EKC25

74 mm x 22 mm x 25 mm high voltage EV fuse

Photo is representative

Product features

- 74 mm x 22 mm x 25 mm EV fuse
- Ceramic tube body
- Tin plated copper terminals
- Current rating: 63 A to 175 A
- 1000 Vdc rating
- Designed to UL248-20, ISO8820-8, GB/T31465.6, IEC60269-7
- Produced in a factory with ISO9001 and IATF16949 certification
- CE compliance

Applications

- Automotive and commercial vehicle on-board chargers (OBC)
- Battery management systems (BMS)
- On-board electric vehicle powertrain and distribution
- Power distribution unit (PDU)
- 3-phase EVSE and charging infrastructure

Environmental compliance

HALOGEN HF FREE RoHS Pb

Ordering part number

EKC25 - 175 - T

Family code
Ampere rating (175 = 175 A)
Option code

Option code

T = tag

Powering Business Worldwide

Electrical characteristics

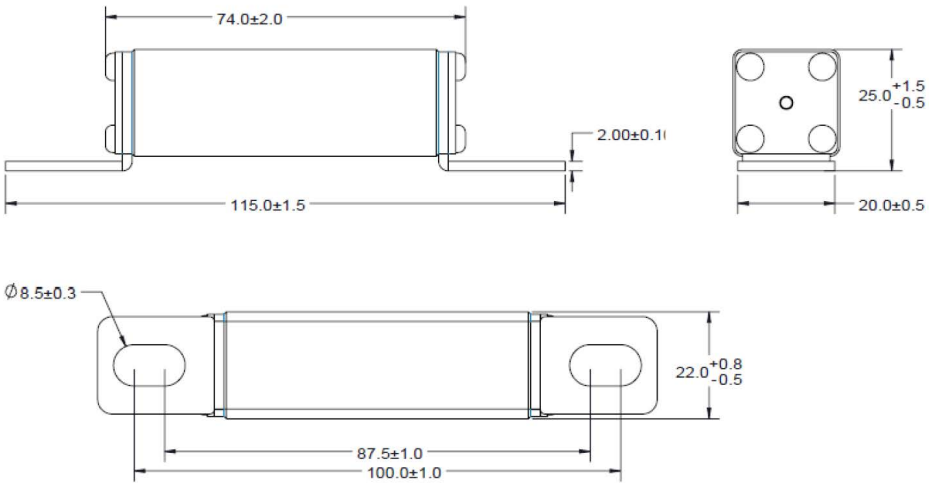
Rated current	% rated current	Opening time
63 A to 175 A	100%	4 hours, minimum

Product specifications

Part number	Rated current (A)	Rated voltage	Breaking capacity[1]	Typical cold resistance[2] (mΩ)	Typical I²t (A² second)[3]		Typical power loss (W)	
					Pre-arcing	Total @ 1000 Vdc	0.5 In	1.0 In
EKC25-63-T	63	1000 Vdc 1100 Vdc	1000 Vdc/50 kA 1100 Vdc/10 kA	2.200	930	4650	2.7	13.9
EKC25-80-T	80			1.625	1580	8100	3.2	15.8
EKC25-100-T	100			1.259	2545	12500	3.9	20.8
EKC25-125-T	125	1000 Vdc	50 kA	0.955	4520	22000	4.6	25.5
EKC25-150-T	150			0.825	6320	34500	5.5	31.5
EKC25-160-T	160			0.765	7330	39800	5.9	34.5
EKC25-175-T	175			0.650	10550	55900	6.5	34.6

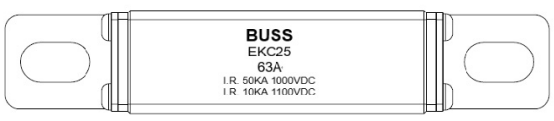
1. The minimum breaking capacity is 400% rated current under rated voltage
2. DC cold resistance is measured at <10% of rated current in ambient temperature of +25 °C; the test point is on the position of the terminal close to the body
3. Typical pre-arcing I^2t is measured at interrupting voltage and current

