

EDC10

10 x 32 mm high breaking capacity EV fuse



Product features

- 10 x 32 mm fuse
- Current rating: 30 A to 60 A
- 420/500 Vac, 500 Vdc rating
- High breaking capacity for high energy application
- Designed to JASO D622, ISO8820-8, GB/T31465
- Produced in a factory with ISO9001 & IATF16949 certification
- Minimum breaking capacity 300% I_n at rated DC voltage
- Bolt-down terminal and PCB terminal options

Applications

- Uninterruptible power supplies (UPS)
- 3-phase EVSE and charging infrastructure
- Motor protection
- Vac input protection in rectifiers
- Vac output in inverters
- Electric vehicle junction boxes and auxiliary load protection

Agency information

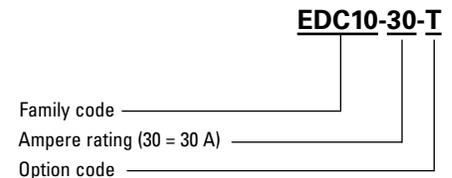
cURus Recognition file number: E91958



Environmental compliance



Ordering part number



Option code

PCB = 2 pin PCB terminal
T= Bolt down terminal

Electrical characteristics

Amps (A)	Minimum (seconds)	Maximum (seconds)
1.0 I _n	3600	-
3.5 I _n	-	10

Product specifications

Part number	Rated voltage	Rated current (A)	Breaking capacity	Typical cold resistance ¹ (mΩ)	Typical voltage drop (mV)
EDC10-30	500 Vac 420 Vac 500 Vdc	30	500 Vac/3 kA 420 Vac/10 kA 500 Vdc/10 kA	3.0	130
EDC10-40	500 Vac 420 Vac 500 Vdc	40	500 Vac/3 kA 420 Vac/10 kA 500 Vdc/10 kA	2.2	140
EDC10-50	500 Vac 420 Vac 500 Vdc	50	500 Vac/3 kA 420 Vac/10 kA 500 Vdc/10 kA	1.6	130
EDC10-60	500 Vac 420 Vac 500 Vdc	60	500 Vac/3 kA 420 Vac/6 kA 500 Vdc/10 kA	1.3	130

