low Voltage Directive (50-1000V AC, 75-1500V DC). Refer to BIF document #8002 or contact Bussmann Application Engineering at 636-527-1270 for more information.

Catalog Symbol & Current Ratings

125V AC		
AGA-1/16	AGA-1/2	AGA-2
AGA-1/10	AGA-9/10	AGA-2 1/2
AGA-1/8	AGA-3/4	AGA-3
AGA-1/4	AGA-1	AGA-5
AGA-3/8	AGA-1 1/2	—
32V AC		
AGA-6	AGA-10	AGA-25
AGA-7	AGA-15	AGA-30
AGA-7 1/2	AGA-20	—

*AGA-V is UL Listed 0-5A, UL Recognized 6-12A



AGW

Fast Acting

Physical Size:

1/4" x 7/8" (7AG)
(6.4mm x 22.2mm)

Construction: Glass Tube

Voltage Rating: 32V

Catalog Symbol & Current Ratings

32V AC		
AGW-1	AGW-4	AGW-15
AGW-1 1/2	AGW-5	AGW-20
AGW-2	AGW-6	AGW-25
AGW-2 1/2	AGW-7 1/2	AGW-30
AGW-3	AGW-10	—

BIF document: 2040



AGX AGX-V (Axial Leads)*

Fast Acting

Physical Size:

1/4" x 1" (8AG)
(6.4mm x 25.4mm)

Construction: Glass Tube

Voltage Rating: See table below.

Agency Approvals: Std. 248-14

UL File E19180

UL Listed, Guide JDYX, 0-5A

UL Recognized, Guide JDYX2, 6-20A

CSA File 47233; Class 1422-01, 0-5A

CE CE logo denotes compliance with European Union Low Voltage Directive (50-1000V AC, 75-1500V DC). Refer to BIF document #8002 or contact Bussmann Application Engineering at 636-527-1270 for more information.

Catalog Symbol & Current Ratings

250V AC		
AGX-1/500	AGX-3/16	AGX-3/4
AGX-1/200	AGX-2/10	AGX-1
AGX-1/100	AGX-1/4	AGX-1 1/4
AGX-1/32	AGX-3/10	AGX-1 1/2
AGX-1/16	AGX-3/8	AGX-2
AGX-1/10	AGX-4/10	—
AGX-1/8	AGX-1/2	—
125V AC		
AGX-2 1/2	AGX-4	AGX-6
AGX-3	AGX-5	AGX-7
32 Volts		
AGX-8	AGX-15	AGX-25
AGX-10	AGX-20	AGX-30

* AGX-V is UL Recognized from 6-20A @ 32V AC

BIF document: 2041

BIF document: 2039



1/4" Diameter x 1" Lengths



TDC180

**British Household Plug Fuse
Fast/Medium**

Physical Size:

1/4" x 1"
(6.4mm x 25.4mm)

Construction: Ceramic Tube
End Caps: Silver-plated copper

Agency Approvals:
BS1362, IEC 269-3A

Catalog Symbol & Current Ratings

240V AC		
TDC180-1	TDC180-5	TDC180-13
TDC180-2	TDC180-7	—
TDC180-3	TDC180-10	—

CE CE logo denotes compliance with European Union Low Voltage Directive (50-1000V AC, 75-1500V DC). Refer to BIF document #8002 or contact Bussmann Application Engineering at 636-527-1270 for more information.



TDC600

**Fast Acting
Physical Size:**

1/4" x 1"
(6.3mm x 25.4mm)

Construction: Ceramic Tube
Voltage Rating: 600V AC

Agency Approvals:
UL Recognized, Std. 248-14, BS1362

Catalog Symbol & Current Ratings

TDC600-2A	TDC600-10A
-----------	------------

CE CE logo denotes compliance with European Union Low Voltage Directive (50-1000V AC, 75-1500V DC). Refer to BIF document #8002 or contact Bussmann Application Engineering at 636-527-1270 for more information.



