



Your problem: As different as their job descriptions are on paper — today's maintenance crews, specifying engineers, and OEM designers have one thing in common: They're all working with smaller electrical system components. Be it motor starters, transformers, or circuit-control equipment. So, where do you turn for small dimension fuses without a reduction in protective capacity?

Our solution: Our international range of midget and miniature dimension and new PC mount fuses offers you all the protection you require. A wide range of ratings. Special characteristics like time-delay and low I^2t . All within a footprint of 1-1/2" x 13/32" or less.

Want more information fast? For more technical or application-specific information, please call our Midget and Miniature Dimension fuse experts at 978-465-4853 or visit our website at mersen.com.

Midget, PC Mount & Miniature Fuses

**MAXIMUM
PROTECTION -
MINIMUM SPACE**

Midget

- ATQ Time-Delay. MF 2
- ATM Fast-Acting MF 3
- TRM Time-Delay MF 4
- OTM Fast-Acting MF 5
- DCT Special Purpose MF 6
- FSM Multi-Meter Fuse. MF 7
- GGU Fast-Acting MF 8
- GFN Indicating Time-Delay. MF 9
- SBS Fast-Acting. MF 10

PC Mount

- PCF, PCS, PCT MF 11

Miniature

- GSA MF 16
- GDL MF 17
- GGC/GGC-V MF 18
- GGM/GGM-V. MF 19
- GSB/GSB-V. MF 20
- GDG/GDG-V MF 21
- GSD/GSD-V MF 22
- GSF/GSF-V MF 23
- GAB MF 24
- SFRT, SFRB, SFRG, FSFE,
SFRU In-Line Fuse Holders MF 25
- SLR, SMF, SHR In-Line Fuses
and Holders MF 26

MERSEN
Expertise, our source of energy

ATQ

Time-Delay Midget Fuses

MIDGET, PC MOUNT & MINIATURE FUSES



Amp-Trap® ATQ midget time-delay fuses are rated a full 500 volts AC with 42 ampere ratings from 1/10 to 30A. They are an excellent choice for supplemental protection of circuits up to 30A where the available short circuit current does not exceed 10,000A. (Not for Branch Circuit Protection).

FEATURES/BENEFITS:

- Numerous ratings for a wide variety of applications up to 500VAC
- Time-delay (12 seconds at 200% rating) for circuits with high inrush current
- Can be used with UltraSafe™ Fuse holders
- 1 1/2" x 13/32" (10 mm x 38 mm) dimensions

CATALOG NUMBERS (AMPS)

ATQ1/10	ATQ3/10	ATQ1-1/8	ATQ2	ATQ3-2/10	ATQ6	ATQ12
ATQ1/8	ATQ4/10	ATQ1-1/4	ATQ2-1/8	ATQ3-1/2	ATQ6-1/4	ATQ14
ATQ15/100	ATQ1/2	ATQ1-4/10	ATQ2-1/4	ATQ4	ATQ7	ATQ15
ATQ3/16	ATQ6/10	ATQ1-1/2	ATQ2-1/2	ATQ4-1/2	ATQ8	ATQ20
ATQ2/10	ATQ8/10	ATQ1-6/10	ATQ2-8/10	ATQ5	ATQ9	ATQ25
ATQ1/4	ATQ1	ATQ1-8/10	ATQ3	ATQ5-6/10	ATQ10	ATQ30

RECOMMENDED FUSE BLOCKS for Midget (10x38mm) Fuses

Number of Poles	Catalog Number			
	UltraSafe™ Indicating Fuse Holder	Screw Connector	Pressure Plate Connector	Copper Box Connector
Adder		30310	30320	30350
1	USM1I	30311	30321	30351
2	USM2I	30312	30322	30352
3	USM3I	30313	30323	30353
3	USFM10I			

RATINGS:

- **Volts:** 500VAC
- **Amps:** 1/10 to 30A
- **I.R.:** 10kA I.R.

HIGHLIGHTS:

- Time-delay

APPLICATIONS:

- Supplemental protection of lighting, solenoid, motor and transformer circuits

APPROVALS:

- UL listed to standard 248-14 File E33925
- CSA Certified to Standard C22.2 No. 248.14



ATM

Fast-Acting Midget Fuses

MIDGET, PC MOUNT & MINIATURE FUSES



Amp-Trap® midget fast-acting ATM fuses are rated 600 volts AC and DC, with a 100kA interrupting rating. These ratings give the ATM a wide range of applications not covered by other midget fuses. In addition, ratings of 30/35, 30/40 and 30/50 amperes are offered for specific applications such as capacitor protection. These ATM fuses must still be considered 30A fuses because of their dimensions, but are able to withstand much higher inrush currents and tougher duty cycles. (Not for Branch Circuit Protection).

FEATURES/BENEFITS:

- For supplemental protection of small motors and transformers
- Extended ratings for special protection of capacitors and circuits with high inrush currents
- 600VDC ratings for a wide variety of applications including photovoltaic and solar applications.
- Can be used with UltraSafe™ fuse holders
- 1 1/2" x 13/32" (10mm x 38mm) dimensions

RECOMMENDED FUSE BLOCKS for Midget (10x38mm) Fuses

Number of Poles	UltraSafe™ Indicating Fuse Holder	Catalog Number		
		Screw Connector	Pressure Plate Connector	Copper Box Connector
Adder		30310	30320	30350
1	USM1I	30311	30321	30351
2	USM2I	30312	30322	30352
3	USM3I	30313	30323	30353
3	USFM10I			

RATINGS:

- **Volts:** 600VAC / DC
- **Amps:** 1/10 to 30A (35 to 50A AC only)
- **I.R.:** 100kA I.R.; 10kA I.R. AC (35 to 50A)

HIGHLIGHTS:

- Fast-acting
- Special Ratings (Above 30A)

APPLICATIONS:

- Supplemental protection of circuits up to 600VAC and 600VDC with 100kA I.R.