1. Cold resistance is measured at <10% I_n and +25 °C ambient temperature

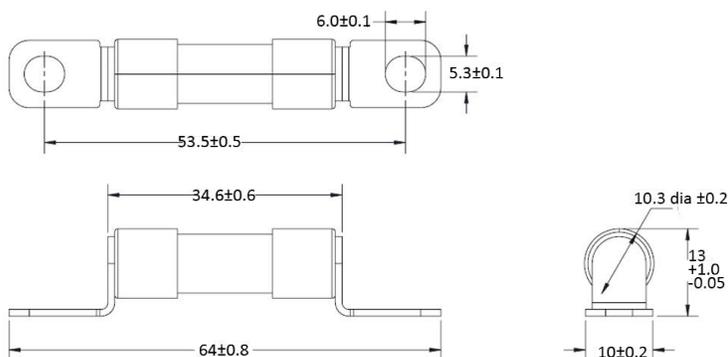
Dimensions- mm

Tolerances unless otherwise specified

One place x.x = ± 0.3 mm

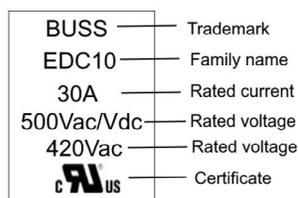
Two places x.xx = ± 0.13 mm

T: Bolt down terminal

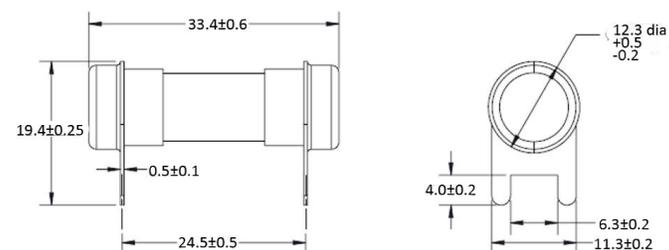


Note: recommend tightening torque is 4.5+/-1.0 Nm for M5 Screw

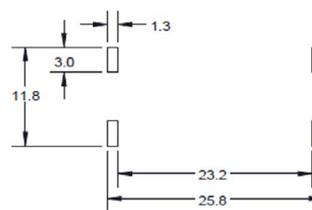
Part marking



2P: 2 pin PCB terminal



PCB layout 2P: 2 pin PCB terminal



General specifications

Operating temperature: -40 °C to +125 °C with proper derating factor applied

Strength of terminals: JASO D622 6.3.9, mounting torque 4.5 +/-1 Nm, 3 times

Temperature humidity cycling: JASO D622 6.3.4.1,

- a) maintain the samples at standard conditions for 4 hours
 - b) increase T to 55 +/-2 °C at 95% to 99% RH within 0.5 hours
 - c) maintain T at 55 +/-2 °C at 95% to 99% RH for 10 hours
 - d) decrease T to -40 +/-2 °C within 2.5 hours; the humidity is uncontrolled
 - e) maintain T at -40 +/-2 °C for 2 hours; the humidity is uncontrolled
 - f) increase T to 120 +/-2 °C within 1.5 hours from -40 +/-2 °C; the humidity is uncontrolled
 - g) maintain T at 120 +/-2 °C for 2 hours; the humidity is uncontrolled
 - h) allow to return to RT within 1.5 hours; the humidity is uncontrolled 10 cycles.
-

Thermal shock: ISO8820-8 GB/T31465.6, 48 cycles; -40 °C to 100 °C, each cycle 60 minutes

Vibration: JASO D622 6.3.3, 10-55 Hz, 3 directions, 2 hours each direction

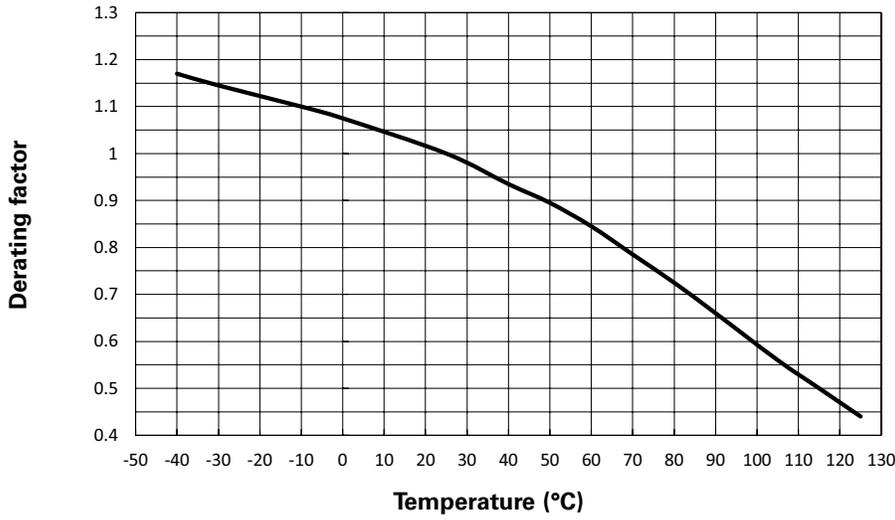
Transient current cycling: JASO D622 6.3.2 (reference), The transient current start from 2.0 In for 0.25 seconds, then drop to 0.5 In and keep this current to 15 seconds to finish one cycle, total 50000 cycles

Lubricant & fuel oil resistance: GB/T31465.1-5.4, Wipe the marking with lubricant or oil 30 seconds

