

HIGH SPEED/CLASS J



HIGHLIGHTS:

- Current-limiting
- AC & DC Ratings
- Low I²t
- Compact Size



APPLICATIONS:

- Branch Circuits
- Control Panels
- Electronic Motor Controllers
- Phase Controllers
- Drives
- Soft-Starters
- Solid State Relays

PROTECT YOUR WIRING AND POWER SEMICONDUCTORS WITH A SINGLE FUSE.

The new High Speed J (HSJ) combines the low I²t of a semiconductor fuse and the branch circuit performance of a Class J UL Listed fuse. This fuse was designed for the starting characteristics of solid state motor controllers. The HSJ can provide branch circuit protection per NEC requirements, as well as very low I²t for protection of power semiconductors such as Diodes, SCR's, GTO's and SSR's.

Features/Benefits

- **Optimized** overload capability for withstanding elevated levels of current during electronic motor controller starts
- **Low I²t** (low thermal energy)
- **Excellent Cycling Ability** for frequent starts/stops without nuisance opening

Ratings

- **AC:** 1-600A 600VAC, 200kA I.R. 300kA I.R. Self Certified
- **DC:** 1-600A 500VDC, 100kA I.R. L/R 10mS

Approvals

- HSJ (1 TO 600A)**
 - UL Listed to Standard 248-8 File E2137
 - DC Listed to UL248
 - CSA Certified to Standard C22.2 No. 248.8

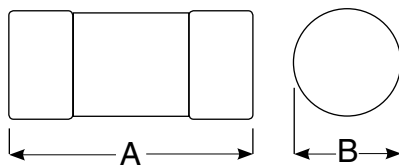
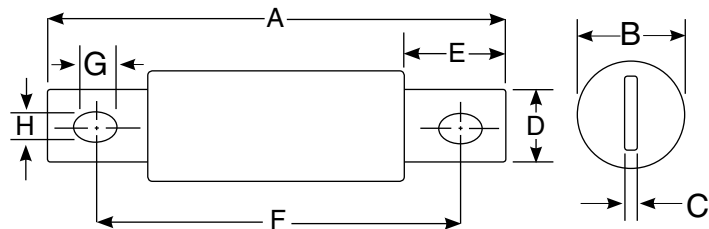
Standard Fuse Ampere Ratings, Catalog Numbers

AMPERE RATING	CATALOG NUMBER	OUTLINE FIGURE	AMPERE RATING	CATALOG NUMBER	OUTLINE FIGURE
1	HSJ1	1	90	HSJ90	2
3	HSJ3	1	100	HSJ100	2
6	HSJ6	1	110	HSJ110	2
10	HSJ10	1	125	HSJ125	2
15	HSJ15	1	150	HSJ150	2
17-1/2	HSJ17-1/2	1	175	HSJ175	2
20	HSJ20	1	200	HSJ200	2
25	HSJ25	1	225	HSJ225	2
30	HSJ30	1	250	HSJ250	2
35	HSJ35	1	300	HSJ300	2
40	HSJ40	1	350	HSJ350	2
45	HSJ45	1	400	HSJ400	2
50	HSJ50	1	450	HSJ450	2
60	HSJ60	1	500	HSJ500	2
70	HSJ70	2	600	HSJ600	2
80	HSJ80	2			

Recommended Fuse Blocks With Box Connectors for Amp-Trap® Class J Fuses

Fuse Ampere Rating	Catalog Number	
	600V OR LESS	
	1 Pole	3 pole
0-30	US3J1I	US3J3I
31-60	US6J1I	US6J3I
61-100	61036J	61038J
101-200	62001J	62003J
201-400	64031J	64033J
401-600	6631J	6633J

A variety of pole configurations and termination provisions is available.