CATALOG NUMBERS (AMPS)

ATM1/10	ATM2	ATM12
ATM1/8	ATM3	ATM15
ATM2/10	ATM4	ATM20
ATM1/4	ATM5	ATM25
ATM1/2	ATM6	ATM30
ATM3/4	ATM7	ATM30/35*
ATM1	ATM8	ATM30/40*
ATM1-1/2	ATM10	ATM30/50*

* are not continuous current rated devices

APPROVALS:

- UL listed to standard 248-14 (1/10 to 30A) File E33925
- DC Listed to UL Standard 248-14 (1/10 to 30A)
- CSA Certified to Standard C22.2 No. 248.14 (1/10 to 30A)



TRM

Time-Delay Midget Fuses

MIDGET, PC MOUNT & MINIATURE FUSES



Tri-Onic® TRM time-delay midget fuses are rated 250 volts AC and are offered in ampere ratings from 1/10 to 30A. They have 12 seconds time-delay at 200% rating to provide supplemental protection of small motors, small transformers and other high inrush loads, plus many other 250 volt applications. (Not for Branch Circuit Protection).

FEATURES/BENEFITS:

- Numerous ratings for a wide variety of applications
- 250VAC rating in all sizes up to 30A
- Time-delay for circuits with high inrush current
- Can be used with UltraSafe™ fuse holders
- 1 1/2" x 13/32" (10mm x 38mm) dimensions

CATALOG NUMBERS (AMPS)

TRM1/10	TRM4/10	TRM1-1/8	TRM2	TRM3-2/10	TRM5-6/10	TRM8	TRM15
TRM15/100	TRM1/2	TRM1-1/4	TRM2-1/4	TRM3-1/2	TRM6	TRM9	TRM20
TRM2/10	TRM6/10	TRM1-4/10	TRM2-1/2	TRM4	TRM6-1/4	TRM10	TRM25
TRM1/4	TRM8/10	TRM1-6/10	TRM2-8/10	TRM4-1/2	TRM7	TRM12	TRM30
TRM3/10	TRM1	TRM1-8/10	TRM3	TRM5			

RECOMMENDED FUSE BLOCKS for Midget (10x38mm) Fuses

Number of Poles	Catalog Number			
	UltraSafe™ Indicating Fuse Holder	Screw Connector	Pressure Plate Connector	Copper Box Connector
Adder		30310	30320	30350
1	USM1I	30311	30321	30351
2	USM2I	30312	30322	30352
3	USM3I	30313	30323	30353
3	USFM10I			

RATINGS:

- **Volts:** 250VAC
- **Amps:** 1/10 to 30A
- **I.R.:** 10kA I.R.

HIGHLIGHTS:

- Time-delay

APPLICATIONS:

- Small motors
- Small transformers
- Lighting circuits
- Control circuits

APPROVALS:

- UL listed to standard 248-14 File E33925
- CSA Certified to Standard C22.2 No. 248.14



OTM

Fast-Acting Midget Fuses

MIDGET, PC MOUNT & MINIATURE FUSES



One-time OTM midget fuses provide low-cost protection for 250 volt AC general purpose lighting, heating, control circuits, etc. where time-delay is not required. (Not for Branch Circuit Protection).

FEATURES/BENEFITS:

- Low cost and fully rated for economy without compromise
- Can be used with UltraSafe™ fuse holders
- 1 1/2" x 13/32" (10 mm x 38 mm) dimensions

CATALOG NUMBERS (AMPS)

OTM1	OTM3	OTM5	OTM8	OTM15	OTM25
OTM2	OTM4	OTM6	OTM10	OTM20	OTM30

RECOMMENDED FUSE BLOCKS for Midget (10x38mm) Fuses

Number of Poles	UltraSafe™ Indicating Fuse Holder	Catalog Number		
		Screw Connector	Pressure Plate Connector	Copper Box Connector
Adder		30310	30320	30350
1	USM1I	30311	30321	30351
2	USM2I	30312	30322	30352
3	USM3I	30313	30323	30353
3	USFM10I			

RATINGS:

- **Volts:** 250VAC
- **Amps:** 1 to 30A
- **I.R.:** 10kA I.R.

HIGHLIGHTS:

- Fast-acting

APPLICATIONS:

- Supplemental protection of circuits up to 250VAC and 10kA

APPROVALS:

- UL Listed to standard 248-14, File E33925
- CSA Certified to Standard C22.2 No. 248.14



DCT

Special Purpose Midget Fuses

MIDGET, PC MOUNT & MINIATURE FUSES



Mersen DCT fuses were developed to meet requirements coming from new applications such as protection of photovoltaic cells, multi meters and compact on board traction equipment for auxiliary circuits. This high performance DC fuse in its compact size offers multiple competitive advantages particularly for international applications where DC voltage requirements are above 600V DC.

FEATURES/BENEFITS:

- Low minimum breaking capacity (MBC)
- Compact size: 10 x 38 mm (13/32" x 1-1/2") size internationally accepted.
- Ferrule mount 1 to 30A for design versatility
- Can be used with UltraSafe™ fuse holders USM series
- 1 1/2" x 13/32" (10 mm x 38 mm) dimensions

APPLICATIONS:

- DC traction equipment
- Multi-meters
- Photovoltaic systems
- Semiconductor protection

RECOMMENDED FUSE BLOCKS for Midget (10x38mm) Fuses

Number of Poles	UltraSafe™ Indicating Fuse Holder	Catalog Number		
		Screw Connector	Pressure Plate Connector	Copper Box Connector
Adder		30310	30320	30350
1	USM1	30311	30321	30351
2	USM2	30312	30322	30352
3	USM3	30313	30323	30353

RATINGS:

- **Volts:** 750VAC, 1000VDC
- **Amps:** 1 to 30A
- **I.R.:** 100kA I.R. AC, 50kA I.R. DC
- **MBC:** 2.0 x I_n (AC); 1.3 x I_n (DC : 1 - 7A); 2.0 x I_n (DC : 8 - 30A)
- **L/R** : 1mS

HIGHLIGHTS:

- 750VAC / 1000VDC
- DC : L/R = 1mS

CATALOG NUMBERS

I²t (at 50,000 Amps -1000VDC
L/R = 1ms)

Catalog Number	Clearing I ² t (A ² s)	Watts Loss @ 80% Rating (W)	Watts Loss @ 100% Rating (W)
DCT1-2	-	0.2	0.32
DCT2-2	-	0.27	0.43
DCT3-2	-	0.9	1.4
DCT4-2	-	0.8	1.3
DCT5-2	-	0.9	1.4
DCT6-2	-	1.0	1.5
DCT7-2	-	1.1	1.5
DCT8-2	83	0.7	1.1
DCT10-2	127	0.9	1.5
DCT12-2	215	1.3	2.0
DCT15-2	495	1.9	3.0
DCT20-2	755	2.6	4.4
DCT25-2	970	2.9	5.3
DCT30-2	1650	3.0	5.8

APPROVALS:

- UL Recognized component File E60314



FSM

Multi-Meter Fuse

MIDGET, PC MOUNT & MINIATURE FUSES



Mersen has developed a true 1000V AC/DC fuse designed to protect both analog and digital multi-meters. These fuses cover all the industry's multi-meter requirements in three easy to use amperage ratings. Good for 1000V AC and DC, the FSM line of Mersen fuses are designed for the power electronics metering and controls market.