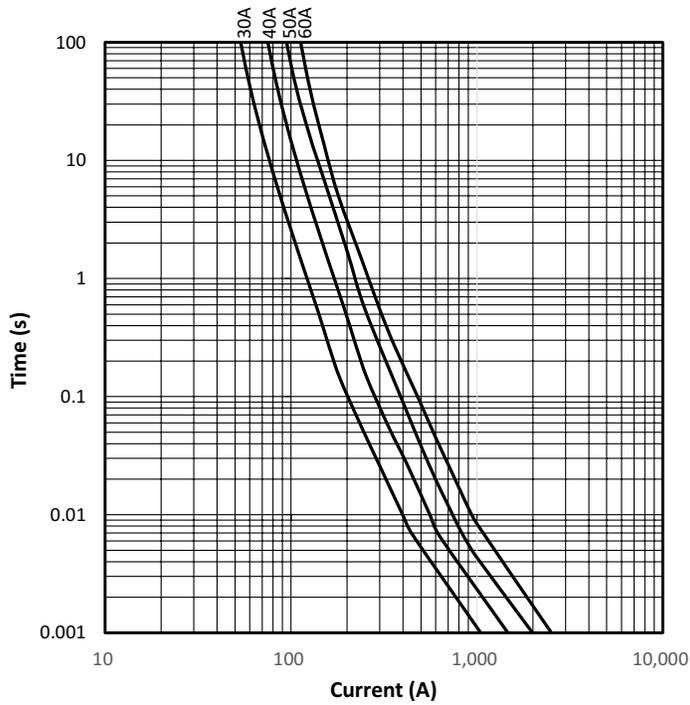
Packaging information

Terminals	Inner package	Ship package
T	20 pieces/box	480 pieces/box
PCB	45 pieces/tray	450 pieces/box