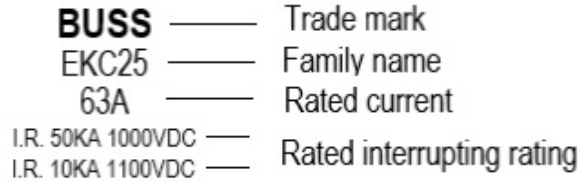
Dimensions - mm



The recommended torque for installation is 12 ± 1 Nm (M8)

Part marking





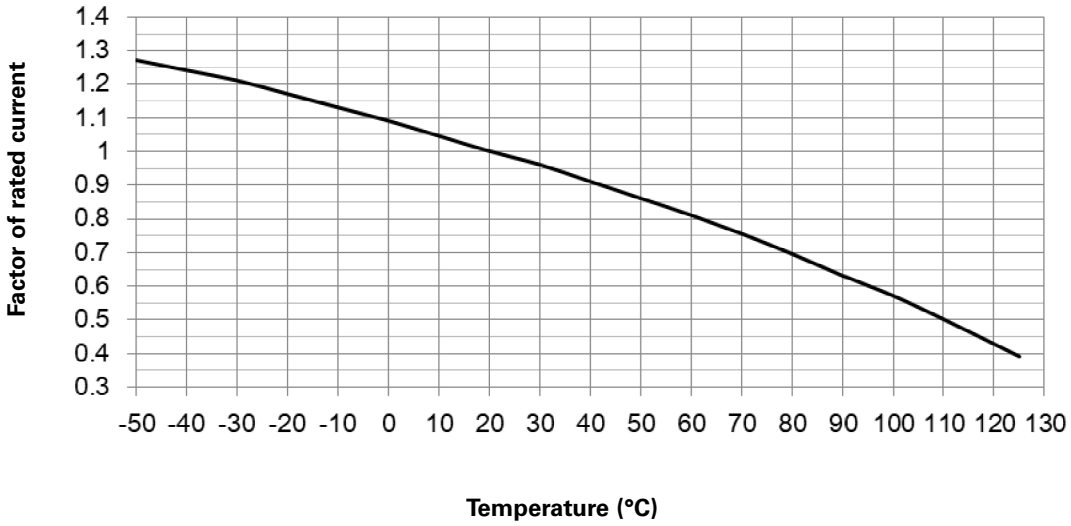
General specifications

Items	Reference standard	Condition
Operating temperature	-	-40 °C to +125 °C with proper correction factor applied
Transient current cycling	ISO 8820-8 5.3 JASO D622 6.3.2 GBT 31465.1 5.3	The transient current starts from 2.0 In for 0.25 seconds, then drops to 0.5 In and keeps this current to 15 seconds to finish one cycle; total 50000 cycles
Temperature/humidity cycling	ISO 8820-8 5.4 JASO D622 6.3.4.1 GBT 31465.1 5.4.3.1	10 cycles: a) maintain the samples at standard conditions for 4 hours b) increase temperature to +55 °C (±2 °C) at 95% to 99% RH within 0.5 hours c) maintain temperature at +55 °C (±2 °C) at 95% to 99% RH for 10 hours d) decrease temperature to -40 °C (±2 °C) within 2.5 hours; the humidity is uncontrolled e) maintain temperature at -40 °C (±2 °C) for 2 hours; the humidity is uncontrolled f) increase temperature to +120 °C (±2 °C) within 1.5 hours from -40 °C (±2 °C); the humidity is uncontrolled g) maintain temperature at +120 °C (±2 °C) for 2 hours; the humidity is uncontrolled h) allow to return to RT within 1.5 hours; the humidity is uncontrolled
Resistance against temperature shock	ISO 8820-8 5.4 GBT 31465.1 5.4.3.2	-40 to +100 °C; 40 minutes for each cycle, 48 cycles
Vibration	UL248-20 8.6.2.3	Per vibration test C: RMS 30.2 m/s^2. The test duration is 8 hours for each axis
Chemical load	ISO 8820-8 5.4 ISO 8820-1 5.4.4	Use a cotton cloth with each fluid type, to wipe 5 times with 5 N over the external portions of the fuse links
High temperature storage	JASO D622 ISO8820-8	+125 °C 100 hours
Terminal strength	ISO8820-8 5.8 JASO D622	The mounting torque 12 Nm (±1 Nm), 3 times on M8 fixture
Shelf life	-	3 years with +25 °C (±5 °C) temperature and 50% relative humidity maximum