FEATURES/BENEFITS:

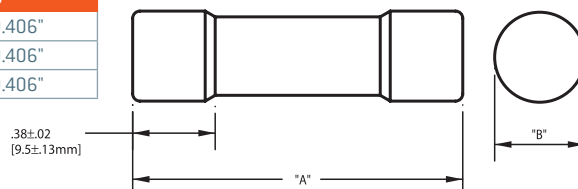
- For the protection of multi-meters
- 1000V AC/DC for full range protection
- 100% Current rated for continuous current with L/R = 10mS carrying capability
- Glass melamine body and plated terminals provide superior reliability and performance

CATALOG NUMBERS (AMPS)

FSM44/100	FSM11	FSM15
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DIMENSIONS

Catalog No.	A	B
FSM44/100	1.375"	0.406"
FSM11	1.500"	0.406"
FSM15	1.500"	0.406"



RATINGS:

- **Volts:** 1000VAC / DC
- **Amps:** 44/100A, 11A, 15A
- **I.R.:** 20kA I.R.

HIGHLIGHTS:

- Fast-acting
- Current-limiting

APPLICATIONS

- Multi-meters

CROSS REFERENCE

Mersen FSM replaces the:

- Bussmann: DMM-B
- Littelfuse: FLU

APPROVALS:

- UL Recognized component File E60314



GGU

Fast-Acting Midget Fuses

MIDGET, PC MOUNT & MINIATURE FUSES



125 volt AC rated GGU fuses have midget fuse dimensions (1-1/2" long x 13/32" diameter). 20A-30A ratings have ceramic bodies, allowing use in higher ambient temperature conditions than other similar fuses. (Not for Branch Circuit Protection).

FEATURES/BENEFITS:

- Glass body on 1-15A makes status of fusible element clearly visible
- Ceramic body on 20-30A allows use in higher temperature applications
- Medium lag for protection of circuits up to 30A and 125VAC
- Can be used with UltraSafe™ fuse holders (1-30A)
- 1 1/2" x 13/32" (10 mm x 38 mm) dimensions

CATALOG NUMBERS (AMPS)

GGU1	GGU3	GGU5	GGU10	GGU30
GGU2	GGU4	GGU8	GGU20	

RECOMMENDED FUSE BLOCKS for Midget (10x38mm) Fuses

Number of Poles	Catalog Number			
	UltraSafe™ Indicating Fuse Holder	Screw Connector	Pressure Plate Connector	Copper Box Connector
Adder		30310	30320	30350
1	USM1I	30311	30321	30351
2	USM2I	30312	30322	30352
3	USM3I	30313	30323	30353
3	USFM10I			

RATINGS:

- **Volts:** 125VAC
- **Amps:** 1 to 30A
- **I.R.:** 10kA I.R.

HIGHLIGHTS:

- Fast-acting

APPROVALS:

- UL Listed 1-15A
- UL Recognized 20-30A



GFN

Time-Delay Midget Fuses

MIDGET, PC MOUNT & MINIATURE FUSES



GFN midget indicating fuses are available in ratings from 1/10 through 30A. These time-delay fuses have built-in blown fuse indicators which pop out at the end of the fuse to visually indicate when the fuse has operated to open the circuit. Indicators may be used to trip a switch for remote as well as visual annunciation. (Not for Branch Circuit Protection).

FEATURES/BENEFITS:

- Pin indicator provides visual indication of open fuse or actuates switch for remote signaling
- Numerous ratings for a wide variety of applications
- 12 second time-delay at 200% rating
- Can be used with UltraSafe™ fuse holders (1/10 - 10A)
- 1 1/2" x 13/32" (10 mm x 38 mm) dimensions

CATALOG NUMBERS (AMPS)

GFN1/10	GFN4/10	GFN1-1/4	GFN2-1/4	GFN3-1/2	GFN6	GFN12*
GFN1/8	GFN1/2	GFN1-4/10	GFN2-1/2	GFN4	GFN6-1/4	GFN15*
GFN15/100	GFN6/10	GFN1-1/2	GFN2-8/10	GFN4-1/2	GFN7	GFN20*
GFN2/10	GFN8/10	GFN1-6/10	GFN3	GFN5	GFN8	GFN25*
GFN1/4	GFN1	GFN1-8/10	GFN3-2/10	GFN5-6/10	GFN10	GFN30*
GFN3/10	GFN1-1/8	GFN2	*Note: 12-30A is a double barrel fuse construction			

RECOMMENDED FUSE BLOCKS for Midget (10x38 mm) Fuses

Number of Poles	Catalog Number			
	UltraSafe™ Indicating Fuse Holder	Screw Connector	Pressure Plate Connector	Copper Box Connector
Adder		30310	30320	30350
1	USM1I	30311	30321	30351
2	USM2I	30312	30322	30352
3	USM3I	30313	30323	30353
3	USFM10I			

RATINGS:

- **Volts:** 250VAC (0.1 - 10A)
125VAC (12 - 15A)
32VAC (20 - 30A)
- **Amps:** 1/10 to 30A
- **I.R.:** 200kA I.R., 250VAC, 0.1-10A
10kA I.R., 125VAC, 0.1-15A
10kA I.R., 32VAC, 20-30A

HIGHLIGHTS:

- Pin indicator
- Time-delay
- 12-30A double body

APPLICATIONS:

- For supplemental protection of circuits where time-delay and blown fuse indication are required, such as solenoid circuits or control circuits.

APPROVALS:

- UL Listed to standard 248-14 (1/10 to 15A) File E33925
- CSA Certified to Standard C22.2 No. 248.14 (1/10 to 15A)



SBS

Fast-Acting Ferrule Fuses

MIDGET, PC MOUNT & MINIATURE FUSES



Unique dimensions for today's smaller equipment and components. Fast-acting general purpose fuse developed in response to the industry's demand for smaller equipment and components. The only fuse in their size with a full 600 VAC rating for all ampere ratings by UL standard 248-14 and CSA No. 59.2, and are the only fuses of this size with an interrupting rating of 100kA RMS. SBS fuses are 1-3/8" long, smaller by 1/8" than most standard midget fuses and are available in 22 ampere ratings, from 2/10A to 30A. (Not for Branch Circuit Protection).

