

A60X

SEMICONDUCTOR PROTECTION FUSES



A60X Amp-trap Form 101 Semiconductor Protection fuses are popular for the protection of higher voltage heavy rectifiers such as traction rectifiers. They can carry long sustained overloads common with heavy duty apparatus. 700A through 2000A sizes are of compact, hockey-puck design, able to provide high power protection in a small space.

Features/Benefits

- **Low I²t** minimizes damage to protected components on short circuit
- **Controlled arc voltage** reduces stress to circuit components during fuse clearing
- **Choice of mounting types** helps in equipment design

Ratings

- **AC:** 1-2000A
600V, 100kA I.R.

Approvals

- UL Recognized Component
UL File E60314
- AC: UL Guide No. JFHR2 (35-800A)

HIGHLIGHTS:

- Fast Acting
- Current Limiting
- Low I²t
- Indicator Options Available

APPLICATIONS:

- Protection of heavy traction and electro-chemical as well as rectifiers and other heavy-duty equipment

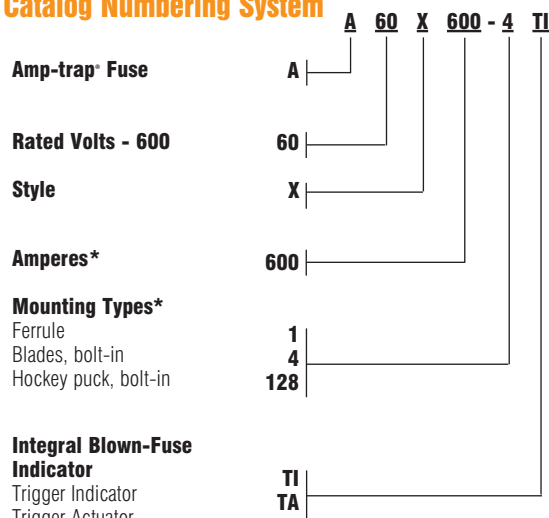


Single Pole Fuse Blocks for A60X Fuses

FUSE AMPERE RATING	FUSE BLOCK CATALOG NUMBER
1-30	60316
31-60	P243C
61-100	P243C
101-200	P243C
201-400	P266A
401-600	P266A



Catalog Numbering System



* For ampere ratings and types not listed, consult the factory.

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Standard Fuse Ampere Ratings, Catalog Numbers

AMPERE RATING	CATALOG NUMBER	OUTLINE FIG.	AMPERE RATING	CATALOG NUMBER	OUTLINE FIG.	AMPERE RATING	CATALOG NUMBER	OUTLINE FIG.
1	A60X1-1	1	80	A60X80-4TA	4	400	A60X400-4	3
2	A60X2-1	1	90	A60X90-4	3	400	A60X400-4TA	4
3	A60X3-1	1	100	A60X100-4	3	400	A60X400-4TI	3
4	A60X4-1	1	100	A60X100-4TA	4	450	A60X450-4	3
5	A60X5-1	1	100	A60X100-4TI	3	450	A60X450-4TA	4
6	A60X6-1	1	125	A60X125-4	3	500	A60X500-4	3
7	A60X7-1	1	125	A60X125-4TA	4	500	A60X500-4TA	4
8	A60X8-1	1	150	A60X150-4	3	500	A60X500-4TI	3
10	A60X10-1	1	150	A60X150-4TA	4	600	A60X600-4	3
12	A60X12-1	1	175	A60X175-4	3	600	A60X600-4TA	4
15	A60X15-1	1	200	A60X200-4	3	600	A60X600-4TI	3
20	A60X20-1	1	200	A60X200-4TA	4	700	A60X700-4	5
25	A60X25-1	1	200	A60X200-4TI	3	700	A60X700-128	7
30	A60X30-1	1	225	A60X225-4	3	800	A60X800-4	5
35	A60X35-4	2	250	A60X250-4	3	800	A60X800-4TA	6
40	A60X40-4	2	250	A60X250-4TA	4	800	A60X800-128	7
45	A60X45-4	2	250	A60X250-4TI	3	1000	A60X1000-128	8
50	A60X50-4	2	300	A60X300-4	3	1200	A60X1200-128	8
55	A60X55-4	2	300	A60X300-4TA	4	1500	A60X1500-128	8
60	A60X60-4	2	300	A60X300-4TI	3	1600	A60X1600-128	8
70	A60X70-4	3	350	A60X350-4	3	1800	A60X1800-128	8
80	A60X80-4	3	350	A60X350-4TA	4	2000	A60X2000-128	8

