

# A30QS

## SEMICONDUCTOR PROTECTION FUSES



A30QS Amp-Trap® Semiconductor Protection fuses were developed for the protection of Power Semiconductors such as Diodes, Phase Control SCR and other Power Semiconductor devices. The A30QS is recommended for new applicators providing all your critical protection needs for 300U and less semiconductors. The A30QS is the only fuse in the industry with capabilities up to 300 volts.



### Features/Benefits

- **Low I<sup>2</sup>t** minimizes damage to protected component on short circuit
- **Controlled arc Voltage** reduces stress to circuit components during fuse clearing
- **Choice of mounting types** helps in equipment design
- **Recommended for new applications**

### HIGHLIGHTS:

- Fast Acting
- Current Limiting
- Low I<sup>2</sup>t
- Indicator Options Available
- Superior DC Capabilities

### APPLICATIONS:

- Protection of 300 volt heavy duty rectifiers and similar heavy power supplies

### Ratings

- **AC:** 35-450kA  
300VAC, 200kA I.R.
- **DC:** 300VDC, 100kA I.R.  
L/R = 10ms

### Approvals

- UL Recognized Component
- AC: UL Guide No. JFHR2 (35-4500A)
- CSA

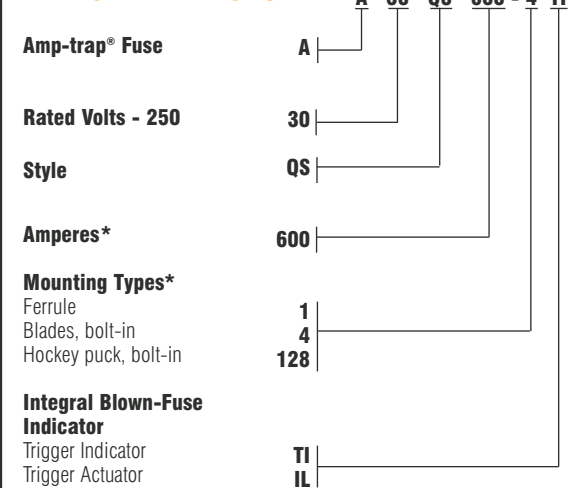


### Single Pole Fuse Blocks for A30QS Fuses

FUSE AMPERE RATING	FUSE BLOCK CATALOG NUMBER
31-60	P243G
61-100	P243
101-200	P243
201-400	P243G
401-700	P243G



### Catalog Numbering System



\* For ampere ratings and types not listed, call Technical Services.

# A30QS

## SEMICONDUCTOR PROTECTION FUSES

### Standard Fuse Ampere Ratings, Catalog Numbers

AMPERE RATING	CATALOG NUMBER	OUTLINE FIG.	AMPERE RATING	CATALOG NUMBER	OUTLINE FIG.	AMPERE RATING	CATALOG NUMBER	OUTLINE FIG.
35	A30QS35-4	1	300	A30QS300-4TI	2	1600	A30QS1600-128	5
40	A30QS40-4	1	350	A30QS350-4	2	2000	A30QS2000-128	5
50	A30QS50-4	1	400	A30QS400-4	2	2000	A30QS2000-128IL	6
60	A30QS60-4	1	400	A30QS400-4IL	3	2500	A30QS2500-128	5
70	A30QS70-4	2	400	A30QS400-4T1	2	2500	A30QS2500-128IL	6
80	A30QS80-4	2	450	A30QS450-4	2	3000	A30QS3000-128	5
90	A30QS90-4	2	500	A30QS500-4	2	3500	A30QS3500-128	5
100	A30QS100-4	2	550	A30QS550-4	2	3500	A30QS3500-128IL	6
100	A30QS100-4TI	2	600	A30QS600-4	2	4000	A30QS4000-128	5
125	A30QS125-4	2	600	A30QS600-4T1	2	4500	A30QS4500-128	5
130	A30QS130-4	2	600	A30QS600-4IL	3			
150	A30QS150-4	2	700	A30QS700-4	2			
150	A30QS150-4TI	2	700	A30QS700-128	4			
175	A30QS175-4	2	800	A30QS800-4	2			
200	A30QS200-4	2	800	A30QS800-4IL	3			
200	A30QS6200-4TI	2	800	A30QS800-128	4			
225	A30QS225-4	2	1000	A30QS1000-128	4			
250	A30QS250-4	2	1000	A30QS1000-128IL	4			
250	A30QS250-4TI	2	1200	A30QS1200-128	4			
300	A30QS300-4	2	1500	A30QS1500-128	6			
300	A30QS300-4	2	1500	A30QS1500-128IL	6			

For ampere ratings and styles not listed, call Technical Services.