FEATURES/BENEFITS:

- Small unique physical size for maximum design flexibility and non-interchangeability with other fuse classes
- Fiberglass body provides dimensional stability in harsh industrial environments
- Can be used with UltraSafe™ fuse holder
- 1 3/8" x 13/32" dimensions

CATALOG NUMBERS (AMPS)

SBS2/10	SBS8/10	SBS1-8/10	SBS5	SBS10	SBS25
SBS4/10	SBS1	SBS2	SBS6	SBS12	SBS30
SBS1/2	SBS1-1/2	SBS3	SBS7	SBS15	
SBS3/4	SBS1-6/10	SBS4	SBS8	SBS20	

RATINGS:

- **Volts:** 600VAC
- **Amps:** 2/10 to 30A
- **I.R.:** 100kA I.R.

HIGHLIGHTS:

- Fast-acting
- Unique dimensions

APPLICATIONS:

- Control circuits
- Lighting ballasts
- Meter circuits
- Electronic circuits
- General purpose protection

CROSS REFERENCE:

SBS will replace Bussmann BBS, Littelfuse BLS fuses

APPROVALS:

- UL Listed to standard 248-14 File E33925
- CSA Certified to Standard C22.2 No. 248.14



PCF

Fast-Acting PC Mount Fuses

MIDGET, PC MOUNT & MINIATURE FUSES

FAST-ACTING FUSES FOR DIRECT MOUNTING ON PRINTED CIRCUIT BOARDS



Mersen's PCF series of fast-acting direct-mountable fuses addresses the increasing need for electrical protection at the PC board as current and voltage requirements push higher. These fuses help printed circuit board manufacturers reduce parts by eliminating clips and fuse blocks and allowing automated assembly. PCF fuses can be used for the protection of main frame power boards, small circuit breakers with low-interrupting ratings and other critical components. PCF fuses bring greatly-increased ampere, voltage and interrupting ratings to the board itself and are UL Component Recognized.

CATALOG NUMBERS (AMPS)

Slot Mount		Double Hole Mount		Surface Mount	
PCF1-R	PCF8-R	PCF1-H	PCF8-H	PCF1-S	PCF8-S
PCF2-R	PCF10-R	PCF2-H	PCF10-H	PCF2-S	PCF10-S
PCF3-R	PCF12-R	PCF3-H	PCF12-H	PCF3-S	PCF12-S
PCF4-R	PCF15-R	PCF4-H	PCF15-H	PCF4-S	PCF15-S
PCF5-R	PCF20-R	PCF5-H	PCF20-H	PCF5-S	PCF20-S
PCF6-R	PCF25-R	PCF6-H	PCF25-H	PCF6-S	PCF25-S
PCF7-R	PCF30-R	PCF7-H	PCF30-H	PCF7-S	PCF30-S
			PCF30/50-H		

RATINGS:

- **Volts:** 600VAC / DC
- **Amps:** 1 to 30A
- **I.R.:** 100kA I.R.
- **L/R:** ≤10ms

HIGHLIGHTS:

- Fast-acting
- PC board mount
- Three mounting styles

APPLICATIONS:

- Protection of main frame power boards, circuit breakers, components

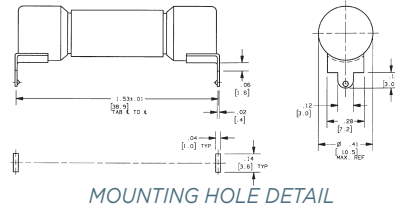
APPROVALS:

- UL Recognized Components File E60314



OUTLINE DIMENSIONS

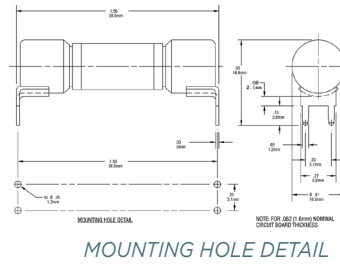
Slot Mount (Rectangular Holes)



PCF1-R thru PCF30-R

FOR .062 (1.6) NOMINAL
CIRCUIT BOARD
THICKNESS

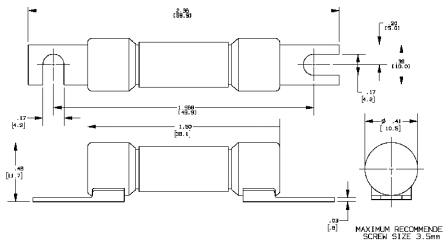
**Double Hole Mount
(Round Holes)**



PCF1-H thru PCF30-H

FOR .062 (1.6) NOMINAL
CIRCUIT BOARD
THICKNESS

Surface (Screw) Mount



PCF1-S thru PCF30-S

MAXIMUM RECOMMENDED
SCREW SIZE 3.5MM

PCS

Semiconductor PC Mount Fuses

MIDGET, PC MOUNT & MINIATURE FUSES

SEMICONDUCTOR PROTECTION FUSES FOR DIRECT MOUNTING ON PRINTED CIRCUIT BOARDS



Mersen's PCS series of extremely fast-acting, direct-mountable fuses address the increasing need for electrical protection at the PC board as current and voltage requirements push higher. These fuses help printed circuit board manufacturers reduce parts by eliminating clips and fuse blocks and allowing automated assembly. PCS fuses are AC and DC rated and are extremely current-limiting. They will protect semiconductors, main frame boards, circuit breakers with low interrupting rating and other critical components. PCS fuses bring I²t protection, higher voltage and interrupting ratings to the board itself and are UL Component Recognized.