FWH

**Semiconductor Fuse
Physical Size:**

1/4" x 1 1/4"
(6.3mm x 32mm)

Construction: Ceramic Tube
Voltage Rating: 500V AC

Agency Approvals: Std. 248-14
UL Recognized .25-7, 500V AC,
File E91958, Guide JFHR2
UL Recognized 10-30, 500V AC,
File E56412, Guide JFHR2

Catalog Symbol & Current Ratings

FWH-.250A6F	FWH-010A6F
FWH-.500A6F	FWH-12.5A6F
FWH-001A6F	FWH-015A6F
FWH-002A6F	FWH-016A6F
FWH-3.15A6F	FWH-020A6F
FWH-005A6F	FWH-025A6F
FWH-6.30A6F	FWH-030A6F
FWH-007A6F	

CE CE logo denotes compliance with European Union Low Voltage Directive (50-1000V AC, 75-1500V DC). Refer to BIF document #8002 or contact Bussmann Application Engineering at 636-527-1270 for more information.



BIF document: 2042

BIF document: 2081

BIF documents: 720038 (Fuse)
Time-Current 35785256, 50955

1/4" x 1 1/4" Fast Acting Fuses

TDC10

Fast Acting

Physical Size:

1/4" x 1 1/4" (3AG)

(6.3mm x 32mm)

Construction: Glass Tube

Voltage Rating: See Below

Agency Approvals:

Conforms to British Standard BS-2950A, I.R. 10Im@Vm.



CE logo denotes compliance with European Union Low Voltage Directive (50-1000V AC, 75-1500V DC). Refer to BIF document #8002 or contact Bussmann Application Engineering at 636-527-1270 for more information.

Catalog Symbol & Current Ratings

1000 Volts AC	250 Volts AC
TDC10-50mA	TDC10-1.5A
TDC10-60mA	TDC10-2A
TDC10-100mA	TDC10-3A
TDC10-150mA	TDC10-5A
TDC10-250mA	150 Volts AC
750 Volts AC	TDC10-7A
TDC10-500mA	100 Volts AC
500 Volts AC	TDC10-10A
TDC10-750mA	32 Volts AC
350 Volts AC	TDC10-12A
TDC10-1A	TDC10-15A
—	TDC10-20A
—	TDC10-25A

AGC AGC-V (Axial Leads)

Fast Acting

Physical Size:

1/4" x 1 1/4" (3AG)

(6.3mm x 32mm)

Construction: Glass

Tube

Albaloy Plated Brass

End Caps

Voltage Rating: See Below

Interrupting Rating: See Below

Agency Approvals: Std. 248-14

UL Listed, Guide JDYX, File E19180, 0-10A

UL Recognized, Guide JDYX2,

File E19180, 15-30A

CSA Certification, Class 1422-01,

File 53787



CE logo denotes compliance with European Union Low Voltage Directive (50-1000V AC, 75-1500V DC). Refer to BIF document #8002 or contact Bussmann Application Engineering at 636-527-1270 for more information.

Electrical Characteristics

Current Rating	Rated Voltage		Interrupting Rating ¹	
	AC (Max.)	DC (Max.) ²	AC	DC ²
1/20	250V	250V	35A	35A
1/16	250V	250V	35A	35A
1/10	250V	250V	35A	35A
1/8	250V	250V	35A	35A
3/16	250V	250V	35A	35A
1/4	250V	250V	35A	35A
3/10	250V	250V	35A	35A
3/8	250V	250V	35A	35A
45/100	250V	250V	35A	35A
1/2	250V	250V	35A	35A
3/4	250V	250V	35A	35A
1	250V	250V	35A	35A
1 1/4	250V	250V	100A	100A
1 1/2	250V	250V	100A	100A
2	250V	250V	100A	100A
2 1/4	250V	250V	100A	100A
2 1/2	250V	250V	100A	100A
3	250V	250V	100A	100A
4	250V	250V	200A	200A
5	250V	250V	200A	200A
6	250V	250V	200A	200A
7	250V	250V	200A	200A
8	250V	250V	200A	200A
9	250V	250V	200A	200A
10	250V	250V	200A	200A
15	32V	32V	1000A	1000A
20	32V	32V	1000A	1000A
25	32V	32V	1000A	1000A
30	32V	32V	1000A	1000A

¹Interrupting ratings were measured at 70% – 80% power factor on AC, and at a time constant described in UL 198L.

²DC ratings are self certified.

