

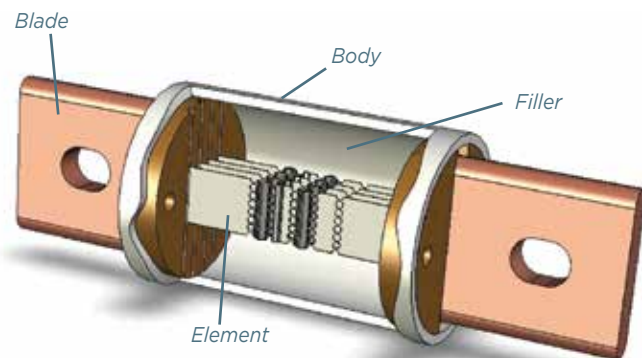
SUMMARY OF LOW VOLTAGE FUSES

Fuse Type	Voltage	Ampere Rating	Interrupting Rating – kA	Mersen Part #	UL
Class CC	600VAC 300VDC 600VDC	0-30 0-30 0-30	200 100 100	ATDR, ATQR, ATMR ATDR, ATQR ATMR	248-4
Class G	480/600VAC	0-20/21-60	100	AG	248-5
Class H (Renewable)	250/600VAC	0-600	10	RF/RFS	248-7
Class H (Non-Renew)	250/600VAC	0-600	10	NRN, CRN/NRS, CRS	248-6
Class J	600VAC 300VDC 500VDC	0-600 0-30 0-600	200 100 100	AJT, HSJ, A4J A4J, HSJ(1-10) AJT, HSJ(15-600)	248-8
Class K-5	250/600VAC	0-600	50	OT, OTN/OTS	248-9
Class L	600VAC 500VDC	601-6000 601-3000	200 100	A4BQ, A4BY, A4BT A4BQ	248-10
Class RK1	250/600VAC 600VAC 250VDC 600VDC	0-600 70-600 0-600 0-600	200 200 100 100	A2D, A2K/A6D, A6K A2D A6D	248-12
Class RK5	250/600VAC 300/600VDC	0-600 0-30/35-400	200 20	TR/TRS TRS-RDC	248-12
Class T	300/600VAC 160/300VDC	0-1200/0-800 0-1200	200 50/100	A3T/A6T A3T/A6T	248-15
Glass/Electronic	32-350VAC	0-30	Up to 10	See Section MF	248-14
Midget	125/250VAC 500/600VAC	0-30 0-30	0.2-10 10,100	TRM, OTM, GFN ATQ, ATM, SBS	248-14
Cable Protector	250VAC 600VAC	1-500kcmil Cu or Al #2-1000kcmil Cu or Al	200 200	2CL CP, CPH	248-1
Capacitor	600-5500VAC	25-300	Up to 200	A100C-A550C	Other
Welder	600VAC	100-600	200	A4BX	Other
Photovoltaic				See Section MF	

FUSE CONSTRUCTION AND OPERATION

The typical fuse consists of an element which is surrounded by a filler and enclosed by the fuse body. The element is welded or soldered to the fuse contacts (blades or ferrules).

The element is a calibrated conductor. Its configuration, its mass, and the materials employed are selected to achieve the desired electrical and thermal characteristics. The element provides the current path through the fuse. It generates heat at a rate that is dependent upon its resistance and the load current.



The heat generated by the element is absorbed by the filler and passed through the fuse body to the surrounding air. A filler such as quartz sand provides effective heat transfer and allows for the small element cross-section typical in modern fuses. The effective heat transfer allows the fuse to carry harmless overloads. The small element cross section melts quickly under short circuit conditions. The filler also aids fuse performance by absorbing arc energy when the fuse clears an overload or short circuit.

When a sustained overload occurs, the element will generate heat at a faster rate than the heat can be passed to the filler. If the overload persists, the element will reach its melting point and open. Increasing the applied current will heat the element faster and cause the fuse to open sooner. Thus fuses have an inverse time current characteristic, i.e. the greater the overcurrent the less time required for the fuse to open the circuit.