CATALOG NUMBERS (AMPS)

Slot Mount		Double Hole Mount		Surface Mount	
PCS5-R	PCS20-R	PCS5-H	PCS20-H	PCS5-S	PCS20-S
PCS8-R	PCS25-R	PCS8-H	PCS25-H	PCS8-S	PCS25-S
PCS10-R	PCS30-R	PCS10-H	PCS30-H	PCS10-S	PCS30-S
PCS12-R	PCS35-R	PCS12-H	PCS35-H	PCS12-S	PCS35-S
PCS15-R	PCS40-R	PCS15-H	PCS40-H	PCS15-S	PCS40-S

WATTS LOSS DATA

Ampere Rating	Watts Loss @ 80% Rating (w)	Watts Loss @ 100% Rating (w)
5	0.5	0.7
10	0.9	1.5
15	1.9	3.0
20	2.6	4.4
25	2.9	5.3
30	3.0	5.8
35	3.3	6.4
40	3.6	7.0

RATINGS:

- **Volts:** 600VAC / DC
- **Amps:** 5 to 40A
- **I.R.:** 200kA I.R. AC; 100kA I.R. DC
- **L/R:** ≤10ms

HIGHLIGHTS:

- Extremely fast-acting
- PC board mount
- Three mounting styles

APPLICATIONS:

- Protection of semiconductors, circuit breakers, critical components

APPROVALS:

- UL Recognized Components File E60314



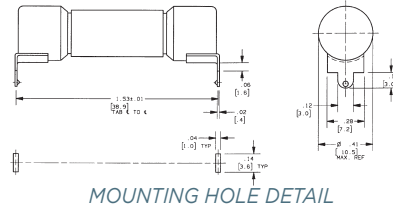
I²T DATA, 100KA

Ampere Rating	600VAC		600VDC L/R =10ms
	Melting I ² t [A ² s]	Clearing I ² t [A ² s]	Clearing I ² t [A ² s]
5	5	60	40
8	6.5	70	42
10	10	110	70
12	17	150	90
15	26	180	110
20	41	330	200
25	69	440	260
30	132	860	520
35	197	1300	780
40	276	1800	1100

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OUTLINE DIMENSIONS

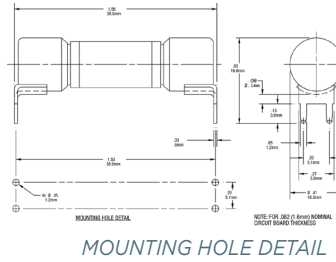
Slot Mount (Rectangular Holes)



PCS5-R thru PCS40-R

FOR .062 (1.6) NOMINAL
CIRCUIT BOARD
THICKNESS

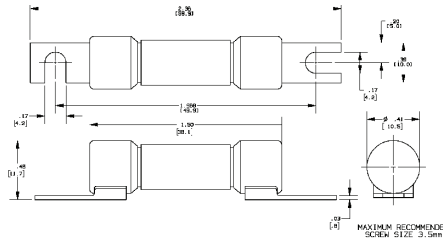
**Double Hole Mount
(Round Holes)**



PCS5-H thru PCS40-H

FOR .062 (1.6) NOMINAL
CIRCUIT BOARD
THICKNESS

Surface (Screw) Mount



PCS5-S thru PCS40-S

MAXIMUM RECOMMENDED
SCREW SIZE 3.5MM

PCT

Time-Delay PC Mount Fuses

MIDGET, PC MOUNT & MINIATURE FUSES

TIME-DELAY FUSES FOR DIRECT MOUNTING ON PRINTED CIRCUIT BOARDS



Mersen's PCT series of time-delay, direct-mountable fuses addresses the increasing need for electrical protection at the PC board as current and voltage requirements push higher. These fuses help printed circuit board manufacturers reduce parts by eliminating clips and fuse blocks and allowing automated assembly. PCT fuses can be used for the protection of main frame power boards, small circuit breakers with low interrupting ratings and other components. PCT fuses bring protection with time-delay, greatly increased ampere, voltage and interrupting ratings to the board itself and are UL Component Recognized.

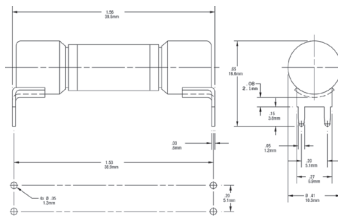
CATALOG NUMBERS (AMPS)

Double Hole Mount		
PCT1-H	PCT6-H	PCT15-H
PCT2-H	PCT7-H	PCT20-H
PCT3-H	PCT8-H	PCT25-H
PCT4-H	PCT10-H	PCT30-H
PCT5-H	PCT12-H	

OUTLINE DIMENSIONS

Double Hole Mount (Round Holes)

PCT1-H thru PCT30-H



FOR .062 (1.6) NOMINAL
CIRCUIT BOARD THICKNESS

MOUNTING HOLE DETAIL

RATINGS:

- **Volts:** 500VAC
- **Amps:** 1 to 30A
- **I.R.:** 100kA I.R.

HIGHLIGHTS:

- Time-delay
- PC board mount

APPLICATIONS:

- Protection of main frame power boards, circuit breakers, components

APPROVALS:

- UL Recognized Components File E60314



GSA

Electronic/Glass Fuses

MIDGET, PC MOUNT & MINIATURE FUSES

GSA

- Ceramic body
- Time-delay
- 1/4" x 1-1/4"

1/2A through 8A,
250VAC, UL Listed

10, 12, 15A, 250V
UL Recognized

1/2A through 8A,
250VAC, CSA Certified

10, 12, 15A, 250V CSA Recognized

20A, 250VAC, 25 & 30A, 125VAC



STANDARD FUSE AMPERE RATINGS

Catalog Number	Ampere Rating	Volts	I.R.
GSA1/2	1/2A	250V	1
GSA6/10	6/10A	250V	1
GSA7/10	7/10A	250V	1
GSA3/4	3/4A	250V	1
GSA1	1A	250V	1
GSA1-1/4	1-1/4A	250V	2
GSA1-6/10	1-6/10A	250V	2
GSA2	2A	250V	2
GSA2-1/2	2-1/2A	250V	2
GSA3	3A	250V	2
GSA4	4A	250V	3
GSA5	5A	250V	3
GSA6	6A	250V	3
GSA6-1/4	6-1/4A	250V	3
GSA7	7A	250V	3
GSA8	8A	250V	3
GSA10	10A	250V	4
GSA12	12A	250V	4
GSA15	15A	250V	4
GSA20	20A	250V	5
GSA25	25A	125V	6
GSA30	30A	125V	6

1. 250VAC @ 35A I.R./125VAC @ 10kA I.R.
2. 250VAC @ 100A I.R./125VAC @ 10kA I.R.
3. 250VAC @ 200A I.R./125VAC @ 10kA I.R.
4. 250VAC @ 750A I.R./125VAC @ 10kA I.R.
5. 250VAC @ 400A I.R./125VAC @ 10kA I.R.
6. 125VAC @ 400A I.R.