Packaging information

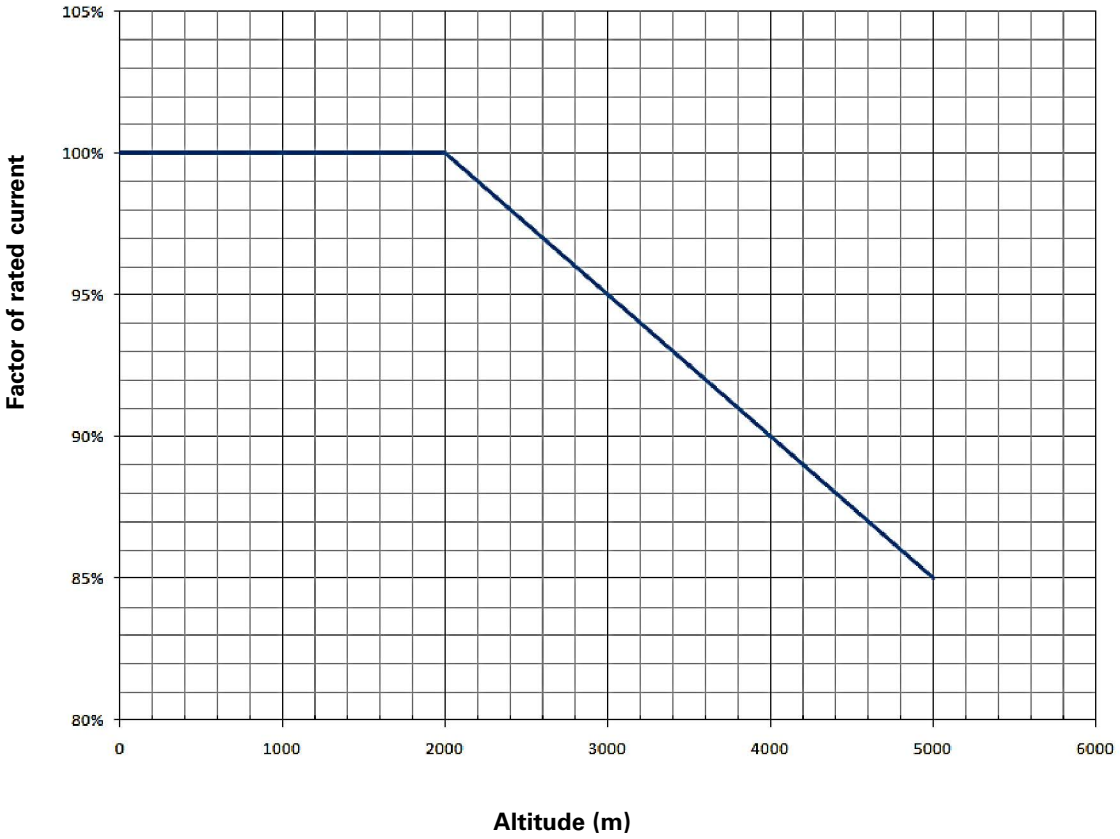
80 pieces fuse in carton

Temperate derating curve

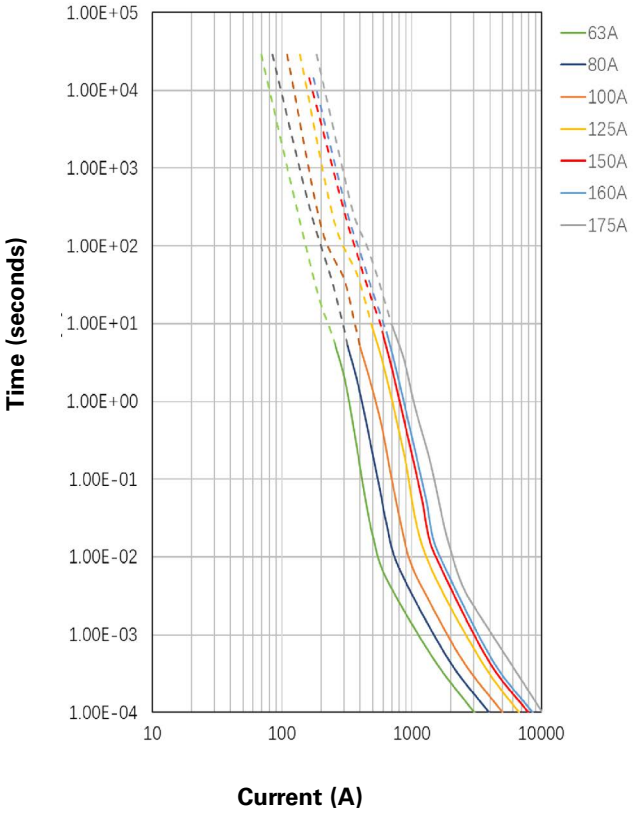


High altitude derating curve

The current load under high altitude I = In * (1- (h-2000)/100*(0.5/100)) h = altitude (meters)

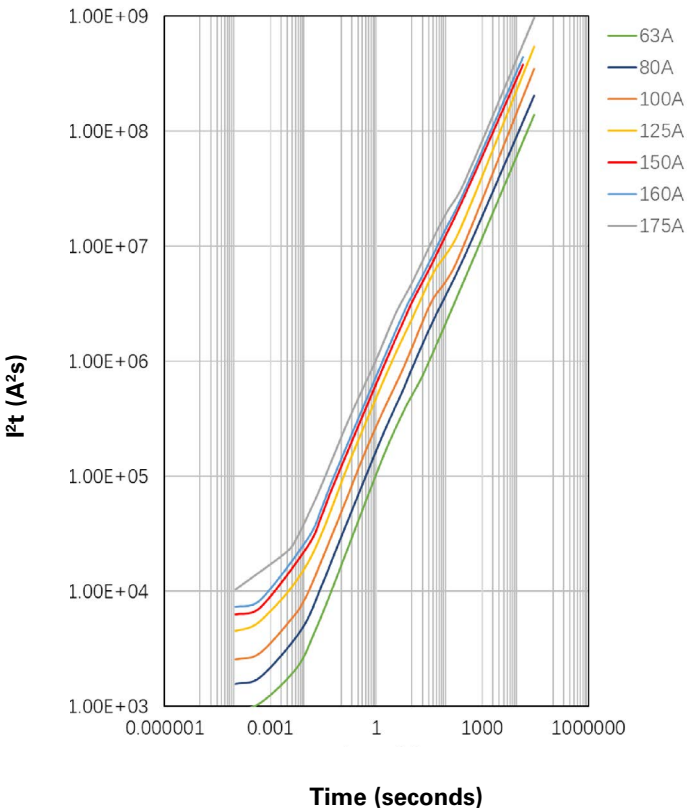


Current vs. time curve

