

# 10EV Series

## High Voltage Fuses – Rated 500 V DC



### Description

10EV fuses come in six configurations. Each version of the cylindrical low-voltage, high-current fuse employs diffusion pill technology to provide time-delayed protection to circuits in EVs and hybrid passenger vehicles. Ask Littelfuse which configuration best meets your needs.

### Features & Benefits

- Interrupting Rating of 20 kA @ 500 V DC
- Operates from -40 °C to +125 °C
- Voltage Rating of 500 V DC
- Typical weight of 9.5 g
- Mounting Torque M5 of 4.5 ±1 Nm (ISO prescription for ZXISO and ZXB DP versions)
- Melamine body with UL 94 flammability ratings of V-0
- Terminal in tin plated copper alloy
- End caps in nickel plated brass
- Refers to ISO 8820-8
- Available in cartridge version

### Applications

- All EV and Hybrid passenger vehicles

[See Disclaimer Notice](#)

### Specifications

<b>Voltage Rating:</b>	500 V DC
<b>Interrupting Rating:</b>	20 kA @ 500 V DC
<b>Recommended Environmental Temperature:</b>	-40 °C to +125 °C
<b>Terminals Material:</b>	Tin-plated copper alloy
<b>Housing Material:</b>	Melamine body (UL 94 Flammability rating of V-0)
<b>End caps Material:</b>	Nickel plated brass
<b>Mounting Torque M5:</b>	4.5 ±1 Nm (ISO prescription for ZXISO and ZXB DP versions)
<b>Typical Weight per Fuse:</b>	9.5 g
<b>Comply With:</b>	ISO 8820-10:2020

### Additional Information



Resources



Samples







### Ordering Information

Part Number	Termination	Package Size
10EVxxx.ZXC	CARTRIDGE	320
10EVxxx.ZXISO	BOLT DOWN (ISO)	320
10EVxxx.ZXPY	BLADE	320
10EVxxx.ZXB DP	BOLT DOWN (AXIAL)	320
10EVxxx.ZXPCB	PCB MOUNT	320
10EVxxx.ZXPCBL	PCB MOUNT (LONG)	320

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### Ratings

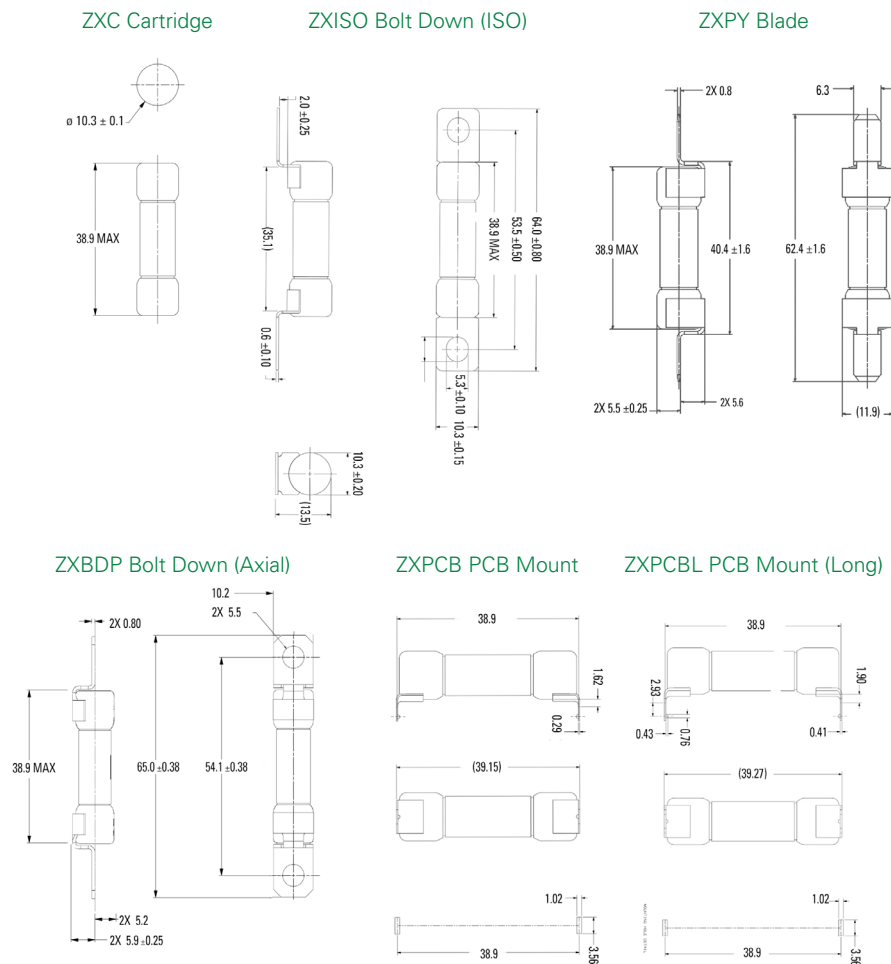
Part Number	Current Rating (A)	Color Coding	Test Cable Size (mm <sup>2</sup> )	Typ. Voltage Drop at 70% IR (mV)	Typ. Cold Resistance (mΩ)	Typ. I <sup>2</sup> t (A <sup>2</sup> s)
10EV010.xxx	10		1	114	12.8	310
10EV015.xxx	15		1.5	83	7.4	800
10EV020.xxx*	20		2.5	Coming up	Coming up	Coming up
10EV030.xxx	30		5	67	0.90	1500
10EV040.xxx	40		5	69	0.73	4450
10EV050.xxx	50		5	69	0.73	7800