BIF document: 2001

ABC ABC-V (Axial Leads)

Fast Acting

Physical Size:

1/4" x 1 1/4" (3AB)

(6.3mm x 32mm)

Construction:

Ceramic Tube

Voltage Rating:

See Below

Interrupting Rating: See Below

Agency Approvals: Std. 248-14

UL Listed, Guide JDYX File E19180, 0-15A

UL Recognized, Guide JDYX2,

File E19180, 20-25A

CSA Certification, Class 1422-01,

File 53787, 0-15A, Class 1422-30,

File 53787, 20-25A



CE logo denotes compliance with European Union Low Voltage Directive (50-1000V AC, 75-1500V DC). Refer to BIF document #8002 or contact Bussmann Application Engineering at 636-527-1270 for more information.

Electrical Characteristics

Current Rating	Rated Voltage		Interrupting Rating ¹	
	AC (Max.)	DC (Max.) ²	AC	DC ²
1/4	250V	250V	35A	35A
1/2	250V	250V	35A	35A
3/4	250V	250V	35A	35A
1	250V	250V	35A	35A
1 1/2	250V	250V	100A	100A
2	250V	250V	100A	100A
2 1/2	250V	250V	100A	100A
3	250V	250V	100A	100A
4	250V	250V	200A	200A
7	250V	250V	200A	200A
8	250V	250V	200A	200A
10	250V	250V	200A	200A
15	250V	250V	750A	200A
20	250V	250V	400A	200A
25	125V	125V	1000A	1000A
30	125V	125V	1000A	1000A

¹Interrupting ratings were measured at 70% – 80% power factor on AC, and at a time constant described in UL 198L.

²DC ratings are self certified.

BIF document: 2000

BIF document: 2043



1/4" x 1 1/4" Fuses

**GBB
GBB-V
(Axial Leads)**

Very Fast Acting

Physical Size:

1/4" x 1 1/4" (3AB)
(6.3mm x 32mm)

Construction:

Ceramic Cartridge

Voltage Rating:

250V AC/125V DC

Agency Approvals: Std. 248-14

UL Recognized, 1-30, 125V DC/250V

AC, File E56412, Guide JFHR2

CSA Certified, 1-10, 125V DC/250V

AC, File 53787, Class 1422-01



CE CE logo denotes compliance with European Union Low Voltage Directive (50-1000V AC, 75-1500V DC). Refer to BIF document #8002 or contact Bussmann Application Engineering at 636-527-1270 for more information.

Catalog Symbol and Current Ratings

GBB-1	GBB-6	GBB-15
GBB-1 1/4	GBB-7	GBB-20
GBB-2	GBB-8	GBB-25
GBB-3	GBB-9	GBB-30
GBB-4	GBB-10	—
GBB-5	GBB-12	—

TDC11

Time Lag

Physical Size:

1/4" x 1 1/4" (3AG)
(6.3mm x 32mm)

Construction:

Glass Tube

Voltage Rating:

See Below

Interrupting

Rating: 10 times rated current @ Vm.



CE CE logo denotes compliance with European Union Low Voltage Directive (50-1000V AC, 75-1500V DC). Refer to BIF document #8002 or contact Bussmann Application Engineering at 636-527-1270 for more information.

Catalog Symbol and Current Ratings

1000 Volts AC	250 Volts AC
TDC11-50mA	TDC11-1.5A
TDC11-60mA	TDC11-2A
TDC11-100mA	TDC11-3A
TDC11-150mA	TDC11-5A
TDC11-250mA	150 Volts AC
750 Volts AC	TDC11-7A
TDC11-500mA	100 Volts AC
500 Volts AC	TDC11-10A
TDC11-750mA	—
350 Volts AC	—
TDC11-1A	—

**MDL
MDL-V (Axial Leads)**

Time-Delay

Physical Size:

1/4" x 1 1/4" (3AG)
(6.3mm x 32mm)

Construction:

Glass Tube

Albaloy Plated

Brass End Caps

Voltage Rating: See Below

Interrupting Rating: See Below

Agency Approvals: Std. 248-14

UL Listed, Guide JDYX, File E19180;

1/16-8A

CSA Certification Class 1422-01,

File 53787, 1/16-8A

UL Recognized, Guide JDYX2,

File E19180, 8.1-30A



CE CE logo denotes compliance with European Union Low Voltage Directive (50-1000V AC, 75-1500V DC). Refer to BIF document #8002 or contact Bussmann Application Engineering at 636-527-1270 for more information.