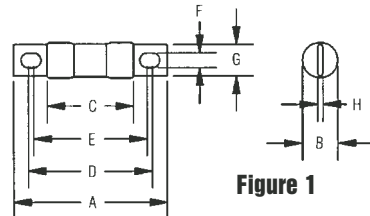


Figure 1

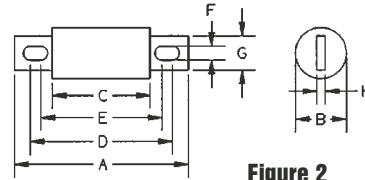


Figure 2

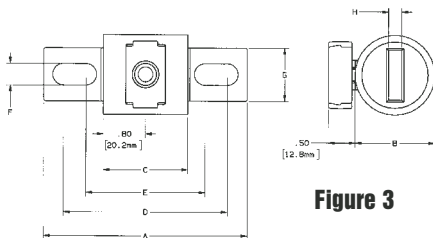


Figure 3

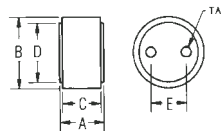


Figure 4

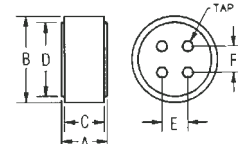


Figure 5

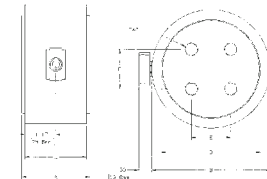


Figure 6

### Dimensions

OUTLINE REF.	MOUNTING TYPE	FIG.	DIMENSIONS - INCHES (mm)								TAP	
			A	B	C	D	E	F	G	H		
A30QS35 to 60	4	1	3.19 (81.0)	0.81 (20.6)	1.63 (41.4)	- (63.5)	- (57.5)	- (8.6)	0.34 (8.6)	0.72 (18.3)	0.13 (3.3)	-
A30QS70 to 200	4	2	3.13 (79.5)	1.22 (31.0)	1.63 (41.4)	2.44 (62.0)	2.31 (58.7)	0.31 (7.9)	0.31 (7.9)	1.00 (2.54)	0.19 (4.8)	-
A30QS225 to 700	4, 4IL*	2, 3*	3.84 (97.5)	1.50 (38.1)	1.59 (40.1)	2.91 (73.9)	2.28 (57.9)	0.41 (10.4)	0.41 (10.4)	1.00 (25.4)	0.25 (6.4)	-
A30QS700 to 1200	128	4	2.59 (65.8)	3.00 (76.2)	2.34 (59.4)	2.50 (63.5)	1.50 (38.1)	-	-	-	-	3/8-24-1/2 Deep
A30QS1500 to 2500	128, 128IL*	5, 6*	2.59 (65.8)	3.50 (88.9)	2.34 (59.4)	3.00 (76.2)	1.50 (38.1)	1.50 (38.1)	-	-	-	3/8-24-1/2 Deep
A30QS3000 to 4500	128, 128IL*	5, 6*	2.59 (65.8)	4.50 (114)	2.34 (59.4)	3.75 (95.3)	1.50 (38.1)	1.50 (38.1)	-	-	-	1/2-20-1/2 Deep