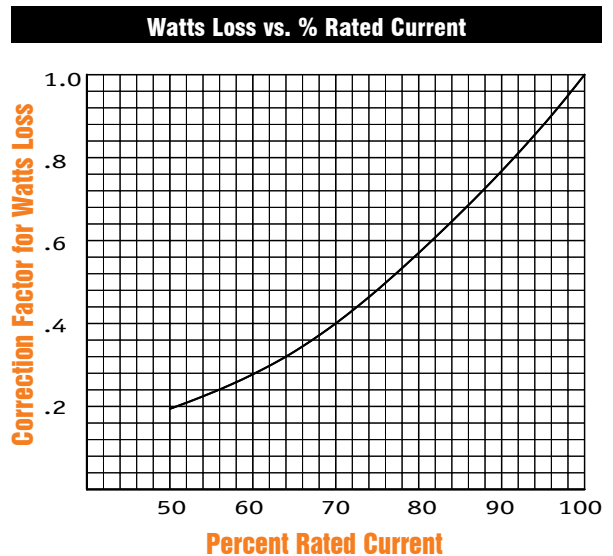
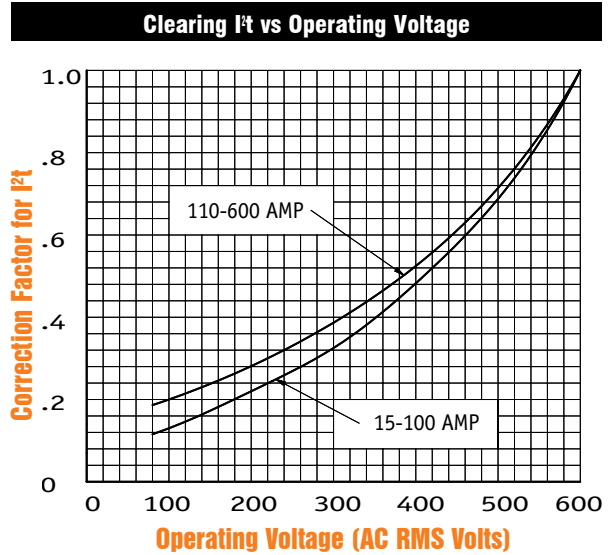
Dimensions
Fig 1

1-60A
Fig 2

70-600A

AMPERE RATING	A		B		C		D		E		F		G		H	
	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm
1-30	2-1/4	57	13/16	21	-	-	-	-	-	-	-	-	-	-	-	-
31-60	2-3/8	60	1-1/16	27	-	-	-	-	-	-	-	-	-	-	-	-
61-100	4-4/8	117	1-1/8	29	1/8	3.2	3/4	19	1	25	3-5/8	92	3/8	10	9/32	7
101-200	5-3/4	146	1-5/8	41	3/16	4.8	1-1/8	29	1-3/8	35	4-3/8	111	3/8	10	9/32	7
201-400	7-1/8	181	2-1/8	54	1/4	6.3	1-5/8	41	1-7/8	48	5-1/4	133	17/32	13	13/32	10
401-600	8	203	2-1/2	64	3/8	9.5	2	51	2-1/8	54	6	152	11/16	18	17/32	13