Electrical Characteristics

Current Rating	Rated Voltage		Interrupting Rating ¹	
	AC (Max.)	DC (Max.) ²	AC	DC ²
1/16	250V	250V	35A	35A
1/10	250V	250V	35A	35A
1/8	250V	250V	35A	35A
3/10	250V	250V	35A	35A
3/8	250V	250V	35A	35A
1/4	250V	250V	35A	35A
3/10	250V	250V	35A	35A
3/8	250V	250V	35A	35A
1/2	250V	250V	35A	35A
3/4	250V	250V	35A	35A
1	250V	250V	35A	35A
1 1/4	250V	250V	100A	100A
1 1/2	250V	250V	100A	100A
2	250V	250V	100A	100A
2 1/4	250V	250V	100A	100A
2 1/2	250V	250V	100A	100A
3	250V	250V	100A	100A
4	250V	250V	200A	10,000A
5	250V	250V	200A	10,000A
6	250V	250V	200A	10,000A
7	250V	250V	200A	10,000A
8	250V	250V	200A	200A
9	32V	250V	1000A	10,000A
10	32V	250V	1000A	10,000A
15	32V		1000A	
20	32V		1000A	
25	32V		1000A	
30	32V		1000A	

¹Interrupting ratings were measured at 70% – 80% power factor on AC, and at a time constant described in UL 198L.

²DC ratings are self certified.



BIF document: 2013

BIF document: 2043

BIF document: 2004

1/4" x 1 1/4" and 1 3/32" x 1 1/2" Fuses



MDQ
MDQ-V (Axial Leads)
Dual Element Time-Delay

Physical Size:

1/4" x 1 1/4" (3AG)
(6.3mm x 32mm)

Construction: Glass Tube

Agency Approvals: Std. 248-14
UL Listed, File E19180; Guide JDYX,
1/16-7A
CSA Certification, File 47233,
Class 1422-01, 1/16-7A
UL Recognized, Guide JDYX2,
File E19180, 7.1-30A

CE logo denotes compliance with European Union Low Voltage Directive (50-1000V AC, 75-1500V DC). Refer to BIF document #8002 or contact Bussmann Application Engineering at 636-527-1270 for more information.

Catalog Symbol & Current Ratings

250 Volts AC			
MDQ-1/100	MDQ-3/8	MDQ-1 1/10	MDQ-7
MDQ-1/32	MDQ-1/10	MDQ-2	
MDQ-1/16	MDQ-1/2	MDQ-2 1/4	
MDQ-1/10	MDQ-9/10	MDQ-2 1/2	
MDQ-1/8	MDQ-3/4	MDQ-2 9/10	
MDQ-1 1/100	MDQ-9/10	MDQ-3	
MDQ-1 75/1000	MDQ-1	MDQ-3 2/10	
MDQ-3/16	MDQ-1 2/10	MDQ-4	
MDQ-3/10	MDQ-1 1/4	MDQ-5	
MDQ-1/4	MDQ-1 1/2	MDQ-6	
MDQ-3/10	MDQ-1 9/10	MDQ-6 1/4	
32 Volts AC			
MDQ-7 1/2	MDQ-9	MDQ-12	
MDQ-8	MDQ-10	MDQ-15	



MDA
MDA-V (Axial Leads)
Time-Delay

Physical Size:

1/4" x 1 1/4" (3AB)
(6.3mm x 32mm)

Construction: Ceramic Tube; Albaloy
Plated Brass End Caps

Agency Approvals: Std. 248-14
UL Listed, Guide JDYX, File E19180,
0-15A
CSA Certification, Class 1422-01,
File 53787, 0-15A

CE logo denotes compliance with European Union Low Voltage Directive (50-1000V AC, 75-1500V DC). Refer to BIF document #8002 or contact Bussmann Application Engineering at 636-527-1270 for more information.

Electrical Characteristics

Current Rating	Rated Voltage		Interrupting Rating ¹	
	AC (Max.)	DC (Max.) ²	AC	DC ²
2/10	250V	250V	35A	35A
1/4	250V	250V	35A	35A
1/2	250V	250V	35A	35A
3/4	250V	250V	35A	35A
1	250V	250V	35A	35A
1 1/2	250V		100A	
2	250V		100A	100A
2 1/2	250V		100A	
3	250V	250V	100A	100A
4	250V		200A	
5	250V		200A	
6	250V		200A	
7	250V		200A	
8	250V		200A	
10	250V	250V	200A	200A
15	250V	250V	1500A	
20	250V		1500A	
25	250V		1000A	
30	250V		1000A	

¹Interrupting ratings were measured at 70% - 80% power factor on AC, and at a time constant described in UL 198L.