\* Optional (CIL) Actuator

# A30QS

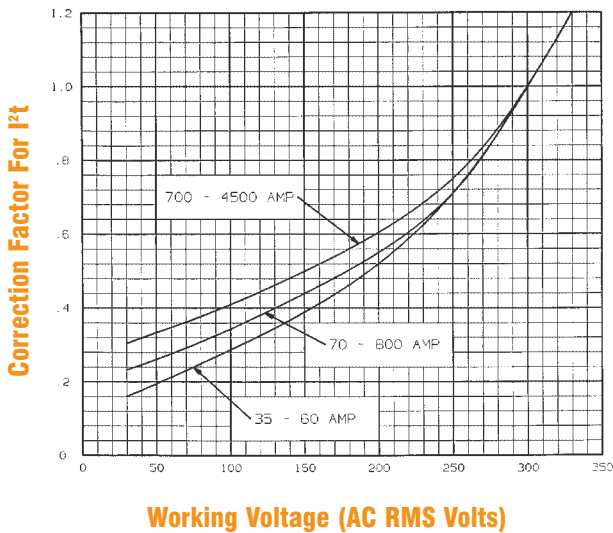
## SEMICONDUCTOR PROTECTION FUSES

### I<sup>2</sup>t Data

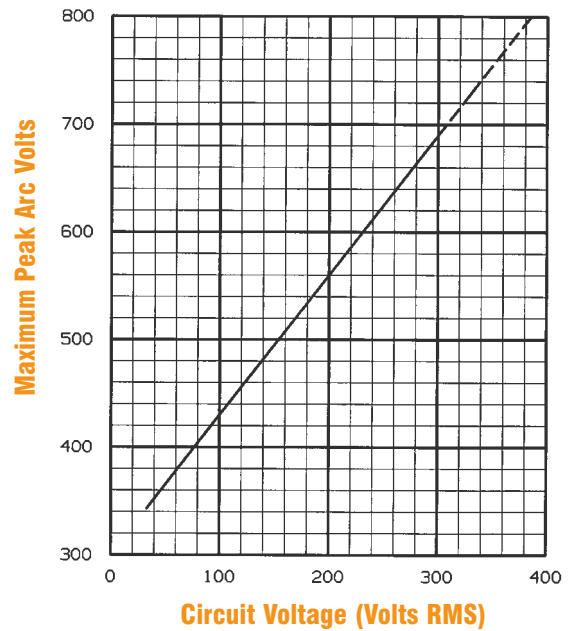
AMPERE RATING	PRE-ARC I <sup>2</sup> t (A <sup>2</sup> s X 10 <sup>3</sup> )	MAX CLEARING I <sup>2</sup> t		AMPERE RATING	PRE-ARC I <sup>2</sup> t (A <sup>2</sup> s X 10 <sup>3</sup> )	MAX CLEARING I <sup>2</sup> t	
		@ 250VAC (A <sup>2</sup> s X 10 <sup>3</sup> )	@ 300VAC (A <sup>2</sup> s X 10 <sup>3</sup> )			@ 250VAC (A <sup>2</sup> s X 10 <sup>3</sup> )	@ 300VAC (A <sup>2</sup> s X 10 <sup>3</sup> )
35	0.07	0.41	0.56	450	25	95	130
40	0.09	0.53	0.73	500	30	120	160
50	0.16	0.88	1.2	550	36	140	190
60	0.21	1.2	1.6	600	47	170	230
70	0.24	1.2	1.6	700	50	190	260
80	0.42	1.9	2.6	800	67	240	330
90	0.53	2.3	3.2	900	83	290	380
100	0.74	3.0	4.1	1000	100	350	460
125	1.2	4.6	6.3	1200	200	680	880
130	1.2	4.6	6.3	1500	330	1100	1400
150	1.9	6.8	9.3	1600	390	1300	1690
175	2.1	7.6	10	1800	450	1500	2000
200	3.0	11	15	2000	590	2000	2600
225	3.6	16	22	2500	920	3100	4000
250	4.4	19	25	3000	1200	3600	4700
275	5.6	23	31	3500	1700	5000	6500
300	6.9	27	37	4000	2200	6600	8600
350	12	45	62	4500	2800	8400	11000
400	16	61	83				



