

EAC14

14 mm x 38 mm High breaking capacity fuse



Product features

- 14 mm x 38 mm fuse
- Current rating: 50 A to 80 A
- 420 Vac and 500 Vdc rating
- Designed to UL248-1, UL248-13, IEC/EN60269-1 and IEC/EN60269-4
- Designed to JASO D622, ISO8820-8, GB/T31465
- Produced in a factory with ISO9001 & IATF16949 certification
- Minimum breaking capacity 400% In at rated AC voltage, 300% In at rated DC voltage
- Bolt-down terminal and PCB terminal options available

Applications

- AI servers
- Data centers
- Cloud computing
- Motor protection
- Rectifiers and inverters
- Energy storage systems
- Uninterruptible power supplies (UPS)
- Automotive and commercial vehicle on-board chargers
- 3-phase EVSE and charging infrastructure
- On-board electric vehicle powertrain and distribution

Agency information

UR Recognition file number: E532712

TUV certificate number; J 50722854



Environmental compliance



Ordering part number

EAC14-50-SCT

Family code

Ampere rating (50 = 50 A)

Option code

Option code

3P = 3 pin PCB terminal

SCT = Bolt down single cap

Electrical characteristics

Amps (A)	Minimum (seconds)	Maximum (seconds)
3.0 I _n	0.1	15

Product specifications

Part number	Rated voltage	Rated current (A)	Breaking capacity	Typical cold resistance ¹ (mΩ)	Typical voltage drop ² (mV)	Typical melting ³ I ² t (A ² s)	Typical power loss @ 0.5 I _n (W)
EAC14-50	420 Vac 500 Vdc	50	420 Vac/10 kA (TUV certified) 500 Vdc/20 kA (UL certified)	1.95	170	1760	1.35
EAC14-60	420 Vac 500 Vdc	60	420 Vac/10 kA (TUV certified) 500 Vdc/20 kA (UL certified)	1.59	160	3960	1.7
EAC14-70	420 Vac 500 Vdc	70	420 Vac/10 kA (TUV certified) 500 Vdc/20 kA (UL certified)	1.25	160	5100	1.8
EAC14-80	420 Vac 500 Vdc	80	420 Vac/10 kA (TUV certified) 500 Vdc/20 kA (UL certified)	1.03	150	8020	1.9

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

2. Voltage drop measured at rated current at ambient temperature of +25 °C

3. Typical melting I²t is measured at 10 I_n

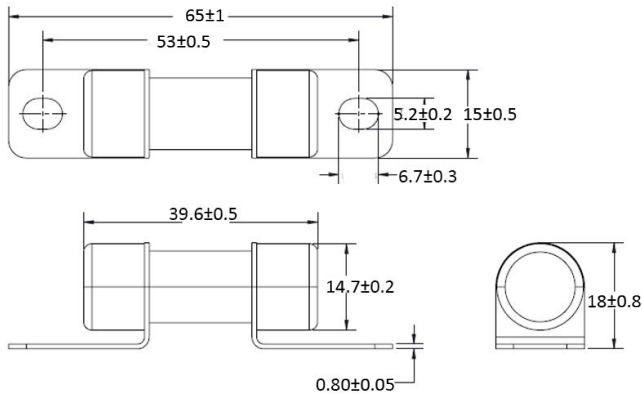
Dimensions- mm

Tolerances unless otherwise specified

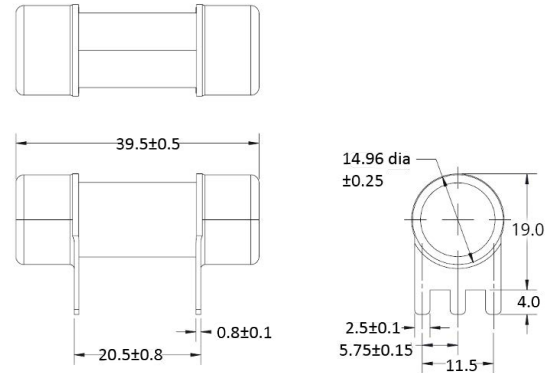
One place x.x = ± 0.3 mm

Two places x.xx = ± 0.13 mm

SCT: Bolt-down terminal single cap



3P: 3 Pin PCB terminal



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

Part marking (on body of part)

BUSS

EAC14

80A aR

420Vac

500Vdc

BUSS (Trademark)

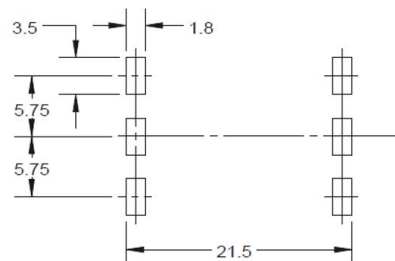
EAC14 (Family name)