²DC ratings are self certified.



AGU
Fast Acting

Physical Size:

1 3/32" x 1 1/2" (5 AG)
(10.3mm x 38.1mm)

Construction: Glass Tube

No Agency Listings

CE logo denotes compliance with European Union Low Voltage Directive (50-1000V AC, 75-1500V DC). Refer to BIF document #8002 or contact Bussmann Application Engineering at 636-527-1270 for more information.

Catalog Symbol & Current Ratings

250 Volts AC	32 Volts AC		
AGU-1	AGU-4	AGU-20	AGU-50
AGU-2	AGU-5	AGU-25	AGU-60
AGU-3	AGU-8	AGU-30	—
—	AGU-10	AGU-35	—
—	AGU-15	AGU-40	—



Pin Indication Type



GBA and GLD

Fast Acting

Physical Size:

1/4" x 1 1/4" (3AG)
(6.6mm x 31.8mm)

Agency Approvals: Std. 248-14

UL Listed, 0-5A/125V AC,
10,000 AIC, Guide JDYX,
File E19180

UL Recognized,

6A/125V AC, 1000AIC
8-15A/150V AC/DC, 300 AIC
Guide JDYX2, File E19180

CSA Certified:

0-5A/125V AC, 10,000 AIC
Class 1422-01, File 53787

General Information: Type GBA has a "red" pin for high visibility. Type GLD has an Albaloy-plated pin for positive, electrical signal circuit activation.

CE CE logo denotes compliance with European Union Low Voltage Directive (50-1000V AC, 75-1500V DC). Refer to BIF document #8002 or contact Bussmann Application Engineering at 636-527-1270 for more information.

Catalog Symbol & Current Ratings

125V AC		
GLD-1/2	GLD-2	GLD-6
GLD-3/4	GLD-3	GLD-10
GLD-1	GLD-4	GLD-12
GLD-1 1/2	GLD-5	GLD-15
125V AC		
GBA-1/2	GBA-2	GBA-8
GBA-3/4	GBA-3	GBA-10
GBA-1	GBA-4	GBA-15
GBA-1 1/2	GBA-5	



MIC and MIN

Fast Acting

Physical Size:

1 3/32" x 1 1/2" (5AG)
(10.3mm x 38.1mm)

Agency Approvals: Std. 248-14

MIC—0-15A UL Listed, Guide JDYX,
File E19180

MIN—1-5A CSA Certified,
Class 1422-01, File 53787

General Information: Type MIN has a "red" pin for high visibility. Type MIC has a silver-plated pin for positive, electrical signal activation.

CE CE logo denotes compliance with European Union Low Voltage Directive (50-1000V AC, 75-1500V DC). Refer to BIF document #8002 or contact Bussmann Application Engineering at 636-527-1270 for more information.

Catalog Symbol & Current Ratings

250V AC		32 Volts
MIC-1	MIC-5	MIC-20
MIC-2	MIC-10	MIC-25
MIC-3	MIC-15	MIC-30
250V AC		32 Volts
MIN-1	MIN-5	MIN-20
MIN-2	MIN-10	MIN-25
MIN-3	MIN-15	MIN-30



FNA

Time-Delay

Physical Size:

1 3/32" x 1 1/2"
(10.3mm x 38.1mm)

Agency Approvals: Std. 248-14

UL Listed 0-8/10 A/250V, 1-15A/125V
Guide JDYX, File 19180

CSA Certified, 0-8/10 A/250V,
1-10A/125V, Class 1422-01,
File 53787

General Information: Fuses above 10A have dual-tube construction.

CE CE logo denotes compliance with European Union Low Voltage Directive (50-1000V AC, 75-1500V DC). Refer to BIF document #8002 or contact Bussmann Application Engineering at 636-527-1270 for more information.