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GDL

Electronic/Glass Fuses

MIDGET, PC MOUNT & MINIATURE FUSES

GDL

- Glass body
- Time-delay
- 1/4" x 1-1/4"

1/2A through 8A, 250VAC,
UL Listed and CSA Certified

10A through 15A, 125VAC,
UL Listed and CSA Certified

20A through 30A, 32VAC



STANDARD FUSE AMPERE RATINGS

Catalog Number	Ampere Rating	Volts	I.R.
GDL1/2	1/2A	250V	1
GDL3/4	3/4A	250V	1
GDL1	1A	250V	1
GDL1-1/4	1-1/4A	250V	2
GDL1-6/10	1-6/10A	250V	2
GDL2	2A	250V	2
GDL2-1/2	2-1/2A	250V	2
GDL3	3A	250V	2
GDL4	4A	250V	3
GDL5	5A	250V	3
GDL6	6A	250V	3
GDL7	7A	250V	3
GDL8	8A	250V	3
GDL10	10A	125V	4
GDL12	12A	125V	4
GDL15	15A	125V	4
GDL20	20A	32V	5
GDL25	25A	32V	5
GDL30	30A	32V	5

1. 250VAC @ 35A I.R./125VAC @ 10kA I.R.
2. 250VAC @ 100A I.R./125VAC @ 10kA I.R.
3. 250VAC @ 200A I.R./125VAC @ 10kA I.R.
4. 125VAC @ 10kA I.R.
5. 32VAC @ 300A I.R.

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GGC

Electronic/Glass Fuses

MIDGET, PC MOUNT & MINIATURE FUSES

GGC

- Glass body
- Fast-acting
- 1/4" x 1-1/4"
- 1-1/2" Axial leads optional

1/2A through 10A, 250VAC,
UL Listed and CSA Certified

12A and 15A, 125VAC, UL Listed and CSA Certified

20A through 30A, 32VAC



STANDARD FUSE AMPERE RATINGS

Catalog Number	Ampere Rating	Volts	I.R.
GGC1/2	1/2A	250V	1
GGC3/4	3/4A	250V	1
GGC1	1A	250V	1
GGC1-1/4	1-1/4A	250V	1
GGC1-3/4	1-3/4A	250V	1
GGC1-6/10	1-6/10A	250V	1
GGC2	2A	250V	1
GGC2-1/2	2-1/2A	250V	1
GGC3	3A	250V	1
GGC4	4A	250V	1
GGC5	5A	250V	1
GGC6	6A	250V	1
GGC7	7A	250V	1
GGC8	8A	250V	1
GGC10	10A	250V	1
GGC12	12A	125V	2
GGC15	15A	125V	2
GGC20	20A	32V	3
GGC25	25A	32V	3
GGC30	30A	32V	3

1. 250VAC @ 200A I.R./125VAC @ 10kA I.R.
2. 125VAC @ 10kA I.R.
3. 32VAC @ 1000A I.R.

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GGM/GGM-V

Electronic/Glass Fuses

MIDGET, PC MOUNT & MINIATURE FUSES

GGM/GGM-V

- Glass body
- Fast-acting
- 5 mm x 20 mm
- 1-1/2" Axial leads optional

4/10A through 3A,
250VAC, UL Listed and
CSA Certified

4A through 8A,
125VAC, UL Listed and
CSA Certified



STANDARD FUSE AMPERE RATINGS

Catalog Number	Axial Lead Cat. No	Ampere Rating	Volts	I.R.
GGM4/10	GGM-V4/10	4/10A	250V	1
GGM1/2	GGM-V1/2	1/2A	250V	1
GGM6/10	GGM-V6/10	6/10A	250V	1
GGM7/10	GGM-V7/10	7/10A	250V	1
GGM8/10	GGM-V8/10	8/10A	250V	1
GGM1	GGM-V1	1A	250V	1
GGM1-1/4	GGM-V1-1/4	1-1/4A	250V	1
GGM1-1/2	GGM-V1-1/2	1-1/2A	250V	1
GGM2	GGM-V2	2A	250V	1
GGM2-1/2	GGM-V2-1/2	2-1/2A	250V	1
GGM3	GGM-V3	3A	250V	1
GGM4	GGM-V4	4A	125V	2
GGM5	GGM-V5	5A	125V	2
GGM6	GGM-V6	6A	125V	2
GGM7	GGM-V7	7A	125V	2
GGM8	GGM-V8	8A	125V	2

1. 250VAC @ 200A I.R./125VAC @ 10kA I.R.
2. 125VAC @ 10kA I.R.

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GSB/GSB-V

Electronic/Glass Fuses

MIDGET, PC MOUNT & MINIATURE FUSES

GSB/GSB-V

- Glass body
- Fast-acting
- 5 mm x 20 mm
- 1-1/2" Axial leads optional

1/2A through 10A,
250VAC, UL and CSA
Recognized

1/2A through 6-3/10A,
250VAC, SEMKO
Approved

1/2A through 6-3/10A, 250VAC, VDE Approved

IEC-127-2 Standard Sheet 2*



STANDARD FUSE AMPERE RATINGS

Catalog Number	Axial Lead Cat. No	Ampere Rating	Volts	I.R.
GSB1/2	GSB-V1/2	1/2A	250V	1
GSB630/1000	GSB-V630/1000	630/1000A	250V	1
GSB8/10	GSB0-V8/10	8/10A	250V	1
GSB1	GSB-V1	1A	250V	1
GSB1-1/4	GSB-V1-1/4	1-1/4A	250V	1
GSB1-6/10	GSB-V1-6/10	1-6/10A	250V	1
GSB2	GSB-V2	2A	250V	1
GSB2-1/2	GSB-V2-1/2	2-1/2A	250V	1
GSB3-15/100	GSB-V3-15/100	3-15/100A	250V	1
GSB4	GSB-V4	4A	250V	2
GSB5	GSB-V5	5A	250V	3
GSB6-3/10	GSB-V6-3/10	6-3/10A	250V	4
GSB8	GSB-V8	8A	250V	5
GSB10	GSB-V10	10A	250V	6

1. 250VAC @ 35A I.R.
2. 250VAC @ 40A I.R.
3. 250VAC @ 50A I.R.
4. 250VAC @ 63A I.R.
5. 250VAC @ 80A I.R.
6. 250VAC @ 100A I.R.

