

Semiconductor Fuses

150 – 1300 VAC • Very Fast Acting • 1 – 6000 Amperes



Semiconductor Fuses

Littelfuse Semiconductor fuses are very fast acting fuses designed specifically for the protection of diodes, thyristors, triacs, and other solid-state power semiconductor devices. These fuses are used in power electronic applications including variable speed drives, power rectifiers, UPS systems, and DC power supplies. They can be used wherever extremely fast acting, current-limiting fuses are needed to provide superior protection against the potentially damaging effects of short-circuit currents.

The extensive line of Littelfuse Semiconductor fuses includes the traditional round body fuses, enhanced state-of-the-art round body fuses, and North American style square body fuses. Available ratings range from 150 to 1300 volts and up to 6000 amps.

Applications

Semiconductor fuses are designed specifically for supplementary protection of semiconducting devices such as silicon controlled rectifiers (SCR's), diodes, thyristors, triacs, transistors, and similar solid-state devices. These devices are used in power equipment including variable speed drives, power rectifiers, UPS systems, DC power supplies, and in a wide range of electronic equipment.

May be used wherever extremely fast acting, current-limiting fuses with no time-delay are required.

Features & Benefits

- Extremely current-limiting
- Low I^2t and peak let-through currents
- Low watts loss
- High Interrupting ratings
- UL Recognized
- Wide range of ampere ratings
- Optional mounting types
- DC ratings
- Superior cycling abilities
- Compact sizes
- Optional blown fuse indicators

Ratings

150V:	1 – 6000A
250V:	1 – 4500A
300V:	35 – 4500A
500V:	10 – 1200A
600V:	1 – 2000A
700V:	6 – 2500A
1000V:	15 – 1000A
1200V:	1 – 30A
1300V:	50 – 1800A

Recommended Fuse Blocks:

LSCR and 1LS series: Refer to the Blocks & Holders section of this catalog for additional information.



Traditional Semiconductor Fuses

150/250/500/600/700 VAC • Very Fast Acting • 1 – 1200 Amperes

Ampere Ratings	Series & Voltage					
	L15S 150V AC 150V DC (1 – 60A) 100V DC (70 – 1000A)	L25S* 250V AC 250V DC (1 – 200A) 200V DC (225 – 800A)	L50S 500V AC 450V DC	L60S 600V AC	KLC‡ 600V AC	L70S* 700V AC 650V DC
1	L15S 1	L25S 1	–	L60S 1	KLC 1	–
2	L15S 2	L25S 2	–	L60S 2	KLC 2	–
3	L15S 3	L25S 3	–	L60S 3	KLC 3	–
4	L15S 4	L25S 4	–	L60S 4	KLC 4	–
5	L15S 5	L25S 5	–	L60S 5	KLC 5	–
6	L15S 6	L25S 6	–	L60S 6	KLC 6	–
7	L15S 7	–	–	–	KLC 7	–
8	L15S 8	L25S 8	–	L60S 8	KLC 8	–
9	L15S 9	–	–	–	–	–
10	L15S 10	L25S 10	L50S 10	L60S 10	KLC 10	L70S 10
12	L15S 12	L25S 12	L50S 12	L60S 12	KLC 12	–
15	L15S 15	L25S 15	L50S 15	L60S 15	KLC 15	L70S 15
17½	–	–	–	L60S 17½	KLC 17½	–
20	L15S 20	L25S 20	L50S 20	L60S 20	KLC 20	L70S 20
25	L15S 25	L25S 25	L50S 25	L60S 25	KLC 25	L70S 25
30	L15S 30	L25S 30	L50S 30	L60S 30	KLC 30	L70S 30
35	L15S 35	L25S 35	L50S 35	L60S 35	KLC 35	L70S 35
40	L15S 40	L25S 40	L50S 40	L60S 40	KLC 40	L70S 40
45	L15S 45	L25S 45	–	L60S 45	KLC 45	–
50	L15S 50	L25S 50	L50S 50	L60S 50	KLC 50	L70S 50
60	L15S 60	L25S 60	L50S 60	L60S 60	KLC 60	L70S 60
70	L15S 70	L25S 70	L50S 70	L60S 70	KLC 70	L70S 70
80	L15S 80	L25S 80	L50S 80	L60S 80	KLC 80	L70S 80
90	L15S 90	L25S 90	L50S 90	L60S 90	KLC 90	L70S 90
100	L15S 100	L25S 100	L50S 100	L60S 100	KLC 100	L70S 100
110	–	–	–	–	KLC 110	–
125	L15S 125	L25S 125	L50S 125	L60S 125	KLC 125	L70S 125
150	L15S 150	L25S 150	L50S 150	L60S 150	KLC 150	L70S 150
175	–	L25S 175	L50S 175	L60S 175	KLC 175	L70S 175
200	L15S 200	L25S 200	L50S 200	L60S 200	KLC 200	L70S 200
225	–	L25S 225	L50S 225	L60S 225	KLC 225	L70S 225
250	L15S 250	L25S 250	L50S 250	L60S 250	KLC 250	L70S 250
275	–	L25S 275	L50S 275	–	–	–
300	L15S 300	L25S 300	L50S 300	L60S 300	KLC 300	L70S 300
350	L15S 350	L25S 350	L50S 350	L60S 350	KLC 350	L70S 350
400	L15S 400	L25S 400	L50S 400	L60S 400	KLC 400	L70S 400
450	L15S 450	L25S 450	L50S 450	L60S 450	KLC 450	L70S 450
500	L15S 500	L25S 500	L50S 500	L60S 500	KLC 500	L70S 500
550	–	–	L50S 550	–	–	–
600	L15S 600	L25S 600	L50S 600	L60S 600	KLC 600	L70S 600
700	–	L25S 700	L50S 700	L60S 700	KLC 700	L70S 700
800	L15S 800	L25S 800	L50S 800	L60S 800	KLC 800	L70S 800
900	–	–	LA50P9004	–	–	LA70P9004
1000	L15S 1000	–	LA50P10004	–	–	LA70P10004
1200	–	–	LA50P12004	–	–	LA70P12004

