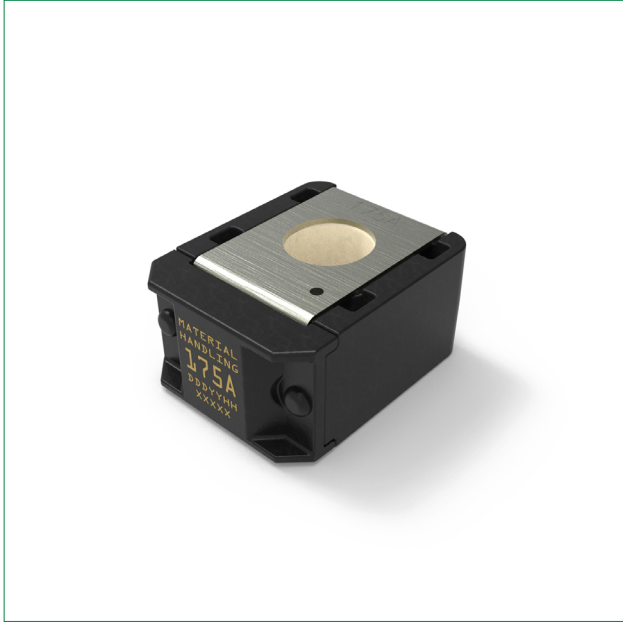


ZCASE® M10 Material Handling

Bolt-down Fuses – Rated 80V

RoHS



Description

The Single ZCASE is a Minimal Footprint Bolt Down Fuse optimized for a one bolt connection M10 with a wide rating range from 70A to 600A in the same packaging size. The Time Current characteristic is similar to the well known MEGA Design and can be used as full wire protection until 250A. Higher ratings fuses are mostly used in trucks, buses, agriculture and construction equipment's or Material handling for typically Starter protector fuse.

Features & Benefits

- Voltage Rating: 80VDC
- Current ratings 70A ÷ 600A (+ SHUNT)
- Interrupting Rating: 2000A @32VDC

Additional Information



Resources



Samples

Applications

- All Commercial vehicles applications
- Not suitable for passenger car applications

[See Disclaimer Notice](#)

Specifications

Voltage Rating:	80 V DC
Interrupting Rating:	2000 A @ 80 V DC
Recommended Environmental Temperature:	-40 °C to +125 °C
Terminals Material:	Tin-plated copper alloy
Housing Material:	PPA-GF33HS (UL 94 Flammability rating of HB)
Mounting Torque M10:	18 Nm ± 2 Nm
Typical Weight per Fuse:	22 g
Insulating Tube:	Ceramic

Ordering Information

Part Number	Current Rating (A)	Package Size
3998XXX.ZXM10	70–600 & SHUNT	480

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Ratings

Part Number	Current Rating (A)	Test Cable Size (mm ²)	Typ. Voltage Drop (mV)	Typ. Cold Resistance (mΩ)	Typ. I ² t (A ² s)
3998070._	70	10	84	0.88	28 300
3998080._	80	10	95	0.78	32 000
3998100._	100	16	80	0.57	23 200
3998125._	125	16	90	0.46	52 000
3998150._	150	25	78	0.34	81 600
3998160._	160	25	82	0.34	82 800
3998175._	175	25	97	0.29	150 000
3998200._	200	35	94	0.26	165 300
3998225._	225	35	80	0.18	126 900
3998250._	250	50	82	0.17	160 900
3998300._ ²	300	50	52 ³	0.14	259 200
3998350._ ²	350	50	29 ³	0.10	583 900
3998400._ ²	400	70	27 ³	0.08	913 300
3998425._ ^{1,2}	425	70	30 ³	0.08	690 200
3998500._ ²	500	70	59 ³	0.08	1 384 300
3998600._ ^{1,2}	600	70	33 ³	0.05	2 771 800
3998900._ ¹	SHUNT	70	-	0.06	-

1: Not mentioned in ISO standards

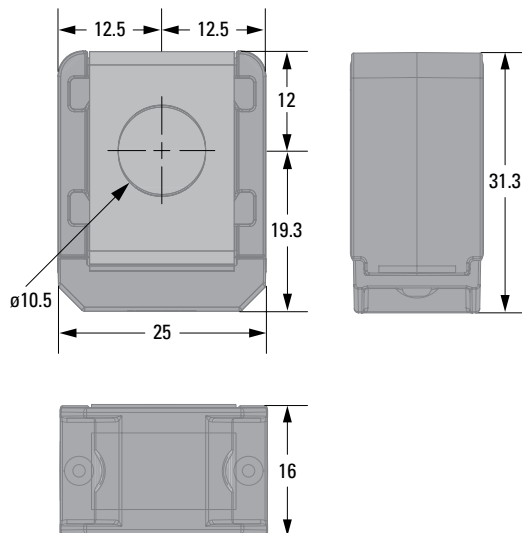
2: Short circuit protector only

3: Voltage drop measurements for short circuit protectors taken at 50 % of rated current

Note 1: The typical I²t is an average value calculated from the breaking capacity tests by using the melting time before the arcing occurs.