*IEC Standards for 5x20 mm fuses do not include ratings above 6.3 amperes.

GDG/GDG-V

Electronic/Glass Fuses

MIDGET, PC MOUNT & MINIATURE FUSES

GDG/GDG-V

- Glass body
- Time-delay
- 5 mm x 20 mm
- 1-1/2" Axial leads optional

1/16A through 10A, 250VAC, UL & CSA Recognized

1/16A through 6-3/10A, 250VAC, SEMKO Approved

1/16A through 6-3/10A, 250VAC, VDE Approved

IEC 127-2 Standard Sheet 3*



STANDARD FUSE AMPERE RATINGS

Catalog Number	Axial Lead Cat. No	Ampere Rating	Volts	I.R.
GDG1/16	GDG-V1/16	1/16A	250V	1
GDG8/100	GDG-V8/100	8/100A	250V	1
GDG1/10	GDG-V1/10	1/10A	250V	1
GDG1/8	GDG-V1/8	1/8A	250V	1
GDG16/100	GDG-V16/100	16/100A	250V	1
GDG2/10	GDG-V2/10	2/10A	250V	1
GDG1/4	GDG-V1/4	1/4A	250V	1
GDG315/1000	GDG-V315/1000	315/1000A	250V	1
GDG4/10	GDG-V4/10	4/10A	250V	1
GDG1/2	GDG-V1/2	1/2A	250V	1
GDG630/1000	GDG-V630/1000	630/1000A	250V	1
GDG8/10	GDG-V8/10	8/10A	250V	1
GDG1	GDG-V1	1A	250V	1
GDG1-1/4	GDG-V1-1/4	1-1/4A	250V	1
GDG1-6/10	GDG-V1-6/10	1-6/10A	250V	1
GDG2	GDG-V2	2A	250V	1
GDG2-1/2	GDG-V2-1/2	2-1/2A	250V	1
GDG3-15/100	GDG-V3-15/100	3-15/100A	250V	1
GDG4	GDG-V4	4A	250V	2
GDG5	GDG-V5	5A	250V	3
GDG6-3/10	GDG-V6-3/10	6-3/10A	250V	4
GDG8	GDG-V8	8A	250V	5
GDG10	GDG-V10	10A	250V	6

1. 250VAC @ 35A I.R.
2. 250VAC @ 40A I.R.
3. 250VAC @ 50A I.R.
4. 250VAC @ 63A I.R.
5. 250VAC @ 80A I.R.
6. 250VAC @ 100A I.R.

*IEC Standards for 5x20 mm fuses do not include ratings above 6.3 amperes.

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GSD/GSD-V

Electronic/Glass Fuses

MIDGET, PC MOUNT & MINIATURE FUSES

GSD/GSD-V

- Ceramic body
- Fast-acting
- 5 mm x 20 mm
- 1-1/2" Axial leads optional

4/10A through 10A, 250VAC, UL & CSA Recognized

1A through 6-3/10A, 250 VAC, SEMKO Approved

1A through 6-3/10A, 250 VAC, VDE Approved

IEC 127-2 Standard Sheet 1*



STANDARD FUSE AMPERE RATINGS

Catalog Number	Axial Lead Cat. No	Ampere Rating	Volts	I.R.
GSD4/10	GSD-V4/10	4/10A	250V	1
GSD1/2	GSD-V1/2	1/2A	250V	1
GSD630/1000	GSD-V630/1000	630/1000A	250V	1
GSD8/10	GSD-V8/10	8/10A	250V	1
GSD1	GSD-V1	1A	250V	1
GSD1-1/4	GSD-V1-1/4	1-1/4A	250V	1
GSD1-6/10	GSD-V1-6/10	1-6/10A	250V	1
GSD2	GSD-V2	2A	250V	1
GSD2-1/2	GSD-V2-1/2	2-1/2A	250V	1
GSD3-15/100	GSD-V3-15/100	3-15/100A	250V	1
GSD4	GSD-V4	4A	250V	1
GSD5	GSD-V5	5A	250V	1
GSD6-3/10	GSD-V6-3/10	6-3/10A	250V	1
GSD8	GSD-V8	8A	250V	1
GSD10	GSD-V10	10A	250V	1

1. 250VAC @ 1500A I.R.

*IEC Standards for 5x20 mm fuses do not include ratings above 6.3 amperes.

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GSF/GSF-V

Electronic/Glass Fuses

MIDGET, PC MOUNT & MINIATURE FUSES

GSF/GSF-V

- Ceramic body
- Time-delay
- 5 mm x 20 mm
- 1-1/2" Axial leads optional

1/4A through 8/10A, 250VAC

1A through 6-3/10A, 250VAC, SEMKO, VDE Approved

1/4A through 10A, 250VAC, UL and CSA Recognized

IEC-127-2 Standard Sheet 5*



STANDARD FUSE AMPERE RATINGS

Catalog Number	Axial Lead Cat. No	Ampere Rating	Volts	I.R.
GSF1/4	GSF-V1/4	1/4A	250V	1
GSF315/1000	GSF-V315/1000	315/1000A	250V	1
GSF4/10	GSF-V4/10	4/10A	250V	1
GSF1/2	GSF-V1/2	1/2A	250V	1
GSF630/1000	GSF-V630/1000	630/1000A	250V	1
GSF8/10	GSF-V8/10	8/10A	250V	1
GSF1	GSF-V1	1A	250V	1
GSF1-1/4	GSF-V1-1/4	1-1/4A	250V	1
GSF1-6/10	GSF-V1-6/10	1-6/10A	250V	1
GSF2	GSF-V2	2A	250V	1
GSF2-1/2	GSF-V2-1/2	2-1/2A	250V	1
GSF3-15/100	GSF-V3-15/100	3-15/100A	250V	1
GSF4	GSF-V4	4A	250V	1
GSF5	GSF-V5	5A	250V	1
GSF6-3/10	GSF-V6-3/10	6-3/10A	250V	1
GSF8	GSF-V8	8A	250V	1
GSF10	GSF-V10	10A	250V	1

1. 250VAC @ 1500A I.R.

*IEC Standards for 5x20 mm fuses do not include ratings above 6.3 amperes.