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

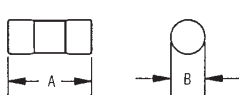


Figure 1

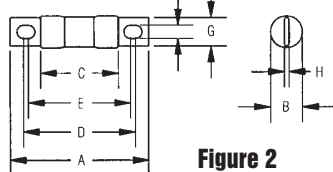


Figure 2

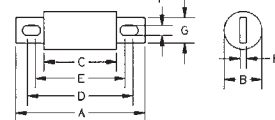


Figure 3

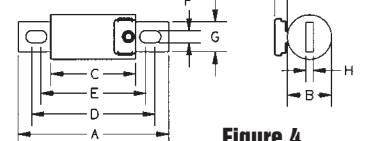


Figure 4

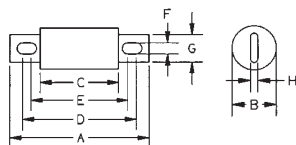


Figure 5

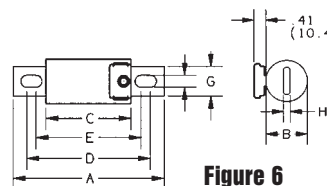


Figure 6

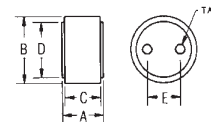


Figure 7

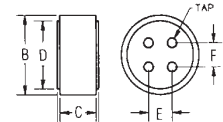


Figure 8

Dimensions

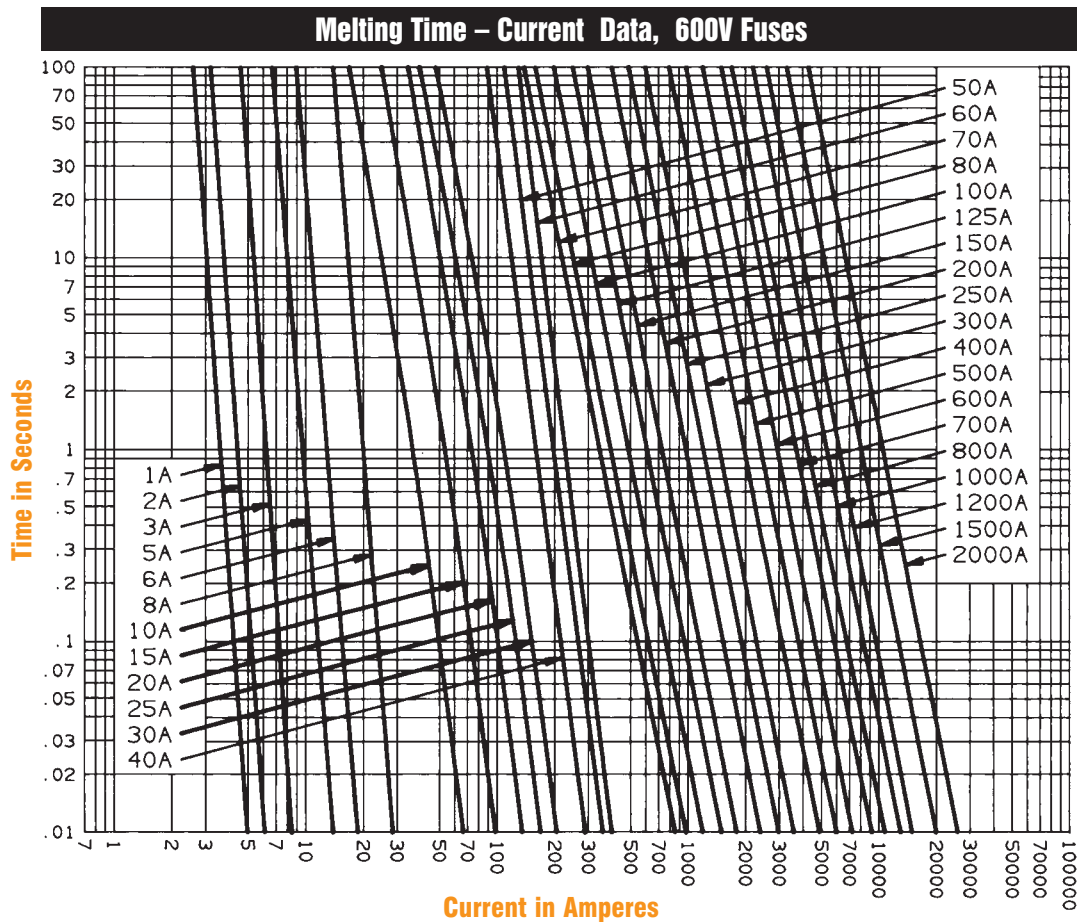
OUTLINE REF.	MOUNTING TYPE	FIG.	DIMENSIONS - INCHES (mm)								TAP
			A	B	C	D	E	F	G	H	
A60X1 to 30	1	1	5.00 (127)	.81 (20.6)	-	-	-	-	-	-	-
A60X35 to 60	4	2	4.38 (111)	.81 (20.6)	2.78 (70.6)	3.69 (93.7)	3.44 (87.4)	.34 (8.6)	.72 (18.3)	.13 (3.3)	-
A60X70 to 100	4, 4TI*, 4TA	3, 4*	4.41 (112)	1.00 (25.4)	2.91 (73.9)	3.72 (94.5)	3.59 (91.2)	.31 (7.9)	.75 (19.1)	.13 (3.3)	-
A60X125 to 200	4, 4TI*, 4TA	3, 4*	4.41 (112)	1.22 (31.0)	2.91 (73.9)	3.72 (94.5)	3.59 (91.2)	.31 (7.9)	1.00 (25.4)	.19 (4.8)	-
A60X225 to 400	4, 4TI*, 4TA	3, 4*	5.13 (130)	1.50 (38.1)	2.88 (73.2)	4.19 (106)	3.56 (90.4)	.41 (10.4)	1.00 (25.4)	.25 (6.4)	-
A60X450 to 600	4, 4TI*, 4TA	3, 4*	5.13 (130)	2.00 (50.8)	2.88 (73.2)	4.06 (103)	3.69 (93.7)	.41 (10.4)	1.50 (38.1)	.25 (6.4)	-
A60X700 to 800	4, 4TA*	5, 6*	7.25 (184)	2.50 (63.5)	3.00 (76.2)	5.94 (151)	4.56 (116)	.53 (13.5)	2.00 (50.8)	.38 (9.7)	-
A60X700 to 800	128	7	4.00 (102)	3.00 (76.2)	3.75 (95.3)	2.50 (63.5)	1.50 (38.1)	-	-	-	3/8-24-1/2 Deep
A60X1000 to 1200	128	8	4.00 (102)	3.50 (88.9)	3.75 (95.3)	3.00 (76.2)	1.50 (38.1)	1.50 (38.1)	-	-	3/8-24-1/2 Deep
A60X1500 to 2000	128	8	4.00 (102)	4.50 (114)	3.75 (95.3)	3.75 (95.3)	1.50 (38.1)	1.50 (38.1)	-	-	1/2-20-1/2 Deep