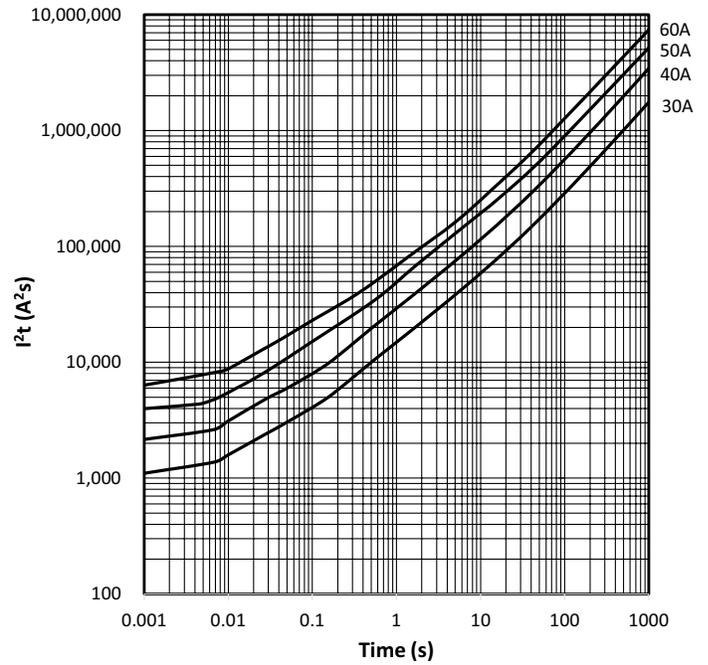
Temperature derating curve



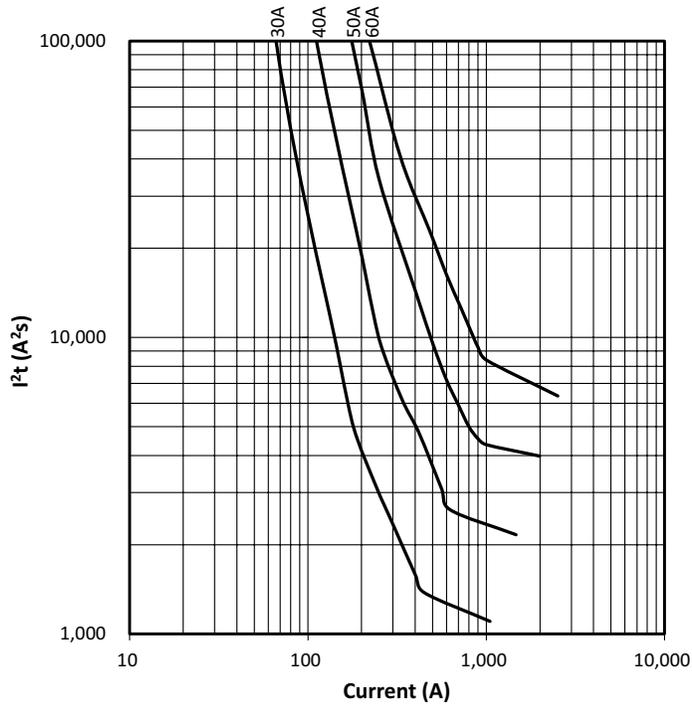
Current vs. time curve



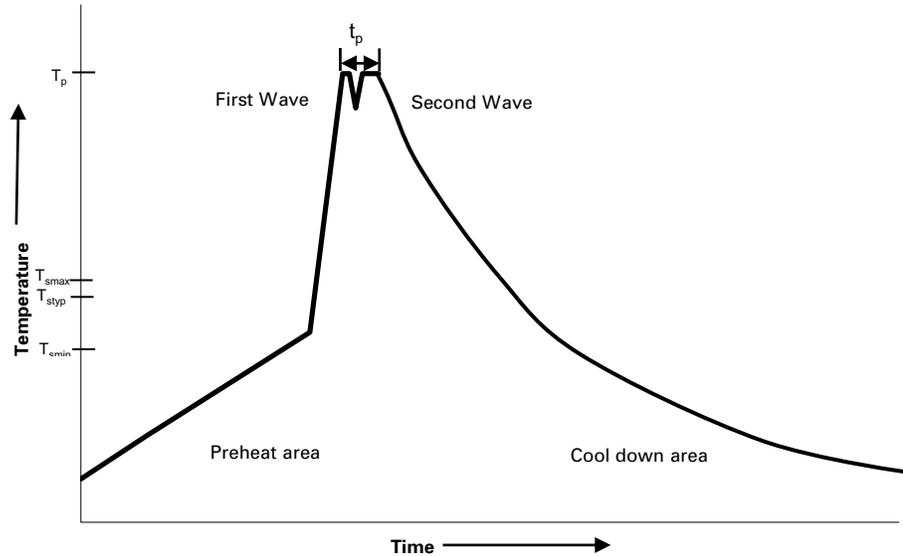
I²T vs. time curve



I²t vs. current curve



Wave solder profile--PCB version only



Reference EN 61760-1:2006

Profile feature	Standard SnPb solder	Lead (Pb) free solder
Preheat		
• Temperature min. (T_{smin})	100 °C	100 °C
• Temperature typ. (T_{styp})	120 °C	120 °C
• Temperature max. (T_{smax})	130 °C	130 °C
• Time (T_{smin} to T_{smax}) (t_s)	70 seconds	70 seconds
Δ preheat to max Temperature	150 °C max.	150 °C max.
Peak temperature (T_p)*	235 °C – 260 °C	250 °C – 260 °C
Time at peak temperature (t_p)	10 seconds max 5 seconds max each wave	10 seconds max 5 seconds max each wave
Ramp-down rate	~ 2 K/s min ~3.5 K/s typ ~5 K/s max	~ 2 K/s min ~3.5 K/s typ ~5 K/s max
Time 25 °C to 25 °C	4 minutes	4 minutes

Manual solder

+350 °C (4-5 seconds by soldering iron), generally manual/hand soldering is not recommended.

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