**I<sup>2</sup>t vs. Working Voltage**



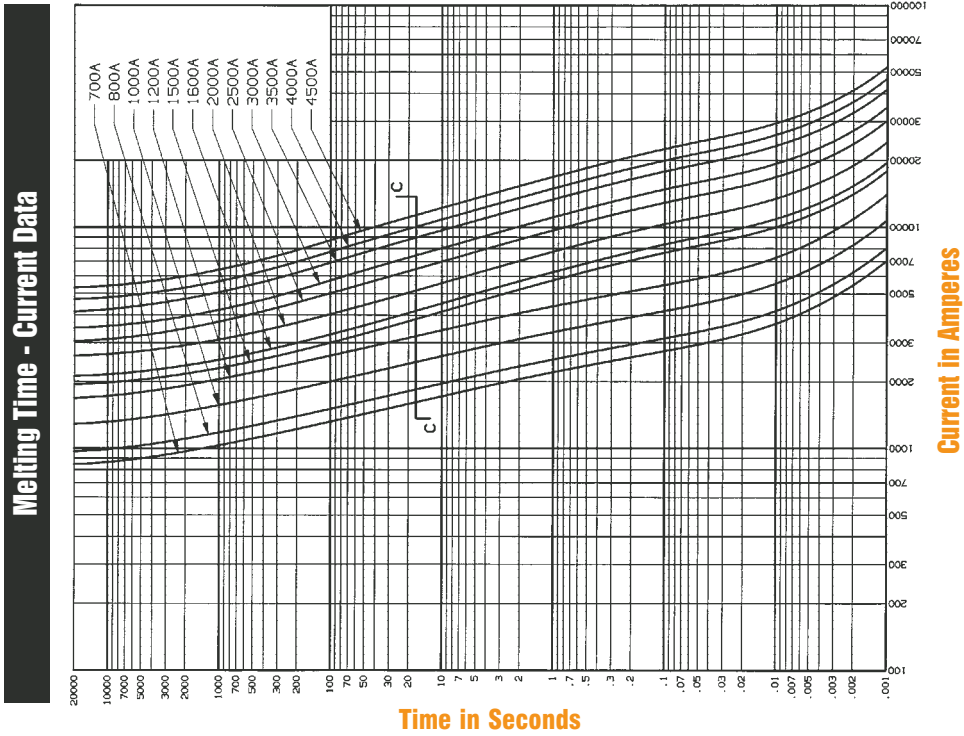
**Peak Arc Voltage**



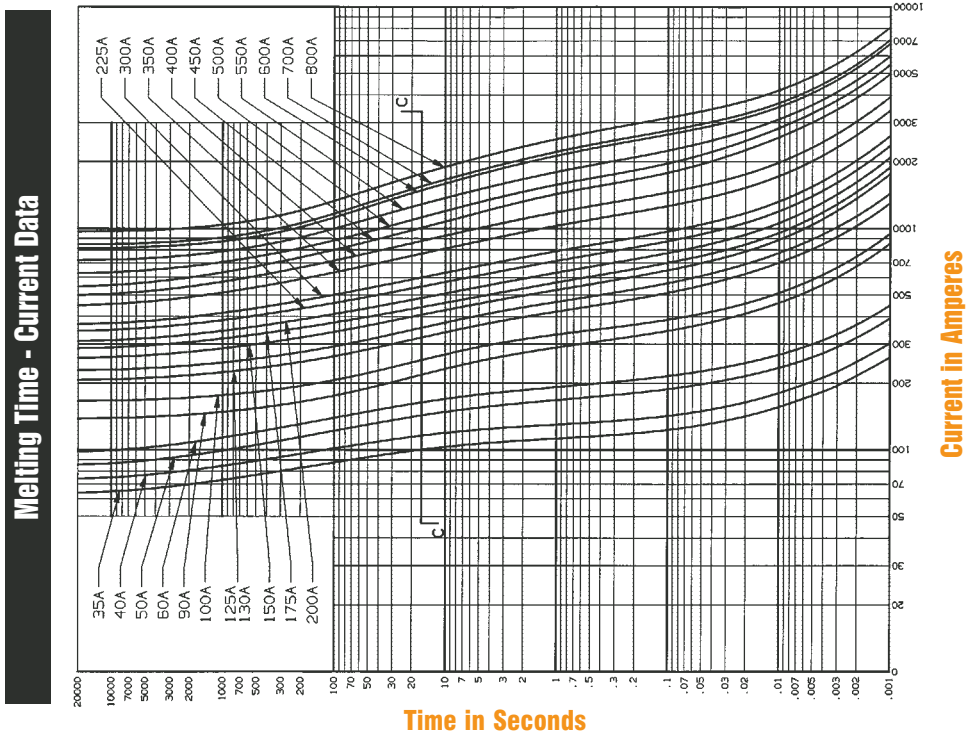
# A30QS

## SEMICONDUCTOR PROTECTION FUSES

A30QS(700 to 4500A) - 128, 128 IL

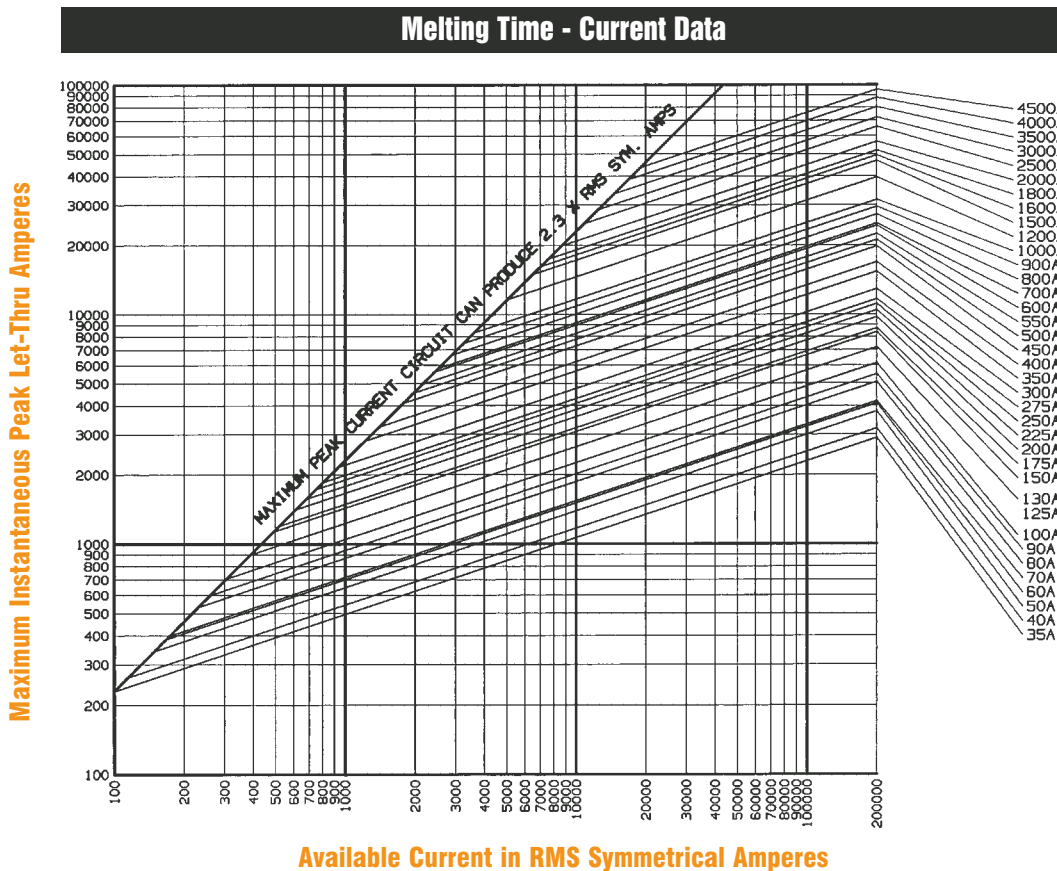


A30QS(35 to 800A) - 4, 4IL

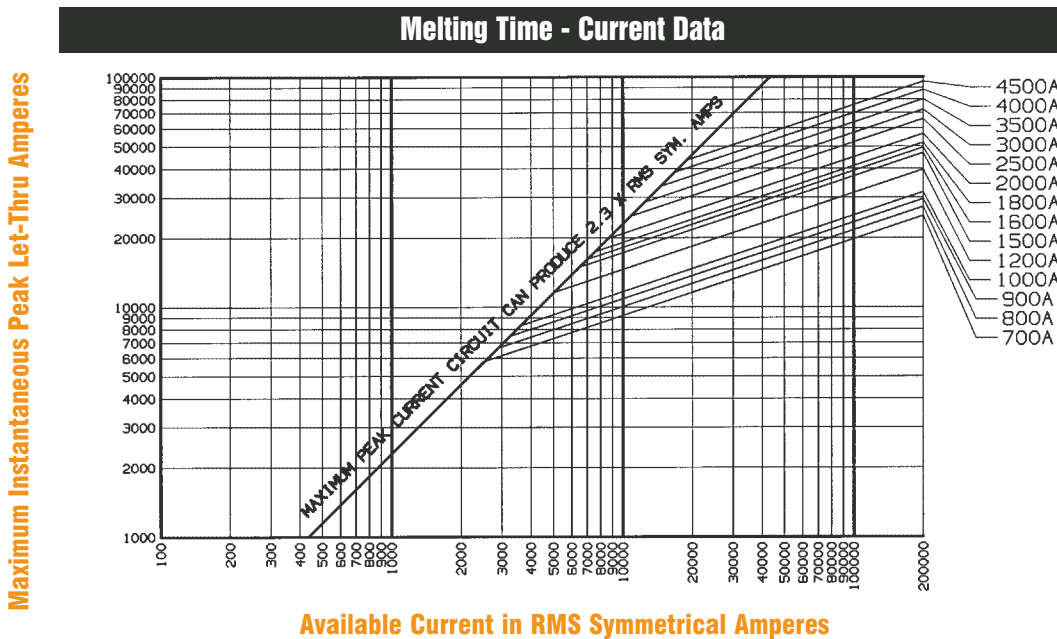


**SEMICONDUCTOR PROTECTION FUSES**

**A30QS(35 - 4500A) - 128, 128IL**



**A30QS(700 - 4500A) - 4, 4IL**



# A30QS

## SEMICONDUCTOR PROTECTION FUSES

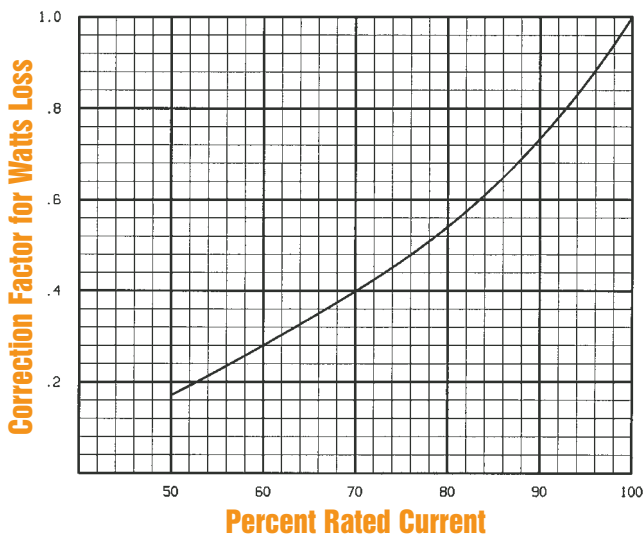