Catalog Symbol & Current Ratings

250V AC IR*	125V AC IR	125V AC IR	125V AC
FNA-1/10	FNA-1	FNA-3	FNA-9
FNA-1/6	FNA-1 1/6	FNA-3 3/10	FNA-10 IR
FNA-1 1/100	FNA-1 1/4	FNA-3 1/2	FNA-12 10,000A
FNA-2/10	FNA-1 1/10	FNA-4	FNA-15
FNA-1/4 IR	FNA-1 1/2 IR	FNA-4 1/2 IR	32 Volts
FNA-3/10 35A	FNA-1 1/10 10,000A	FNA-5 10,000A	FNA-20
FNA-2/10	FNA-1 1/10	FNA-5 1/10	FNA-25
FNA-1/2	FNA-2	FNA-6	FNA-30
FNA-9/10	FNA-2 1/4	FNA-6 1/4	—
FNA-3/4	FNA-2 1/2	FNA-7	—
FNA-8/10	FNA-2 3/10	FNA-8	—

*All have interrupting rating of 10,000A at 125V.



Pin Indication Type/Actuators/Limiters



MIS

Non-Time-Delay

Physical Size:

$1\frac{3}{32}'' \times 2''$

(10.3mm × 50.8mm)

Voltage Rating: 600V AC

Interrupting Rating: 200,000 AIC

Catalog Symbol & Current Ratings

600V AC

MIS-1	MIS-4	MIS-10
MIS-2	MIS-5	MIS-12
MIS-3	MIS-8	

Test Specifications

Fuse	Load	Opening Time
All	110%	4 hrs. (min.)
1-5A	150%	6 min. (max.)
6-12A	150%	12 min. (max.)



KAZ

Actuator (Not a Fuse)

Physical Size:

$1\frac{3}{32}'' \times 2''$

(10.3mm × 50.8mm)

Voltage Rating: 600V AC

Interrupting Rating: 200,000A

Agency Approvals:

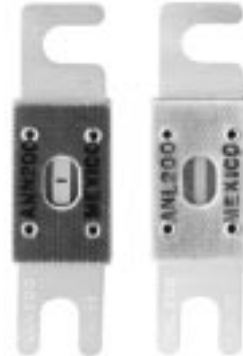
UL Listed, Guide JDVS,
File E58836

Recommended Use: Mounts in Buss signal blocks 2778, 2837 and 2838.

General Information: Connects in parallel with fuses having a rating of 50 amperes or larger and opens at 10A or more.

CE logo denotes compliance with European Union Low Voltage Directive (50-1000V AC, 75-1500V DC). Refer to BIF document #8002 or contact Bussmann Application Engineering at 636-527-1270 for more information.

BIF document: 2021



ANN Limiter

Very Fast Acting

Physical Size:

$\frac{7}{8}'' \times 3\frac{3}{16}''$

(22.2mm × 81.0mm)

Voltage Rating: 125V AC IR = 2500A

80V DC IR = 2700 A

Agency Approvals: 35-400A @

125V AC, IR=2500A and 80V DC, IR=2700A: UL Recognized Guide JFHR2, File E56412; CSA Certified Class 1422-30, File 53787

CE for 35-400A @ 125V AC, IR=2500A

Fuseholder: 4164

Catalog Symbol & Current Ratings

125V AC, IR 2500A @ 125V

ANN-10	ANN-90	ANN-225	ANN-400
ANN-35	ANN-100	ANN-250	ANN-500
ANN-40	ANN-125	ANN-275	ANN-600
ANN-50	ANN-150	ANN-300	ANN-700
ANN-60	ANN-175	ANN-325	ANN-800
ANN-80	ANN-200	ANN-350	

BIF document: 2023 & 2133

ANL

Non-Time Delay

Voltage Rating: 32V AC

Agency Approvals:

UL Recognized, CSA Certified, 35-750A @ 80V DC, IR = 2700A
Guide JFHR2, File E56412
Class 1422-30, File 53787

Fuseholder: 4164

Catalog Symbol & Current Ratings

32 Volts

IR 6000A			IR 2700A
ANL-35	ANL-125	ANL-250	ANL-500
ANL-40	ANL-130	ANL-275	ANL-600
ANL-50	ANL-150	ANL-300	ANL-675
ANL-60	ANL-175	ANL-325	ANL-750
ANL-80	ANL-200	ANL-350	—
ANL-100	ANL-225	ANL-400	—

BIF document: 2024 & 2133



In-Line Fuse and Fuseholders

GLR

Fast Acting, Non-rejecting

Voltage Rating: 300V AC or less

Interrupting Rating: 10,000A

Agency Approvals: Std. 248-14

UL Listed, 0-15A/300V AC

(Guide JDYX, File E19180)