HIGH SPEED/CLASS J

I²t Data - 600 Volts AC, 100kA

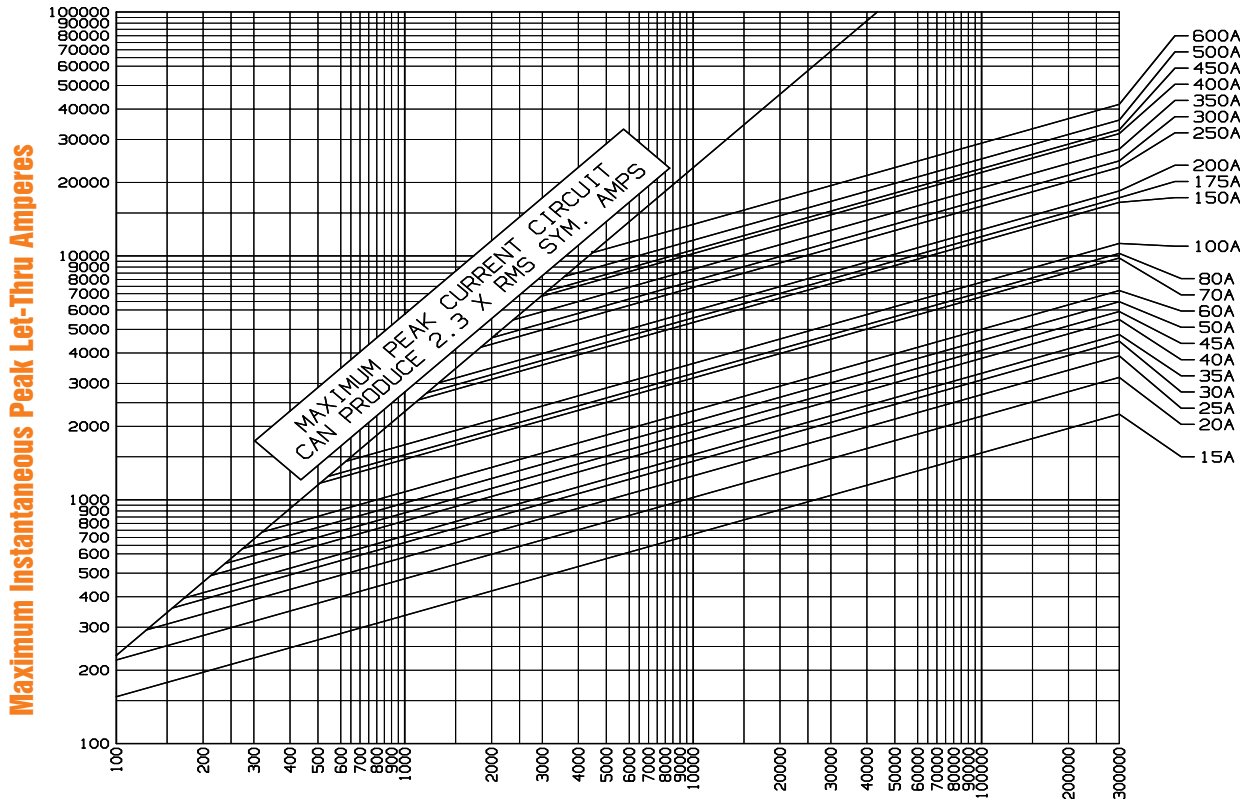
Ampere Rating (A)	Pre-Arc (A ² s x 10 ³)	Max Clearing I ² t @ 600V AC 100kA		Max Clearing I ² t @ 480V AC 100kA		Watts Loss at Rated Current
		1 Fuse	2 in Series	1 Fuse	2 in Series	
		(A ² s x 10 ³)	(A ² s x 10 ³)	(A ² s x 10 ³)	(A ² s x 10 ³)	
1	0.003	0.08	-	0.065	0.045	-
3	0.012	0.18	-	0.15	0.10	-
6	0.052	0.44	-	0.36	0.25	-
10	0.19	0.77	-	0.65	0.49	-
15	0.02	0.36	0.15	0.23	0.12	2.6
17.5	0.03	0.45	0.19	0.29	0.15	3.5
20	0.04	0.58	0.24	0.37	0.19	3.7
25	0.08	1.2	0.50	0.77	0.40	4.0
30	0.16	2.0	0.84	1.30	0.66	4.1
35	0.16	1.5	0.63	0.96	0.50	5.3
40	0.27	2.3	1.00	1.50	0.76	5.5
45	0.32	3.3	1.40	2.1	1.1	6.0
50	0.44	5.5	2.30	3.5	1.8	6.8
60	0.72	8.0	3.40	5.1	2.6	8.4
70	1.2	12	5.00	7.7	4.0	10
80	1.6	15	6.30	9.6	5.0	11
90	2.3	21	8.80	13.0	6.9	13
100	2.7	23	9.70	15.0	7.6	14
110	2.3	21	10	13.9	8.0	18
125	3.4	29	14	19	11	19
150	5.1	41	20	27	16	22
175	8.0	60	29	40	23	24
200	14	92	44	61	35	26
225	14	110	53	73	42	30
250	16	130	62	86	49	36
300	26	200	96	132	76	38
350	37	290	139	191	110	40
400	63	450	216	297	171	42
450	67	500	240	330	190	58
500	98	600	288	396	228	59
600	141	900	432	594	342	68