* Optional Trigger Actuator (TA)

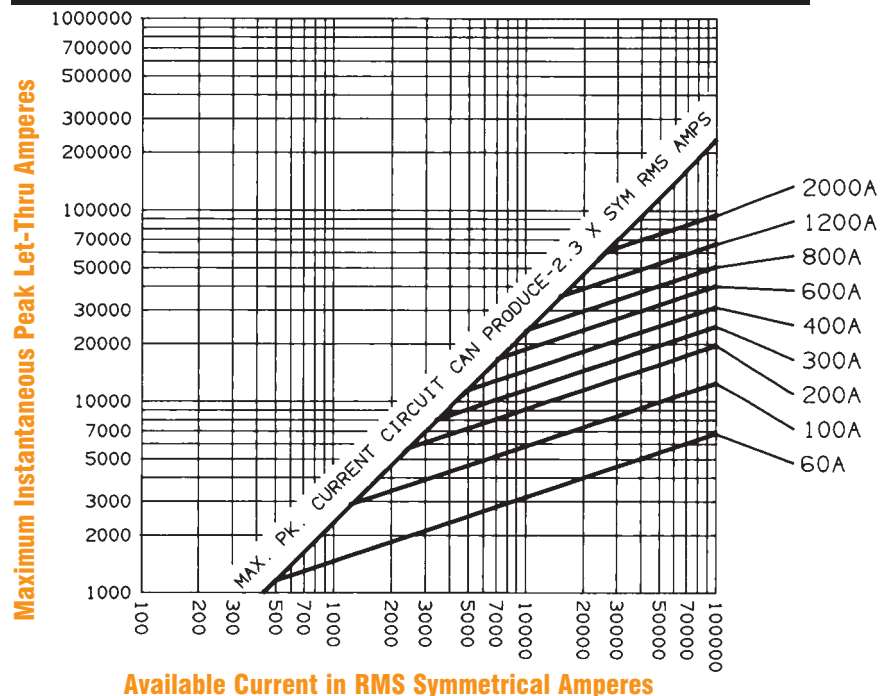
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A60X1 to 2000