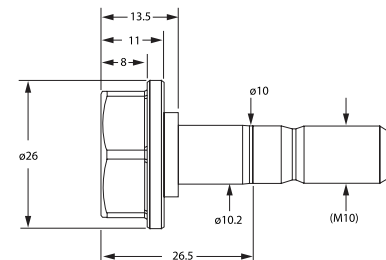
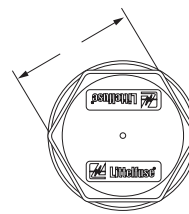
Dimensions

Dimensions in mm. Please refer to the outline drawing for dimensions and tolerances.



Assembly Components Sold Separately

Part Number	Description
902-192	Insulated M10 Bolt Required for Installation and Operation

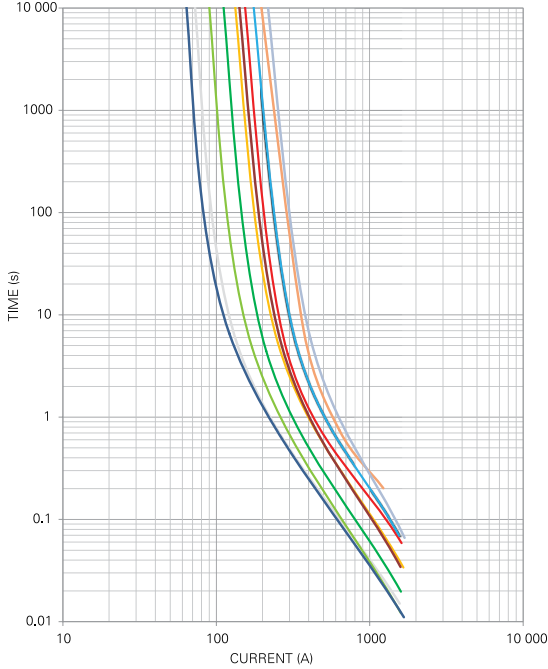


Note: Please contact your Littelfuse representative for application support and information on mating hardware.

ZCASE® M10 Material Handling

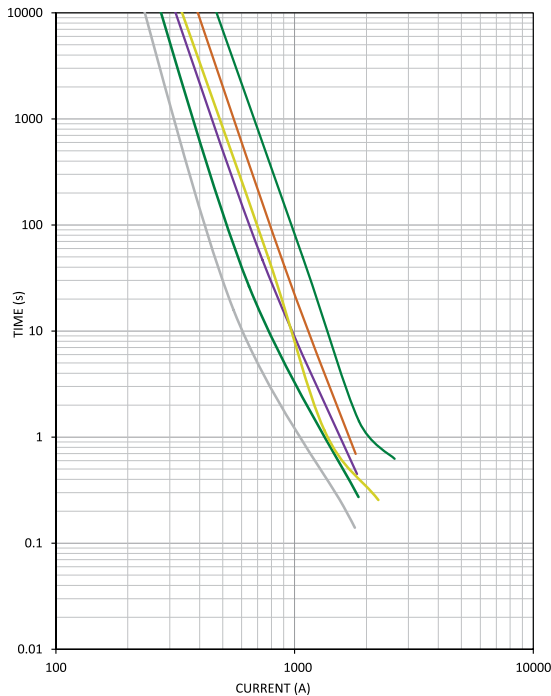
Bolt-down Fuses – Rated 80V

Time-Current Characteristic



% of Rating	Opening Time Min. / Max. (s)		
	40 - 250 A	300 - 500 A	600 A
75	- / -	14 400 / -	14 400 / -
100	14 400 / -	- / -	- / -
135	120 / 1800	- / -	- / -
200	1 / 15	1 / 40	1 / 40
350	0.3 / 5	0.3 / 5	0.3 / 5
500	- / -	- / -	0.1 / 1
600	0.1 / 1	0.1 / 1	- / -

- 70 A
- 80 A
- 100 A
- 125 A
- 150 A
- 160 A
- 175 A
- 200 A
- 225 A
- 250 A



- 300 A
- 350 A
- 400 A
- 425 A
- 500 A
- 600 A

Note: Current recommendation may be impacted by the final condition of the application (terminals characteristics, wire size etc.). Please contact Littelfuse® for more information.