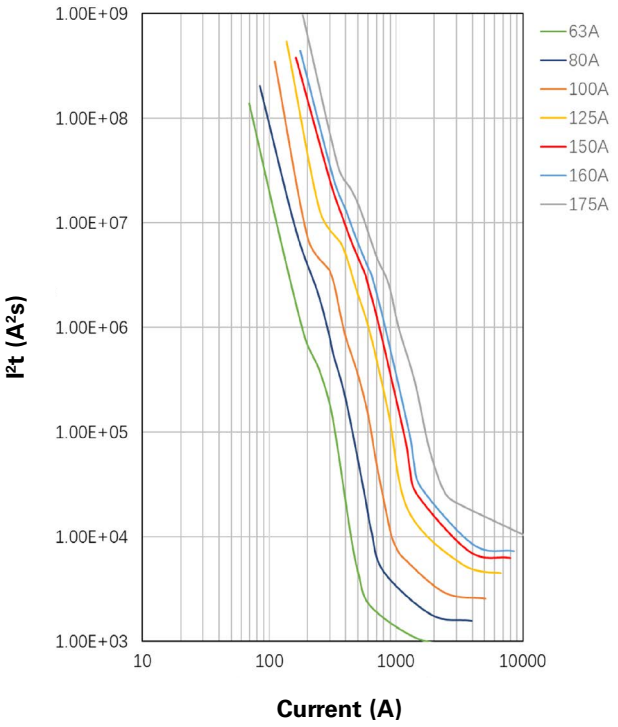


Not recommended for use in conditions requiring overloads below 400% In

I^2t vs. time curve



I²t vs. current curve



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Printed in USA
Publication No. ELX1446 BU-ELX22330
November 2024

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