\* Products in development - Final values for voltage drop, resistance, melting I<sup>2</sup>t and T/C curves will be generated from PV tests data. Please contact Littelfuse® for more details regarding availability timing.

**Note:** The typical I<sup>2</sup>t is an average value calculated from the breaking capacity tests by using the melting time before the arcing occurs.

### Dimensions

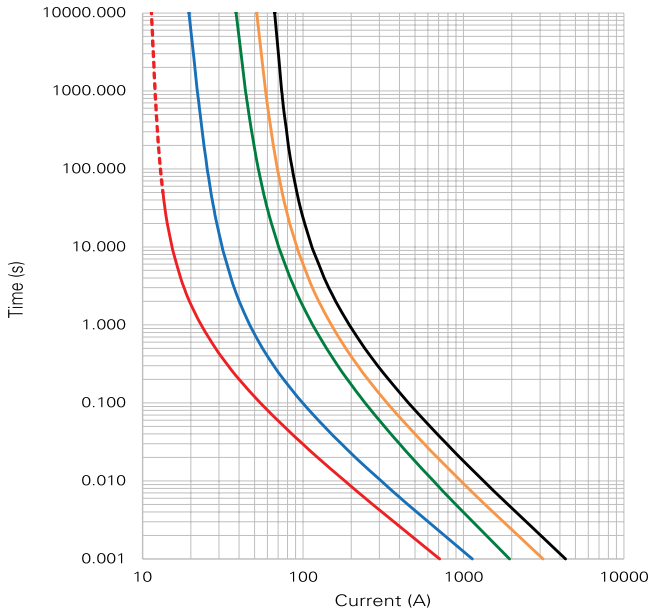
Dimensions in mm. Please refer to the outline drawing for dimensions and tolerances.



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### Time-Current Characteristic



% of Rating	Opening Time Min. / Max. (s)
110	14 400 / -
135	150 / 3600
150	10 / 1000
200	0.5 / 100
300	0.1 / 15
500	0.05 / 1

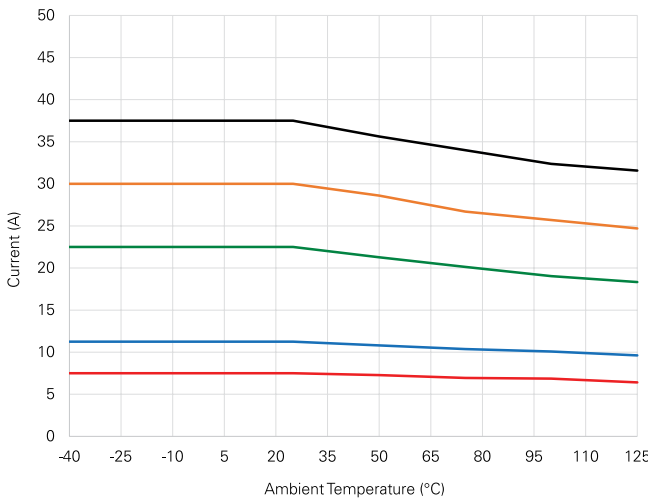
- 10 A
- 15 A
- 30 A
- 40 A
- 50 A

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

### 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
<b>10 A</b>	7.5	7.5	7.5	7.0	6.9	6.9	6.9
<b>15 A</b>	11.3	11.3	11.3	10.5	10	10	9.6
<b>20 A</b>	Under development						
<b>30 A</b>	22.5	22.5	22.5	20.6	20	18.8	18.3
<b>40 A</b>	30	30	30	27	26	25.1	24.7
<b>50 A</b>	37.5	37.5	37.5	34.8	33.4	32	31.6

- 10 A
- 15 A
- 30 A
- 40 A
- 50 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.

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