#### **Datasheet**

# **ZCASE® M10 Bolt Down Material Handling** Rated 80V





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

## **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)
Net Weight per Fuse:	22 g ± 10 %
Mounting Torque M10	18 Nm ± 2 Nm
Insulating Tube:	Ceramic

### **Features & Benefits**

- One-bolt connection
- Can mount on a battery post, starter, or busbar
- High-contrast ampere rating stamp aids identification
- SHUNT version available
- Compact design

### Applications

- Commercial vehicles
- Buses
  - Construction equipment
- Material handling equipment
- Agricultural machinery
- Not suitable for passenger car applications

## Ordering Information

**Description** 

protector fuse.

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 (mm²)	Тур. Voltage Drop (mV)	Typ. Cold Resistance (mΩ)	Typ. l²t (A²s)
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 <sup>2</sup>	300	50	52 <sup>3</sup>	0.14	259,200
3998350 <sup>2</sup>	350	50	29 <sup>3</sup>	0.10	583,900
3998400 <sup>2</sup>	400	70	27 <sup>3</sup>	0.08	913,300
3998425 1 2	425	70	30 <sup>3</sup>	0.08	690,200
3998500 <sup>2</sup>	500	70	59 <sup>3</sup>	0.08	1,384,300
3998600 1 2	600	70	33 <sup>3</sup>	0.05	2,771,800
3998900 <sup>1</sup>	SHUNT	70		0.06	

\* Note 1: Not mentioned in ISO standards

\* Note 2: Short Circuit Protector only \* Note 3: Voltage Drop measurements for short circuit protectors taken at 75% of rated current.

31.3

The I<sup>2</sup>t value is calculated from the breaking capacity tests by using the current time profile before the arcing occurs.

### **Dimensions**

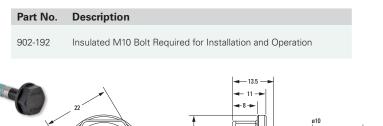
600A

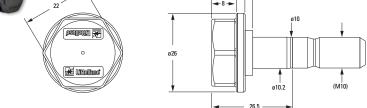
25

Dimensions in mm for reference only. See outline drawing for dimensions and tolerances.

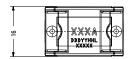
19.3

#### Assembly Components Sold Separately





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

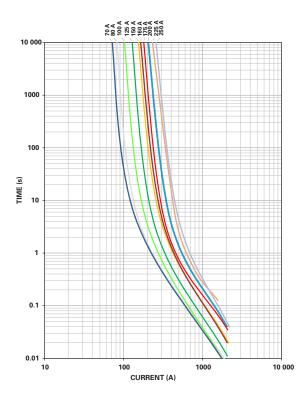


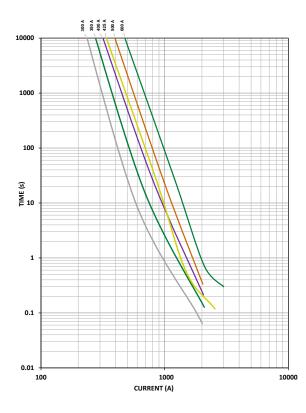
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#### **Time-Current Characteristic**





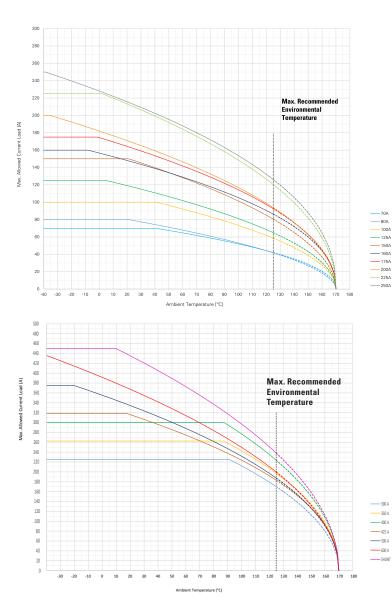
% of Rating	Openin	/lax (s)		
nating	40–250 A	300–500 A	600 A	
75	- / -	14 400 /∞	14 400 /∞	
100	14 400 /∞	- / -	- / -	
135	120 / 1800	- / -	- / -	
200	1 / 15	1 / 40	1 / 40	
350	0.3 / 5	0.3 / 5	0.3 / 5	
500	- / -	- / -	0.1 / 1	
600	0.1 / 1	0.1 /1	- / -	



# **ZCASE® M10 Bolt Down Material Handling** Rated 80V

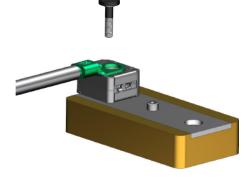
#### **Derating of Fuse Melting Element**

Temperature security margin is 20 %. Please contact Littelfuse for details regarding derating test setup.



•40 °C0 °C20 °C65 °C85 °C110 °C125 °C70 A70706357484180 A8060594942100 A10010090816859125 A125125119100897565150 A1501501501129481160 A1501501251129481160 A1601501261159886150 A1601501281169886150 A1601501281169886150 A2001591481261159886155 A2011591611481289987200 A200182214181164138128255 A225225214181164138128300 A225225225225225197137300 A263263263263263263263263263300 A300300300300207216188400 A319316269244209183500 A375355334282255215216600 A4436391367364328275236			maxi anoroa oarioni ioaa (ii) aoooranig to tipioai aoranig					
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Index <th< td=""><td>125 A</td><td>125</td><td>125</td><td>119</td><td>100</td><td>89</td><td>75</td><td>65</td></th<>	125 A	125	125	119	100	89	75	65
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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	350 A	263	263	263	263	263	226	197
500 A 375 355 334 282 255 215 188   600 A 436 391 367 307 276 231 200	400 A	300	300	300	300	300	257	224
600 A 436 391 367 307 276 231 200	425 A	319	319	316	269	244	209	183
	500 A	375	355	334	282	255	215	188
<b>SHUNT</b> 450 450 435 364 328 275 238	600 A	436	391	367	307	276	231	200
	SHUNT	450	450	435	364	328	275	238

Max. allowed current load (A) according to typical derating



All tests were performed mounting the Zcase on the left or right side of the metal bar, as shown in the picture. A 50mm<sup>2</sup> 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.