50A (Rated current) aR (Utilization category)

420Vac (Rated voltage) (symbol)

500Vdc (Rated voltage) (UL logo)

PCB layout 3P: 3 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

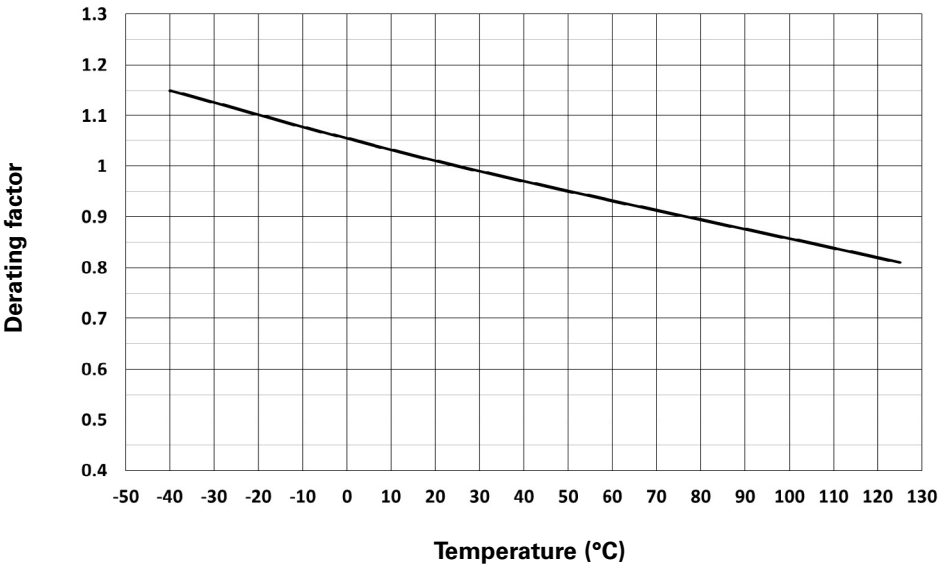
Transient current cycling: JASO D622 6.3.2 (reference), The transient current start from 2.0 In for 0.25 seconds, then drop to 0.5 In and keep this current to 15 seconds to finish one cycle, total 50000 cycles

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

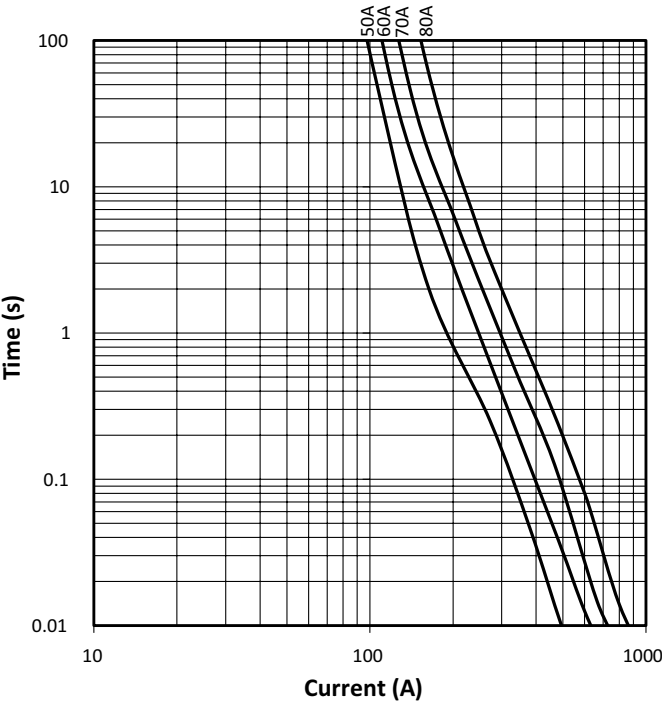
Packaging information

Terminals	Inner package	Ship package
SCT	12 pieces/box	324 pieces/box
3P	10 pieces/box	240 pieces/box