CSA Certified, 0-10A/300V

(Class 1422-01, File 53787)



*HLR Fuseholder



GMF and GRF

Time Delay, Non-rejecting

Voltage Rating: 300V AC or less

Interrupting Rating: 10,000A

Agency Approvals: Std. 248-14

0-10A, UL Listed (Guide JDYX,

File E19180)

CSA Certified, (Class 1422-01,

File 53787)



Electrical Ratings for Type GLR Fuses and Non-Rejection Style Carriers

Fuse	Carrier ^{1, 2}	Fuse	Carrier ^{1, 2}
GLR- $\frac{3}{16}$	HLR	GLR-5	HLR
GLR- $\frac{1}{2}$	HLR	GLR-6	HLR
GLR-1	HLR	GLR-7	HLR
GLR-1 $\frac{1}{2}$	HLR	GLR-8	HLR
GLR-1 $\frac{5}{16}$	HLR	GLR-9	HLR
GLR-2	HLR	GLR-10	HLR
GLR-3	HLR	GLR-12	HLR
GLR-4	HLR	GLR-15	HLR-2A

- Carrier is UL Recognized, Guide IZLT2, File E14853 and CSA Certified, Class 6225-01, File 47235 12A, 300V AC.
- Units can be panel-mounted either in a knockout hole as shown above with a separate steel clip (BK/A-104) or in a keyhole punch using separate mounting clip #6374 for panels of thickness 0.043" to 0.062" or #4909 for thickness 0.030" to 0.042"
*For two leads order HLR-2A, 15A, 300V

CE logo denotes compliance with European Union Low Voltage Directive (50-1000V AC, 75-1500V DC). Refer to BIF document #8002 or contact Bussmann Application Engineering at 636-527-1270 for more information.

BIF document: 2032

Electrical Ratings for Type GMF and GRF Fuses and Non-Rejection Style Carriers

Fuse	Carrier ^{1, 2}	Fuse	Carrier ^{1, 2}
GMF- $\frac{3}{16}$	HLR	GMF-3	HLR
GMF- $\frac{1}{2}$	HLR	GMF-3 $\frac{3}{16}$	HLR
GMF- $\frac{5}{16}$	HLR	GMF-4	HLR
GMF- $\frac{3}{8}$	HLR	GMF-5*	HLR
GMF-1	HLR	GMF-6 $\frac{1}{4}$	HLR
GMF-1 $\frac{1}{4}$	HLR	GMF-10	HLR
GMF-1 $\frac{5}{16}$	HLR	GRF-7	HLR
GMF-2	HLR	GRF-8	HLR
GMF-2 $\frac{1}{2}$	HLR	GRF-10	HLR
GMF-2 $\frac{5}{16}$	HLR		

- Carrier is UL Recognized, Guide IZLT2, File E14853 and CSA Certified, Class 6225-01, File 47235 12A, 300V AC.
- Units can be panel-mounted either in a knockout hole as shown above with a separate steel clip (BK/A-104) or in a keyhole punch using separate mounting clip #6374 for panels of thickness 0.043" to 0.062" or #4909 for thickness 0.030" to 0.042"
*For two leads order HLR-2A, 15A, 300V

CE logo denotes compliance with European Union Low Voltage Directive (50-1000V AC, 75-1500V DC). Refer to BIF document #8002 or contact Bussmann Application Engineering at 636-527-1270 for more information.

BIF document: 2031

GLQ

Fast-Acting, Size Rejecting

Voltage Rating: 300V AC or less

Interrupting Rating: 10,000A

Agency Approvals: Std. 248-14

UL Listed (Guide JDYX,

File E19180)

CSA Certified, (Class 1422-01,

File 53787)



HLQ³ Fuseholder



GMQ

Time-Delay, Size Rejecting

Voltage Rating: 300V AC or less

Interrupting Rating: 10,000A

Agency Approvals: Std. 248-14

UL Listed (Guide JDYX, File E19180)

CSA Certified, (Class 1422-01,

File 53787)