**Watts Loss at Rated Current**

AMPERE RATING	WATTS LOSS @ RATED CURRENT (W)	
	Type 4, 4IL, 4TI	Type 128, 128IL
35	4.7	-
40	5.7	-
50	6.5	-
60	8.2	-
70	11	-
80	11	-
90	13	-
100	13	-
125	16	-
130	16	-
150	19	-
175	27	-
200	30	-
225	33	-
250	41	-
275	44	-
300	47	-
350	49	-
400	56	-
450	53	-
500	59	-
550	65	-
600	69	-
700	90	73
800	108	84
900	-	94
1000	-	105
1200	-	110
1500	-	140
1600	-	150
1800	-	170
2000	-	190
2500	-	230
3000	-	340
3500	-	380
4000	-	450
4500	-	500

**Clearing I<sup>2</sup>t at 300VDC, 100kA, L/R = 10ms**

AMPERE RATING	CLEARING I <sup>2</sup> t (A <sup>2</sup> s X 10 <sup>3</sup> )	AMPERE RATING	CLEARING I <sup>2</sup> t (A <sup>2</sup> s X 10 <sup>3</sup> )
35	0.45	450	100
40	0.58	500	130
50	0.96	550	150
60	1.3	600	190
70	1.3	700	200
80	2.1	800	260
90	2.5	900	300
100	3.3	1000	360
125	5.0	1200	710
130	5.0	1500	1200
150	7.5	1600	1400
175	8.3	1800	1600
200	12	2000	2100
225	18	2500	3300
250	20	3000	4300
275	25	3500	5900
300	29	4000	7700
350	50	4500	9900
400	66		

**Watts loss vs. Percent Rated Current**



**DC Voltage Capability vs. Circuit Time Constant (ms)**