Disclaimer Notice - Information furnished is believed to be accurate and reliable. However, users should independently evaluate the suitability of and test each product selected for their own applications. Littelfuse products are not designed for, and may not be used in, all applications. Read complete Disclaimer Notice at <https://www.littelfuse.com/legal/disclaimers/product-disclaimer.aspx>

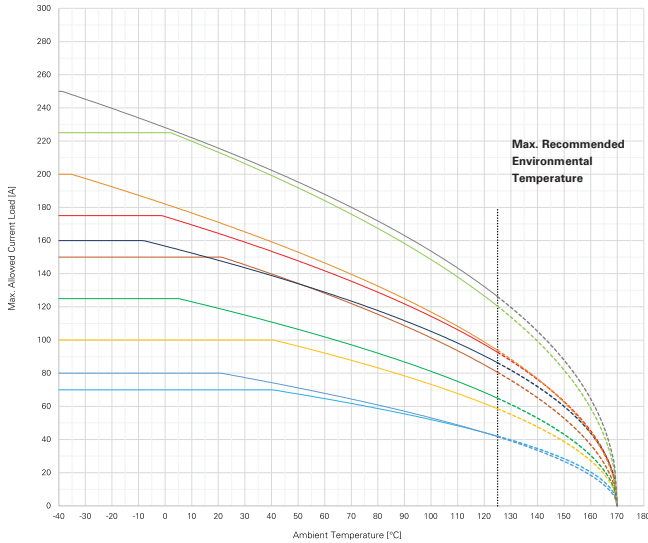
ZCASE® M10 Material Handling

Bolt-down Fuses – Rated 80V

Typical Derating Curves

Temperature security margin is 20%.

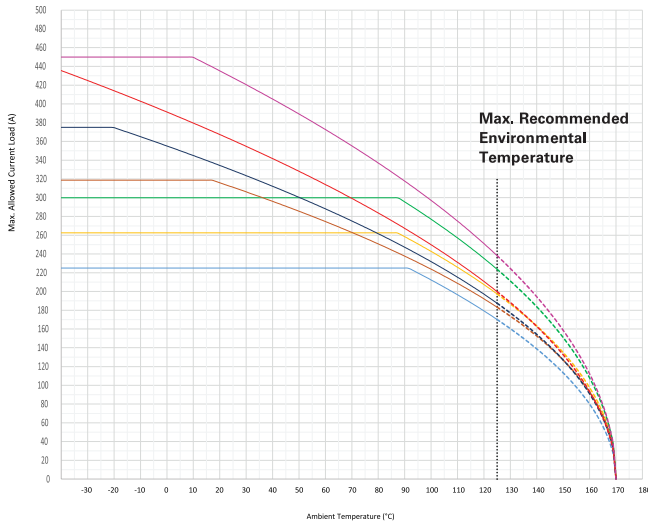
Please contact Littelfuse® for Details Regarding Derating Test Set Up.



Max. allowed current load (A) at ambient temperature based on typical derating

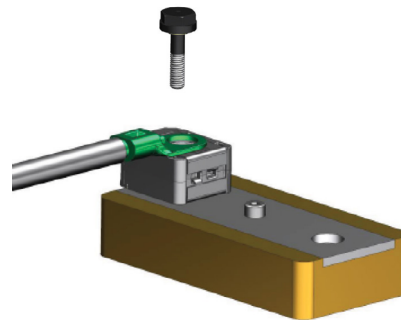
	-40 °C	0 °C	20 °C	65 °C	85 °C	110 °C	125 °C
70 A	70	70	70	63	57	48	41
80 A	80	80	80	66	59	49	41
100 A	100	100	100	90	81	68	59
125 A	125	125	119	100	89	75	65
150 A	150	150	150	125	112	94	81
160 A	160	157	148	126	115	98	86
175 A	175	159	150	128	116	99	87
200 A	200	182	171	143	129	108	94
225 A	225	225	214	181	165	140	123
250 A	250	229	215	181	164	138	120
300 A	225	225	225	225	225	197	170
350 A	263	263	263	263	263	226	197
400 A	300	300	300	300	300	257	224
425 A	319	319	316	269	244	209	183
500 A	375	355	334	282	255	215	188
600 A	436	391	367	307	276	231	200
SHUNT	450	450	435	364	328	275	238

- 70 A
- 80 A
- 100 A
- 125 A
- 150 A
- 160 A
- 175 A
- 200 A
- 225 A
- 250 A



- 300 A
- 350 A
- 400 A
- 425 A
- 500 A
- 600 A
- SHUNT

Note: Current recommendation may be impacted by the final condition of the application (terminals characteristics, wire size etc.). Please contact Littelfuse® for more information.



Note: All tests were performed mounting the Zcase on the left or right side of the metal bar, as shown in the picture. A 50mm² wire was used as current feed for all the ratings, while the output wire size was according to the table on page 2. Please contact Littelfuse for details regarding specific applications in vehicle.

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