

HSJ

HIGH SPEED/CLASS J



HIGHLIGHTS:

- Current-Limiting
- AC & DC Ratings
- Low I^2t
- Compact Size



APPLICATIONS:

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

PROTECT YOUR WIRING AND POWER SEMI-CONDUCTORS WITH A SINGLE FUSE.

The new High Speed J (HSJ) combines the low I^2t 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 I^2t for protection of power semiconductors such as Diodes, SCR's, GTO's and SSR's.

B

Features/Benefits

- **Optimized** over-load capability for withstanding elevated levels of current during electronic motor controller starts
- **Low I^2t** (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:** 15-600A 500VDC, 100kA I.R. L/R 10mS

Approvals

HSJ (15 TO 600A)

- UL Listed to Standard 248-8 File E2137
- DC Listed to UL248
- CSA Certified to Standard C22.2 No. 248.8

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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.

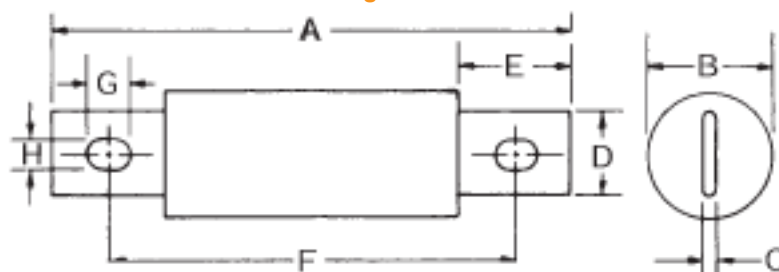
Dimensions

Fig 1



15-60A

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
15-30	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

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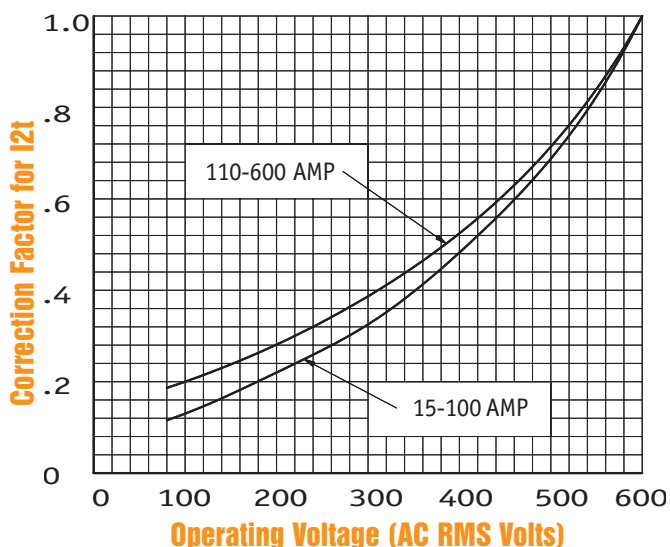
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I²t Data - 600 Volts AC. 100kA

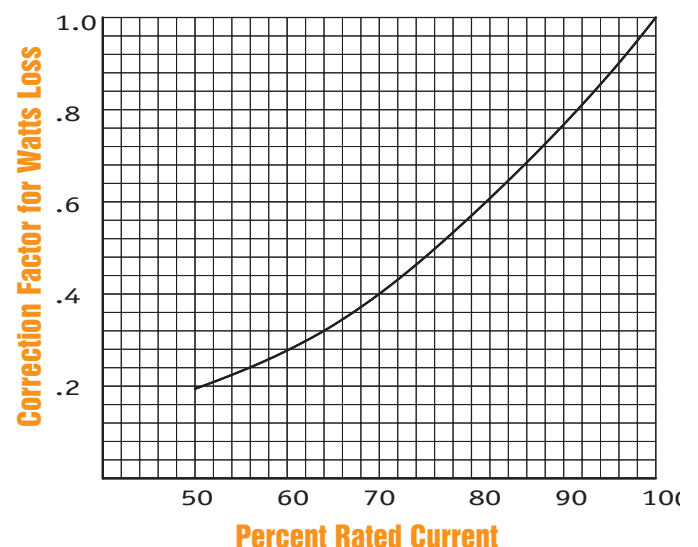
Ampere Rating (A)	Pre-Arc (A ² s x 10 ³)	Max Clearing I ² t @ 600V AC 100kA		Max Clearing I ² t @ 480V AC 100kA		Watts Loss at Rated Current
		1 Fuse (A ² s x 10 ³)	2 in Series (A ² s x 10 ³)	1 Fuse (A ² s x 10 ³)	2 in Series (A ² s x 10 ³)	
15	0.02	0.36	0.15	0.23	0.12	2.6
17.5	0.03	0.45	0.19	0.29	0.15	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
30	0.16	2	0.84	1.3	0.66	4.1
35	0.16	1.5	0.63	0.96	0.50	5.3
40	0.27	2.3	1.0	1.5	0.76	5.5
45	0.32	3.3	1.4	2.1	1.1	6
50	0.44	5.5	2.3	3.5	1.8	6.8
60	0.72	8.0	3.4	5.1	2.6	8.4
70	1.2	12	5.0	7.7	4.0	10
80	1.6	15	6.3	9.6	5.0	11
90	2.3	21	8.8	13	6.9	13
100	2.7	23	9.7	15	7.6	14
110	2.3	21	10	13.9	8	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

