

## Glass & Ceramic Tube Fuses

### Automotive

Used in older-model cars, glass tube fuses today are found primarily in automotive accessory applications. The expansive Cooper Bussmann line of glass fuses includes many types and sizes in addition to those listed in this catalog. Call Cooper Bussmann for more product details if you have requirements which are not covered here.

### Appliances and Consumer Electronics

Glass and ceramic tube fuses are often used to protect appliances and consumer electronics. As electronic equipment becomes smaller, the circuits and components become more delicate and easily damaged. Fuses are the preferred method of protection due to their accuracy, small size and reliability. Fuses are available in a wide variety of amp ratings to provide precise protection. Generally, two sizes of user-replaceable fuses are found: the  $\frac{1}{4}$ " x  $1\frac{1}{4}$ " and 5 x 20mm. Each is available in a variety of volt and amp ratings.

### Fuse Types

There are two basic types of fuses available for appliances and consumer electronics: fast-acting or time-delay. Any replacement fuse must match the one it's replacing. In general, fast-acting fuses are a single strand of wire or strip of metal. Time-delay fuses usually have a coiled wire, a thick element wrapped in wire, or a spring. Most electronic fuses will have the voltage and amp rating stamped on the end cap. The type of fuse can generally be visually identified. Also, owner's manuals will have the correct replacement fuse generically identified. For example: "Use a 2 amp, time-delay, 250 volt fuse."

Glass and ceramic tube fuses vary by diameter and length:

- AGU fuses:  $\frac{13}{32}$ " x  $1\frac{1}{2}$ "
- ABC, AGC, GBB, MDA, MDL and MDQ fuses:  $\frac{1}{4}$ " x  $1\frac{1}{4}$ "
- AGX fuses:  $\frac{1}{4}$ " x 1"
- GBC fuses:  $\frac{1}{4}$ " x  $\frac{31}{32}$ "
- AGW fuses:  $\frac{1}{4}$ " x  $\frac{7}{8}$ "
- AGA fuses:  $\frac{1}{4}$ " x  $\frac{5}{8}$ "
- SFE fuses are  $\frac{1}{4}$ " diameter and change in length as amp ratings increase
- GDA, GDB, GDC, GMA, GMC and GMD fuses: 5 x 20mm

### Fuse Selection Criteria

- For electronic/electrical applications, fuse must be rated at 125V or better.
- Voltage must match or exceed the fuse being replaced (125V for household current; 12V for auto; 24V for heavy duty).
- Fuse must match required fuse characteristic – either fast-acting or time-delay.
- Amp rating must match that of the original fuse.

### A Note on Voltage Rating

All fuses have a voltage rating. To maintain safety, this voltage rating should not be exceeded in application, although it is acceptable to use a higher rated fuse in a lower voltage application. For example: A fuse rated for 125 volts is appropriate in household (110V) or automotive (12V), while a fuse rated for 32 volts is appropriate for automotive (12V), but not for household (125V). Always replace a fuse with one of the same or higher voltage rating. See page 4 for technical specifications.

### Fast-Acting $\frac{1}{4}$ " Diameter Fuses

#### AGA - $\frac{1}{4}$ " x $\frac{5}{8}$ " Fast-Acting Glass Tube Fuses

Part No. (Amps)*
AGA- $\frac{1}{4}$
AGA-1
AGA- $1\frac{1}{2}$
AGA-2
AGA- $2\frac{1}{2}$
AGA-3
AGA-5
AGA-6
AGA-15

\*See Price Sheet for all available ratings.



#### AGW - $\frac{1}{4}$ " x $\frac{7}{8}$ " Fast-Acting Glass Tube Fuses

Part No. (Amps)*	Blister Pack	Tri-Lingual Blister
AGW-1		
AGW- $2\frac{1}{2}$		
AGW-3		
AGW-4		
AGW-5		
AGW-6		
AGW- $7\frac{1}{2}$		
AGW-10		
AGW-15	X	X
AGW-20	X	X
AGW-30		

\*See Price Sheet for all available ratings.