‡ KLC series fuses are recommended for replacement use only.

Specifications

Voltage Ratings:

L15S:	150 V AC/DC (1 – 60A) 150 VAC (70 – 1000A) 100 VDC (70 – 1000A)
L25S:	250 V AC/DC (1 – 200A) 250 VAC (225 – 800A) 200 VDC (225 – 800A)
L50S:	500 VAC/450 VDC
L60S:	600 VAC
KLC:	600 VAC
L70S:	700VAC/650VDC

Interrupting Rating:

AC:	200,000 rms amperes (L15S series 100,000A)
DC:	20,000 amperes

Ampere Range:

1 – 1200 amperes
See Rating Table for ratings available in each series.

Approvals:

UL Recognized under the Components Program and CSA Recognized under the Component Acceptance Program.
UL File No: E71611
CSA File No: LR29862
L25S series fuses are Littelfuse Certified for DC ratings shown in Rating Table.

**For availability of RoHS compliant product, call 1-800-TEC-FUSE.*

Traditional Semiconductor Fuses

150/250/500/600/700 VAC • Very Fast Acting • 1 – 1000 Amperes



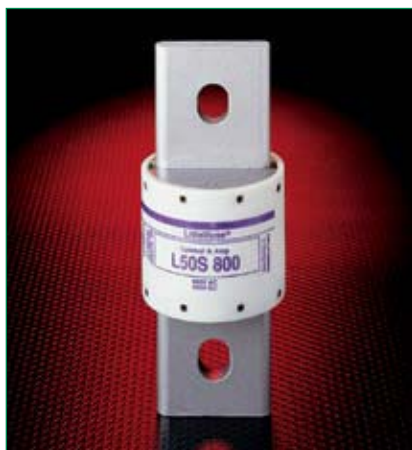
L15S SERIES, 150 VOLTS AC
(Replaces KLA, K LW, L13S)

Ampere Rating	Fig. No.	Dimensions in Inches (mm in parentheses)							
		A	B	C	D	E	F	G	H
1 – 30	1	1½ (38.1)	—	¾ (9.5)	1³⁄₃₂ (10.3)	—	—	—	—
31 – 60	1	2 (50.8)	—	¾ (15.9)	1³⁄₁₆ (20.6)	—	—	—	—
61 – 450	3	1⁵⁄₃₂ (29.4)	1⅞ (47.6)	2³⁄₁₆ (55.6)	2²¹⁄₃₂ (67.5)	1 (25.4)	⁴³⁄₆₄ (17.1)	⁵⁄₁₆ (7.9)	¾ (4.8)
451 – 1000	3	1¼ (31.8)	1¹⁵⁄₁₆ (49.2)	2⁹⁄₁₆ (65.1)	3½ (88.9)	1½ (38.1)	1 (25.4)	1³⁄₃₂ (10.3)	¼ (6.4)