B

Clearing I²t vs Operating Voltage



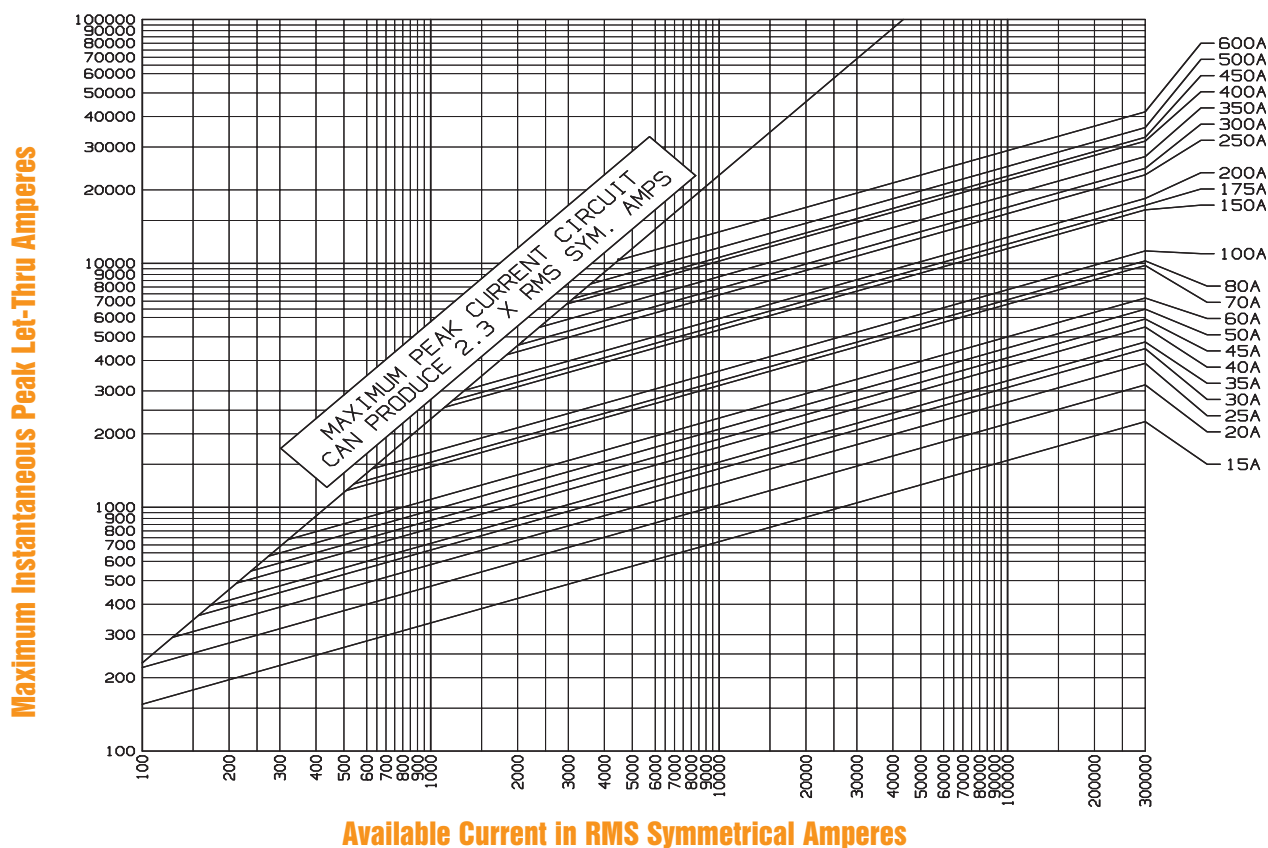
Watts Loss vs. % Rated Current



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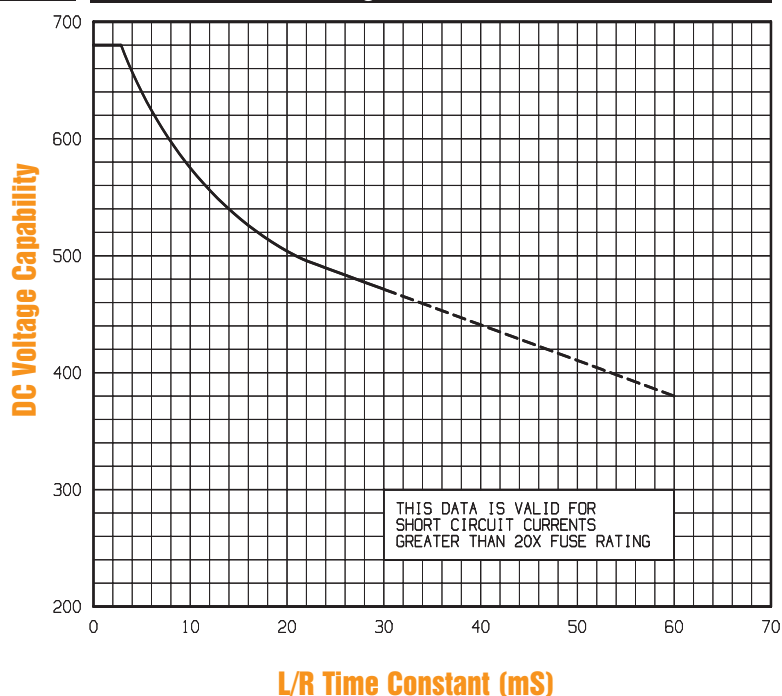
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Peak Let-Thru Data - HSJ15 to 600, 600Volts AC

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



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