#### AGX - $\frac{1}{4}$ " x 1" Fast-Acting Glass Tube Fuses

Part No. (Amps)*	Blister Pack	Poly-bag	Tri-Lingual Blister
AGX-1			
AGX-2			
AGX- $2\frac{1}{2}$			
AGX-3			
AGX-5			
AGX-7		X	
AGX-10			
AGX-15			
AGX-20	X		X
AGX-30			

\*See Price Sheet for all available ratings.



## Glass & Ceramic Tube Fuses

### ABC - 1/4" x 1 1/4" Fast-Acting Ceramic Tube Fuses

Part No. Amps	Poly Bag	Blister Pack	Tri-Lingual Blister
ABC-1/4			
ABC-1/2			
ABC-1			
ABC-2			
ABC-2 1/2			
ABC-3			
ABC-4			
ABC-5			
ABC-6			
ABC-7			
ABC-8			
ABC-10	X	X	X
ABC-12			
ABC-15	X	X	X
ABC-20	X		
ABC-25			
ABC-30			

\*See Price Sheet for all available ratings.



### AGC - 1/4" x 1 1/4" Fast-Acting Glass Tube Fuses

Part No. (Amps)*	Poly Bag	Blister Pack	Tri-Lingual Blister
AGC-1/8			
AGC-3/10			
AGC-1/4			
AGC-3/8			
AGC-1/2	X	X	X
AGC-3/4			
AGC-1	X	X	X
AGC-1 1/4			
AGC-1 1/2	X	X	X
AGC-2	X	X	X
AGC-2 1/2	X	X	
AGC-3	X	X	X
AGC-3 3/10			
AGC-3 1/2			
AGC-4	X	X	X
AGC-5	X	X	X
AGC-6	X	X	
AGC-6 1/4			
AGC-7		X	
AGC-7 1/2	X	X	X
AGC-8	X		
AGC-10	X	X	X
AGC-12			
AGC-15	X	X	X
AGC-20	X	X	X
AGC-25	X	X	X
AGC-30	X	X	X
AGC-35	X	X	X
AGC-50			

\*See Price Sheet for all available ratings.



### GBB - 1/4" x 1 1/4" Very Fast-Acting Ceramic Tube Fuses

Polybag Part No. (Amps)*
GBB-10BC

\*See Price Sheet for all available ratings.



### GBC - 1/4" x 3 1/32" Fast-Acting German Automotive Fuses

Color Code	Part No. (Amps)*	Blister Pack	Tri-Lingual Blister
Yellow	GBC-5		
White	GBC-8	X	X
Red	GBC-16	X	X
Blue	GBC-25	X	X

\*See Price Sheet for all available ratings.



### SFE Fast-Acting, 1/4" Diameter Size-Rejecting Automotive Glass Tube Fuses

Fuse Length	Part No. (Amps)*	Blister Pack	Tri-Lingual Blister
5/8"	SFE-4	X	X
3/4"	SFE-6	X	X
7/8"	SFE-7 1/2	X	X
7/8"	SFE-9	X	X
1 1/16"	SFE-14	X	X
1 1/4"	SFE-20	X	X
1 7/16"	SFE-30	X	X

\*See Price Sheet for all available ratings.



### AGU - 13/32" x 1 1/2" Fast-Acting Glass Tube Midget Fuses

Available with gold-plated end caps for high-end stereo and AV markets.

Part No. (Amps)*	Blister Pack
<b>Nickel-Plated</b>	
AGU-10	
AGU-15	
AGU-20	
AGU-25	
AGU-30	X
AGU-40	X
AGU-50	X
AGU-60	X
<b>Gold-Plated</b>	
AGU-10GP	X
AGU-15GP	X
AGU-20GP	X
AGU-25GP	X
AGU-30GP	X
AGU-35GP	X
AGU-40GP	X
AGU-50GP	X
AGU-60GP	X

\*See Price Sheet for all available ratings.