Electrical Ratings for Type GLQ Fuses and Rejection Style Carriers

Fuse	Carrier ^{3, 4}	Fuse	Carrier ^{3, 4}
GLQ-1	HLQ-1 $\frac{1}{16}$	GLQ-3	HLQ-3 $\frac{3}{16}$
GLQ-1 $\frac{1}{2}$	HLQ-1 $\frac{1}{16}$	GLQ-4	HLQ-5
GLQ-1 $\frac{5}{16}$	HLQ-1 $\frac{1}{16}$	GLQ-5	HLQ-5
GLQ-2	HLQ-3 $\frac{3}{16}$	GLQ-9	HLQ-10
GLQ-2 $\frac{1}{2}$	HLQ-3 $\frac{3}{16}$	GLQ-10	HLQ-10

- Carrier is UL Recognized, Guide IZLT2, File E14853 and CSA Certified, Class 6225-01, File 47235 10A, 300V AC.
- Units can be panel-mounted either in a knockout hole as shown above with a separate steel clip (BK/A-104) or in a keyhole punch using separate mounting clip #6374 for panels of thickness 0.043" to 0.062" or #4909 for thickness 0.030" to 0.042"

CE logo denotes compliance with European Union Low Voltage Directive (50-1000V AC, 75-1500V DC). Refer to BIF document #8002 or contact Bussmann Application Engineering at 636-527-1270 for more information.

BIF document: 2033

Electrical Ratings for Type GMQ Fuses and Rejection Style Carriers

Fuse	Carrier ^{3, 4}	Fuse	Carrier ^{3, 4}
GMQ- $\frac{1}{2}$	HLQ- $\frac{1}{2}$	GMQ-2 $\frac{1}{2}$	HLQ-3 $\frac{3}{16}$
GMQ- $\frac{5}{16}$	HLQ-1 $\frac{1}{16}$	GMQ-3	HLQ-3 $\frac{3}{16}$
GMQ- $\frac{3}{16}$	HLQ-1 $\frac{1}{16}$	GMQ-3 $\frac{3}{16}$	HLQ-3 $\frac{3}{16}$
GMQ-1	HLQ-1 $\frac{1}{16}$	GMQ-4	HLQ-5
GMQ-1 $\frac{1}{4}$	HLQ-1 $\frac{1}{16}$	GMQ-6	HLQ-8
GMQ-1 $\frac{5}{16}$	HLQ-1 $\frac{1}{16}$	GMQ-6 $\frac{1}{4}$	
GMQ-2	HLQ-3 $\frac{3}{16}$		

- Carrier is UL Recognized, Guide IZLT2, File E14853 and CSA Certified, Class 6225-01, File 47235 10A, 300V AC.
- Units can be panel-mounted either in a knockout hole as shown above with a separate steel clip (BK/A-104) or in a keyhole punch using separate mounting clip #6374 for panels of thickness 0.043" to 0.062" or #4909 for thickness 0.030" to 0.042"

CE logo denotes compliance with European Union Low Voltage Directive (50-1000V AC, 75-1500V DC). Refer to BIF document #8002 or contact Bussmann Application Engineering at 636-527-1270 for more information.

BIF document: 2030



Blade-Type Fuses



ATC® Blade-Type Fuse

Fast Acting

Voltage Rating: 32V

Interrupting Rating: 1,000A

Agency Approvals:

UL Recognized, (3-40A)

(Guide JFHR2, File E56412)

Catalog Symbol & Current Ratings

ATC-1	Black
ATC-2	Gray
ATC-3	Violet
ATC-4	Pink
ATC-5	Tan
ATC-7½	Brown
ATC-10	Red
ATC-15	Blue
ATC-20	Yellow
ATC-25	Clear
ATC-30	Green
ATC-40	Amber



ATM Mini®-Fuse

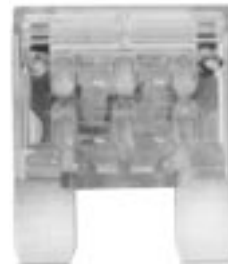
Fast Acting

Voltage Rating: 32V

Interrupting Rating: 1,000A

Catalog Symbol & Current Ratings

ATM-2	Gray
ATM-3	Violet
ATM-4	Pink
ATM-5	Tan
ATM-7½	Brown
ATM-10	Red
ATM-15	Lt. Blue
ATM-20	Yellow
ATM-25	Clear
ATM-30	Green



MAX Maxi®-Fuse

Fast Acting

Voltage Rating: 32V

Interrupting Rating: 1,000A

Catalog Symbol & Current Ratings

MAX-20	Yellow
MAX-30	Green
MAX-40	Orange
MAX-50	Red
MAX-60	Blue