L25S SERIES, 250 VOLTS AC
(Replaces KLB)

Ampere Rating	Fig. No.	Dimensions in Inches (mm in parentheses)							
		A	B	C	D	E	F	G	H
1 – 30	1	2 (50.8)	—	½ (12.7)	⁹⁄₁₆ (14.3)	—	—	—	—
31 – 60	2	1⅞ (41.3)	2¼ (57.2)	2½ (63.5)	3³⁄₁₆ (81.0)	1³⁄₁₆ (20.6)	2³⁄₃₂ (18.3)	1¹⁄₃₂ (8.7)	⅞ (3.2)
61 – 200	3	1⅞ (41.3)	2⁵⁄₁₆ (58.7)	2¹⁄₁₆ (61.9)	3⅞ (79.4)	1½ (31.0)	1 (25.4)	⁵⁄₁₆ (7.9)	¾ (4.8)
201 – 700	3	1¹⁹⁄₃₂ (40.5)	2⁹⁄₃₂ (57.9)	2²⁹⁄₃₂ (73.8)	3²⁷⁄₃₂ (97.6)	1½ (38.1)	1 (25.4)	1³⁄₃₂ (10.3)	¼ (6.4)
701 – 800	3	1¹⁹⁄₃₂ (40.5)	2⁹⁄₃₂ (57.9)	2²⁹⁄₃₂ (73.8)	3²⁷⁄₃₂ (97.6)	2 (50.8)	1½ (38.1)	1³⁄₃₂ (10.3)	¼ (6.4)



L50S SERIES, 500 VOLTS AC / 450 VOLTS DC
(Replaces KLH)

Ampere Rating	Fig. No.	Dimensions in Inches (mm in parentheses)							
		A	B	C	D	E	F	G	H
10 – 30	1	2 (50.8)	—	½ (12.7)	⁹⁄₁₆ (14.3)	—	—	—	—
31 – 60	2	1⅞ (41.3)	2¼ (57.2)	2½ (63.5)	3³⁄₁₆ (81.0)	1³⁄₁₆ (20.6)	2³⁄₃₂ (18.3)	1¹⁄₃₂ (8.7)	⅞ (3.2)
61 – 100	3	2⅞ (54.0)	2¹¹⁄₁₆ (68.3)	3 (76.2)	3⅝ (92.1)	1 (25.4)	¾ (19.1)	1¹⁄₃₂ (8.7)	⅞ (3.2)
101 – 200	3	2⅞ (54.0)	2¹³⁄₁₆ (71.4)	2¹⁵⁄₁₆ (74.6)	3⅝ (92.1)	1½ (31.0)	1 (25.4)	⁵⁄₁₆ (7.9)	¾ (4.8)
201 – 400	3	2³⁄₃₂ (53.2)	2²⁵⁄₃₂ (70.6)	3¹³⁄₃₂ (86.5)	4¹¹⁄₃₂ (110.3)	1½ (38.1)	1 (25.4)	1³⁄₃₂ (10.3)	¼ (6.4)
401 – 600	3	2⁷⁄₃₂ (56.4)	2²⁹⁄₃₂ (73.8)	3¹⁷⁄₃₂ (89.7)	4¹⁵⁄₃₂ (113.5)	2 (50.8)	1½ (38.1)	1³⁄₃₂ (10.3)	¼ (6.4)
601 – 800	3	2⁷⁄₃₂ (56.4)	4⁹⁄₃₂ (108.7)	4⁵⁄₈ (117.5)	6¹⁵⁄₃₂ (164.3)	2½ (63.5)	2 (50.8)	1⁷⁄₃₂ (13.5)	¾ (9.5)

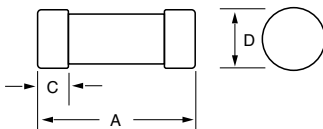


Fig. 1

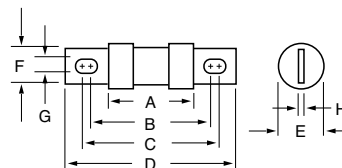


Fig. 2

Contact Littelfuse for characteristic curves.