Peak Let-Thru Current Data – A60X60 to 2000, 600 Volts AC



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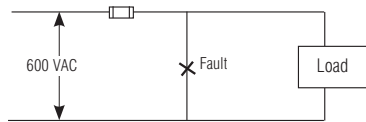


Fig. A

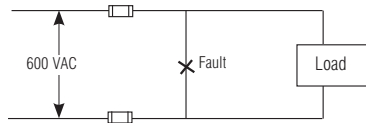


Fig. B

I²t Data – 600 Volts AC, 100kA

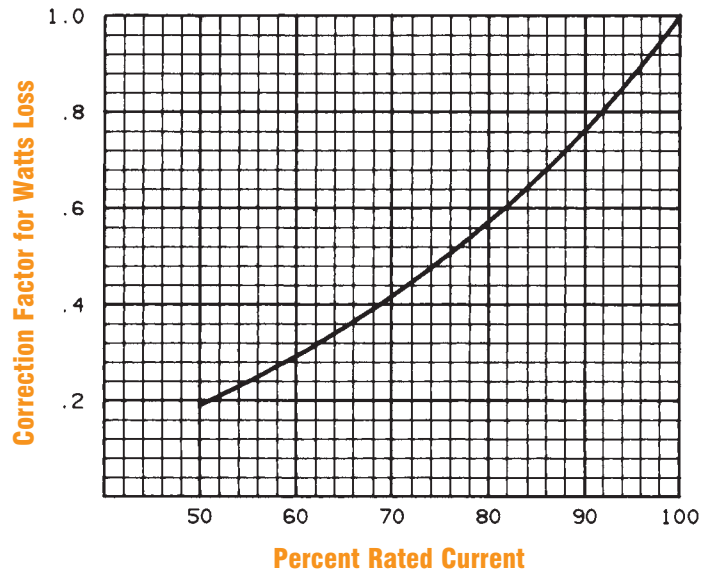
FUSE AMPERE RATING	I ² t DATA		
	MELTING (A ² s)	CLEARING AT 600V	
		1 FUSE (FIG. A) (A ² s)	2 FUSES IN SERIES (FIG. B) (A ² s)
1	.06	.11	.09
2	.22	.45	.36
3	.50	1.0	.80
4	.90	1.8	1.4
5	1.4	2.8	2.2
6	2.0	4.0	3.2
7	2.7	5.4	4.3
8	3.6	7.1	5.7
10	16	40	30
12	22	64	48
15	35	100	70
20	60	170	130
25	95	275	210
30	140	400	290
35	270	1,800	1,200
40	350	2,400	1,600
45	450	3,000	2,000
50	550	3,600	2,400
60	800	5,400	3,600
70	4,000	13,000	9,800
80	5,300	17,000	13,000
90	6,700	22,000	16,000
100	8,300	27,000	20,000
125	13,000	42,000	31,000
150	19,000	60,000	45,000
175	25,000	80,000	61,000
200	33,000	110,000	80,000
225	42,000	140,000	100,000
250	52,000	170,000	125,000
300	75,000	240,000	180,000
350	100,000	340,000	240,000
400	130,000	490,000	320,000
450	170,000	620,000	400,000
500	210,000	770,000	500,000
600	300,000	1,100,000	720,000
700	430,000	1,700,000	1,000,000
800	560,000	2,250,000	1,400,000
1,000	875,000	3,500,000	2,200,000
1,200	1,250,000	5,000,000	3,100,000
1,500	2,000,000	7,900,000	4,900,000
1,600	2,200,000	9,000,000	5,600,000
1,800	2,800,000	11,000,000	7,100,000
2,000	3,500,000	14,000,000	8,900,000

Watts Loss at Rated Current

AMPERE RATING	WATTS LOSS (w)	AMPERE RATING	WATTS LOSS (w)	AMPERE RATING	WATTS LOSS (w)
10	3.8	100	11	700*	57
15	4.5	125	12	700**	52
20	4.0	150	14	800*	67
25	7.3	175	16	800**	59
30	8.7	200	19	1000	72
35	5.2	225	21	1200	86
40	6.3	300	29	1500	107
50	7.4	350	35	1600	117
60	9.1	400	37	1800	133
70	7.6	450	42	2000	148
80	8.9	500	47	2500	183
90	9.7	600	56		

*Type 4 **Type 128

Watts Loss vs. % Rated Current (Types 1 & 4)



Watts Loss vs. % Rated Current (Type 128)