## Glass & Ceramic Tube Fuses

### Time-Delay 1/4" Diameter Fuses

#### MDA - 1/4" x 1 1/4" Time-Delay Ceramic Tube Fuses

Part No. (Amps)*	Blister Pack
MDA-1	
MDA-1 1/2	
MDA-2	
MDA-2 1/2	
MDA-3	
MDA-4	
MDA-5	
MDA-6	
MDA-7	
MDA-8	X
MDA-10	
MDA-12	
MDA-15	
MDA-20	
MDA-25	
MDA-30	



\*See Price Sheet for all available ratings.

#### MDL - 1/4" x 1 1/4" Time-Delay Glass Tube Fuses

Part No. (Amps)*	Poly Bag	Blister Pack	Tri-Lingual Blister
MDL-1/16			
MDL-1/8			
MDL-1/4			
MDL-3/8			
MDL-1/2	X	X	
MDL-3/4			
MDL-1	X	X	X
MDL-1 1/4			
MDL-1 1/2	X	X	
MDL-2	X	X	X
MDL-2 1/2			
MDL-3	X	X	
MDL-3 3/10			
MDL-3 1/2			
MDL-4	X	X	
MDL-5	X	X	X
MDL-6	X	X	
MDL-6 1/4			
MDL-7	X	X	
MDL-7 1/2			
MDL-8	X	X	
MDL-10	X	X	
MDL-12			
MDL-15	X	X	
MDL-20	X		
MDL-25			
MDL-30			
MDL-40			



\*See Price Sheet for all available ratings.

### MDQ - 1/4" x 1 1/4" Dual-Element, Time-Delay Glass Tube Fuses

#### Part No. (Amps)\*

MDQ-2



\*See Price Sheet for all available ratings.

## Glass & Ceramic Tube Fuses

### Fast-Acting 5 x 20mm Fuses

GDA - IEC 5 X 20mm High-Break Fast-Acting Ceramic Tube Fuses

Part No. (Amps)*
GDA-500mA
GDA-630mA
GDA-1A
GDA-1.25A
GDA-1.6A
GDA-2A
GDA-2.5A
GDA-3.15A
GDA-4A
GDA-5A
GDA-6.3A



\*See Price Sheet for all available ratings.

### GDB - IEC 5 X 20mm Fast-Acting Glass Tube Fuses

Part No. (Amps)*
GDB-160mA
GDB-2A
GDB-4A
GDB-6.3A
GDB-8A
GDB-10A



\*See Price Sheet for all available ratings.

### GMA - UL 5 X 20mm Fast-Acting Glass Tube Fuses

Part No. (Amps)*	Poly Bag	Tri-lingual Blister
GMA-63mA		
GMA-100mA		
GMA-125mA		
GMA-200mA		
GMA-250mA	X	
GMA-300mA		
GMA-315mA		
GMA-500mA	X	X
GMA-600mA		
GMA-750mA	X	
GMA-800mA		
GMA-1A	X	X
GMA-1.25A		
GMA-1.5A		
GMA-1.6A		
GMA-2A	X	X
GMA-2.5A		
GMA-3A	X	X
GMA-3.15A	X	
GMA-3.5A		
GMA-4A		
GMA-5A	X	X
GMA-6A	X	X
GMA-7A	X	
GMA-8A		



\*See Price Sheet for all available ratings.

### Time-Delay 5 x 20mm Fuses

GDC - IEC 5 X 20mm Time-Delay Glass Tube Fuses

Part No. (Amps)*	Poly Bag	Blister Pack
GDC-500mA		
GDC-1A		
GDC-1.6A		
GDC-2A		
GDC-2.5A		
GDC-3.15A		
GDC-4A		
GDC-5A	X	X
GDC-6.3A		



\*See Price Sheet for all available ratings.

### GMC - UL 5 x 20mm Medium Time-Delay Glass Tube Fuses

Part No. (Amps)*	Poly Bag
GMC-500mA	
GMC-630mA	
GMC-1A	
GMC-1.5A	
GMC-1.6A	
GMC-2A	
GMC-3A	
GMC-3.5A	
GMC-4A	
GMC-5A	
GMC-6A	
GMC-7A	X



\*See Price Sheet for all available ratings.

### GMD - UL 5 x 20mm Medium Time-Delay Glass Tube Fuses

Part No. (Amps)*
GMD-1A



\*See Price Sheet for all available ratings.