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GAB

Electronic/Glass Fuses

MIDGET, PC MOUNT & MINIATURE FUSES

GAB

- Ceramic body
- Fast-acting
- 1/4" x 1-1/4"

1/2A through 15A, 250VAC,
UL Listed and CSA Certified



STANDARD FUSE AMPERE RATINGS

Catalog Number	Ampere Rating	Volts	I.R.
GAB1/2	1/2A	250V	1
GAB3/4	3/4A	250V	1
GAB1	1A	250V	1
GAB2	2A	250V	2
GAB2-1/2	2-1/2A	250V	2
GAB3	3A	250V	2
GAB4	4A	250V	3
GAB5	5A	250V	3
GAB6	6A	250V	3
GAB7	7A	250V	3
GAB8	8A	250V	3
GAB10	10A	250V	3
GAB12	12A	250V	4
GAB15	15A	250V	4
GAB20	20A	250V	5
GAB25	25A	125V	6
GAB30	30A	125V	6

1. 250VAC @ 35A I.R./125VAC @ 10kA I.R.
2. 250VAC @ 100A I.R./125VAC @ 10kA I.R.
3. 250VAC @ 200A I.R./125VAC @ 10kA I.R.
4. 250VAC @ 750A I.R./125VAC @ 10kA I.R.
5. 250V/125VAC @ 400A I.R.
6. 125VAC @ 400kA I.R.

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SFRT, SFRB, SFRG, SFRU, FSFE

In-Line Fuse Holders

MIDGET, PC MOUNT & MINIATURE FUSES

SFRT

- Twist-lock
- In-line fuse holders for FSFE fuses.
- Used at 32V or less with fuses rated up to 20A when proper spring for fuse size is installed.



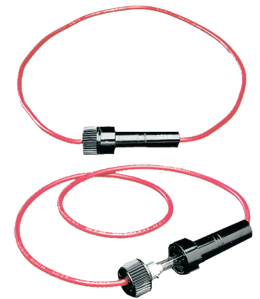
STANDARD FUSE AMPERE RATINGS

Catalog Number*	Fuse Installed
SFRT4	FSFE4
SFRT6	FSFE6
SFRT7-1/2	FSFE7-1/2
SFRT9	FSFE9
SFRT14	FSFE14
SFRT20	FSFE20

*Includes FSFE fuse

SFRB

- Bayonet knob
- In-line fuse holders for FSFE fuses.
- Used at 32V or less with fuses rated up to 20A when proper spring for fuse size is installed.



STANDARD FUSE AMPERE RATINGS

Catalog Number*	Fuse Installed
SFRT4	FSFE4
SFRT6	FSFE6
SFRT7-1/2	FSFE7-1/2
SFRT9	FSFE9
SFRT14	FSFE14
SFRT20	FSFE20

*Includes FSFE fuse

SFRG

- In-line fuse holder for 5 x 20 mm fuses.
- Max. current rating for 5x20mm fuses - 10A @ 32V



SFRU

Universal in-line fuse holder - supplied with 15" loop of #14 AWG red vinyl insulated wire frame and three springs in different lengths to accommodate FSFE size fuses.



FSFE

- Glass body
 - Fast-acting
- 4A through 30A, 32VAC/DC - UL Listed



STANDARD FUSE AMPERE RATINGS

Catalog Number	Ampere Rating	Volts	Fuse Length
FSFE4	4A	32V	5/8"
FSFE6	6A	32V	3/4"
FSFE7-1/2	7-1/2A	32V	7/8"
FSFE9	9A	32V	7/8"
FSFE14	14A	32V	1-1/16"
FSFE20	20A	32V	1-1/4"
FSFE30	30A	32V	1-7/16"

SLR, SMF, SHR

In-Line Fuses and Holders

MIDGET, PC MOUNT & MINIATURE FUSES

SLR FUSES RATINGS:

- **Volts:**
300VAC
- **Amps:**
1/2 to 15A
- **I.R.:** 10kA I.R.

APPROVALS:

- UL Listed
File No. E10480
CSA Certified



HIGHLIGHTS:

- Fast-acting
- Integral fuse & insulating cap

SMF FUSES RATINGS:

- **Volts:**
300VAC
- **Amps:**
3/10 to 10A
- **I.R.:** 10kA I.R.

APPROVALS:

- UL Listed
File No. E10480
CSA Certified



HIGHLIGHTS:

- Time-delay
- Integral fuse & insulating cap
- Designed specifically to handle ballast inrush currents

SHR FUSE HOLDERS RATINGS:

- **Volts:**
300VAC
- **Amps:** 15A
- **Withstand Rating:** 10kA I.R.
- **Dielectric Strength:**
2,000V

APPROVALS:

- UL Recognized
Component Guide
IZLT2, UL File
No. E52283



HIGHLIGHTS:

- Superior wire retention
- Thermoplastic insulator - 150° C RTI
- Single and two wire versions
- Two load plug-in ports available
- Integral mounting clip 0.062" thick panel
- Integral wire retention clip to hold #18 wire
- Tin plated, insulated #18 solid copper wire leads, 6" length



Mersen SLR and SMF in-line fuses are used to protect fluorescent lighting fixtures and ballasts. The SLR is a fast-acting fuse. SMF is a time-delay fuse. Both used to protect individual 300V fixtures. Mersen's SHR fuse holder has an integral clip for panel mounting to meet this requirement. The holder fits into a standard 7/8" knock-out or keyhole punch that provides anti-rotation. The SHR is available in a single or double wire version. The single wire version (SHR-1) allows insertion of #18 AWG ballast leads directly into the holder.

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CATALOG NUMBERS

Ampere Rating	Catalog Numbers	
300mA		SMF3/10
500mA	SLR1/2	SMF1/2
600mA		SMF6/10
800mA		SMF8/10
1A	SLR1	S MF1
1-1/4A		SMF1-1/4
1-1/2A	SLR1-1/2	
1-6/10A	SLR1-6/10	SMF1-6/10
2A	SLR2	SMF2
2-1/2A	SLR2-1/2	SMF2-1/2
2-8/10A		SMF2-8/10
3A	SLR3	SMF3
3-2/10A		SMF3-2/10
4A	SLR4	SMF4
5A	SLR5	SMF5
6A	SLR6	
6 1/4A		SMF 6 1/4
7A	SLR7	SMF7
8A	SLR8	SMF8
9A	SLR9	
10A	SLR10	SMF10
12A	SLR12	
15A	SLR15	

FUSE HOLDERS

Single Wire	Two Wire
SHR-1	SHR

Note: Both holders are compatible with all fluorescent light fuses