HIGH SPEED/CLASS J

HSJ

Peak Let-Thru Data - HSJ15 to 600, 600 Volts AC

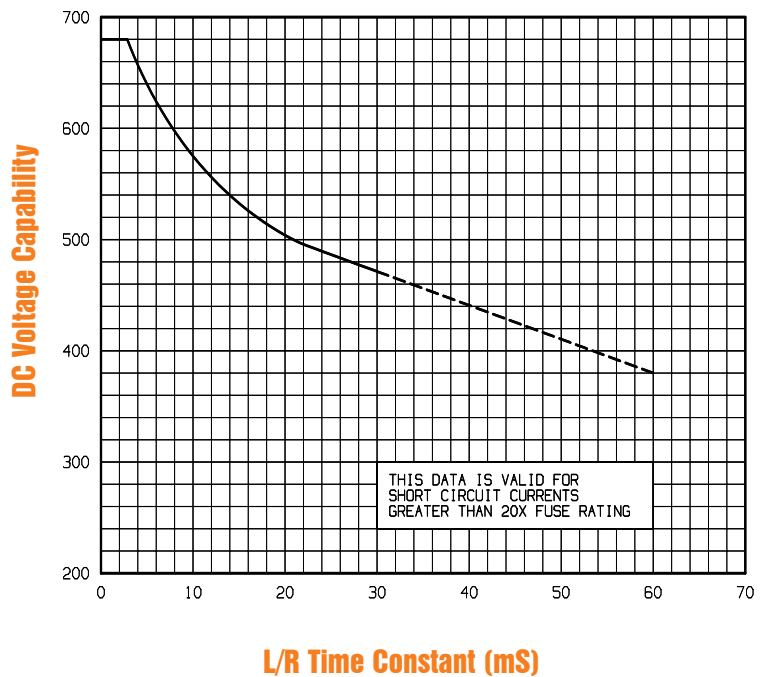


Available Current in RMS Symmetrical Amperes

Clearing I^2t at 500 VDC 100kA, L/R = 10ms

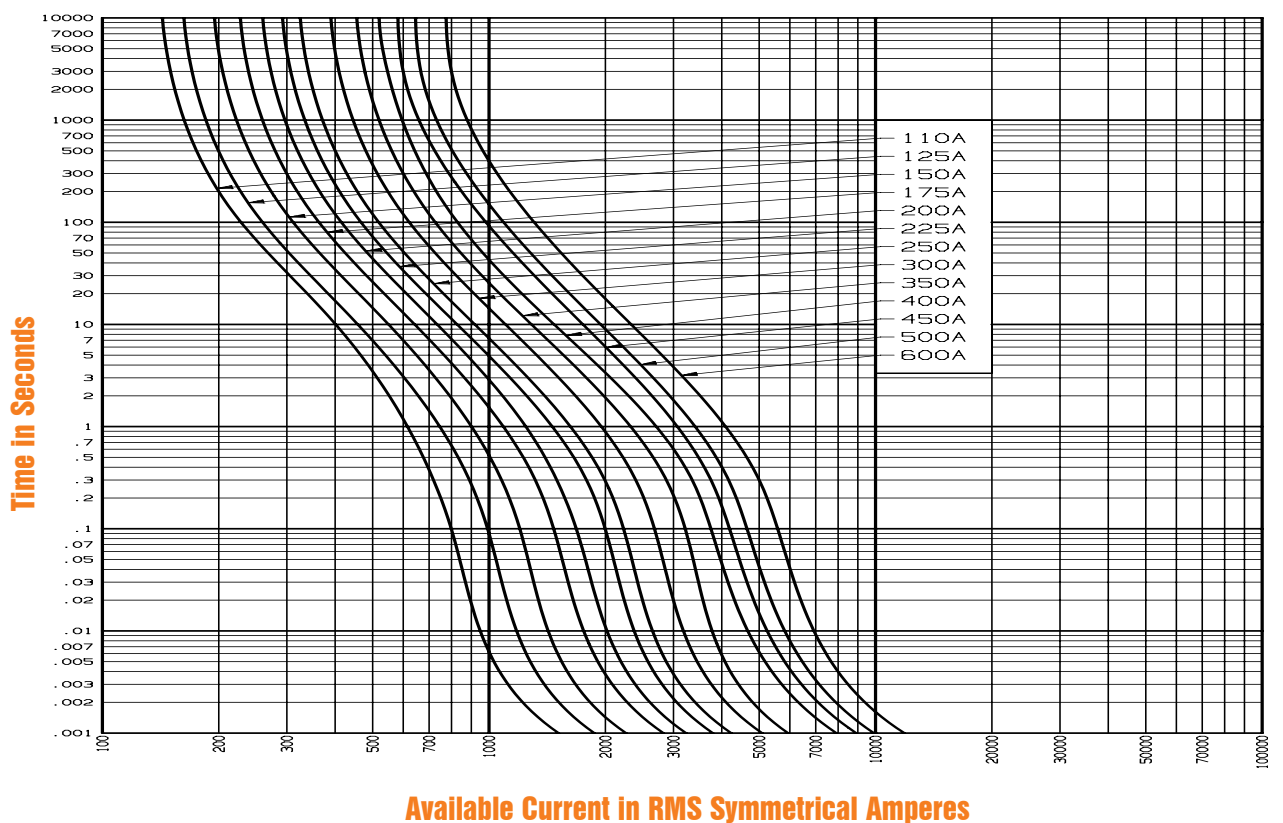
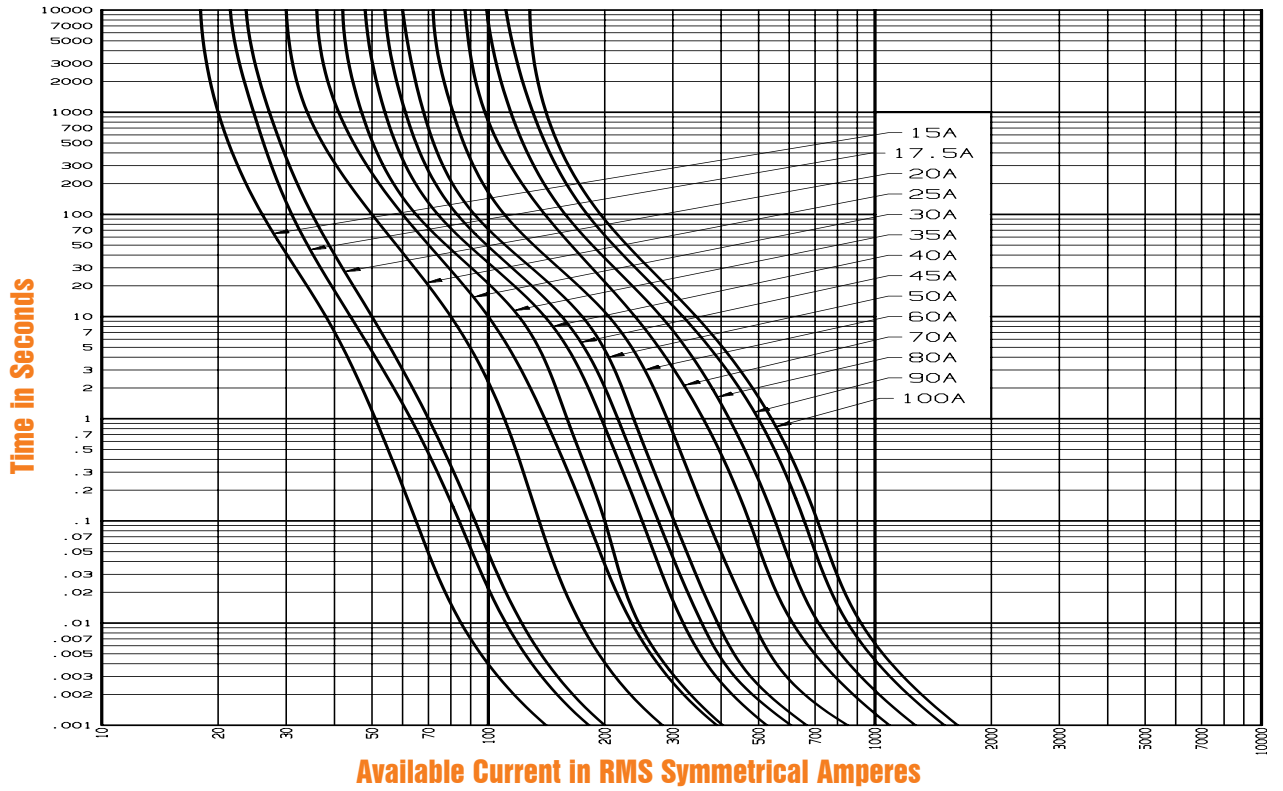
AMPERE RATING	CLEARING I^2t @ 500 VDC L/R = 10 ms ($A^2s \times 10^3$)
15	0.12
17.5	0.18
20	0.24
25	0.46
30	0.91
35	0.60
40	0.92
45	1.3
50	2.2
60	3.2
70	4.8
80	6.2
90	8.9
100	10
110	8.8
125	13
150	19
175	28
200	46
225	52
250	59
300	96
350	136
400	230
450	270
500	390
600	560

DC Voltage vs. Time Constant



L/R Time Constant (mS)

Melting Time - Current Data, HSJ15 to 600, 600 Volts AC



A relentless pursuit of protection for electrical components, systems—and the people who use them.

Ferraz Shawmut is an international company manufacturing the widest range of circuit protection solutions in the electrical industry. Drawing on a century of experience—and an ongoing commitment to critical research in electrical safety—we provide industrial, commercial, and OEM customers with innovative products and technical support teams to increase effectiveness, simplify applications, and enhance productivity. Learn more about our circuit protection solutions at us.ferrazshawmut.com.

For more on High Speed/Class J Fuses, visit our website at us.ferrazshawmut.com.

374 Merrimac Street
Newburyport, MA 01950
T: 978-462-6662
F: 978-462-0181

88 Horner Avenue
Toronto, Ontario
Canada M8Z 5Y3
T: 416-252-9371
Toll-Free: 800-267-8727
F: 416-252-6572
Toll-Free: 800-387-3329

© 2008 Ferraz Shawmut. All rights reserved.

ADV-HSJ-002/2500/5.08/STASSOC