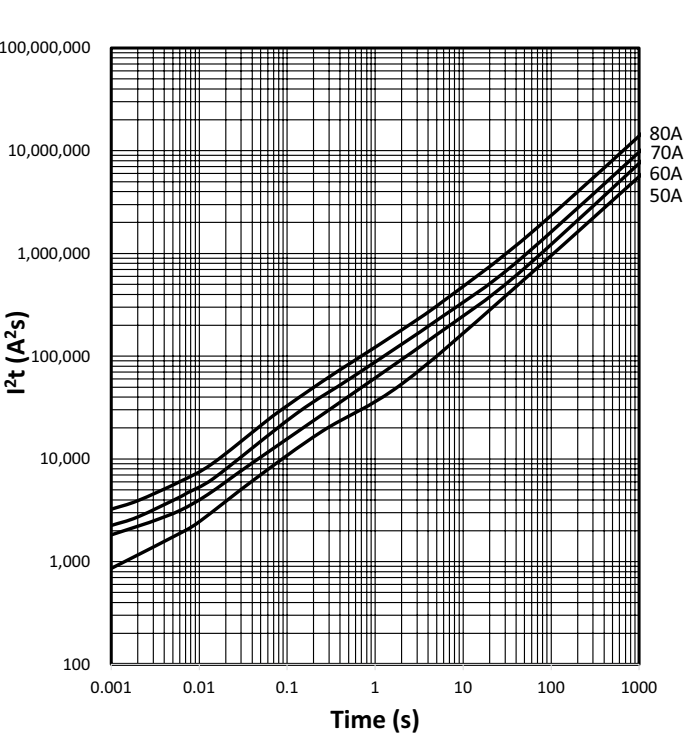
Temperature derating curve



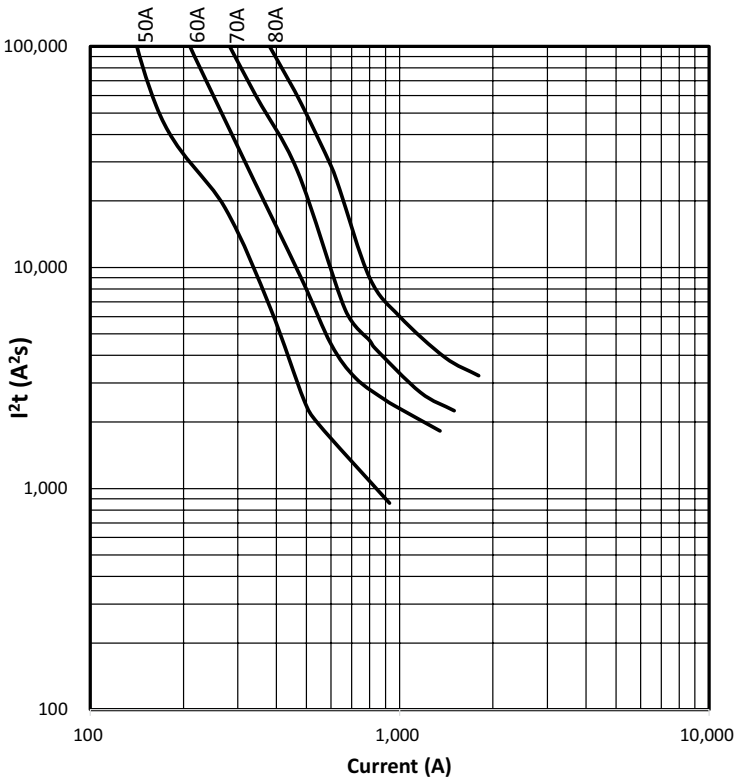
Current vs. time curve



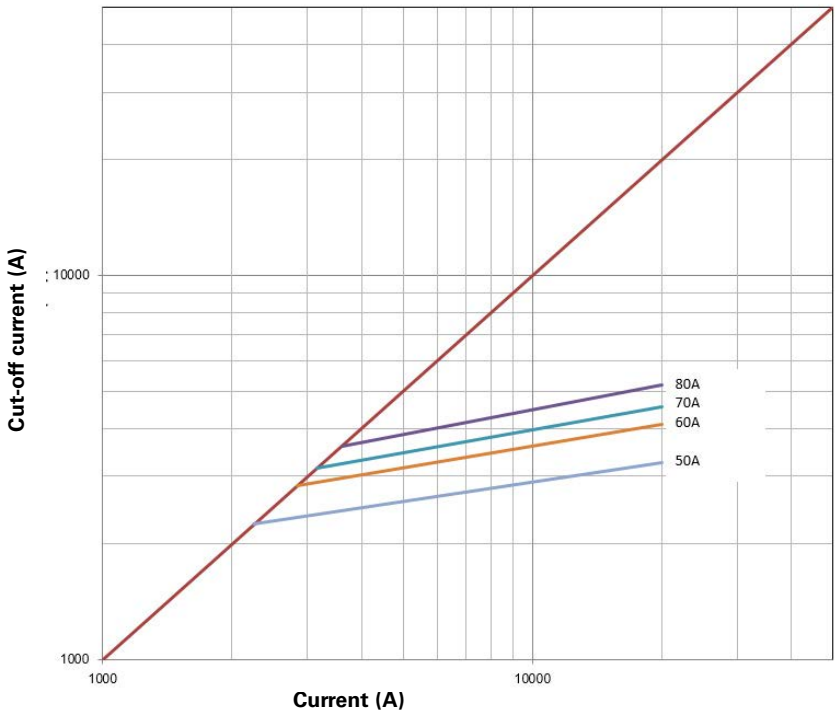
I²T vs. time curve



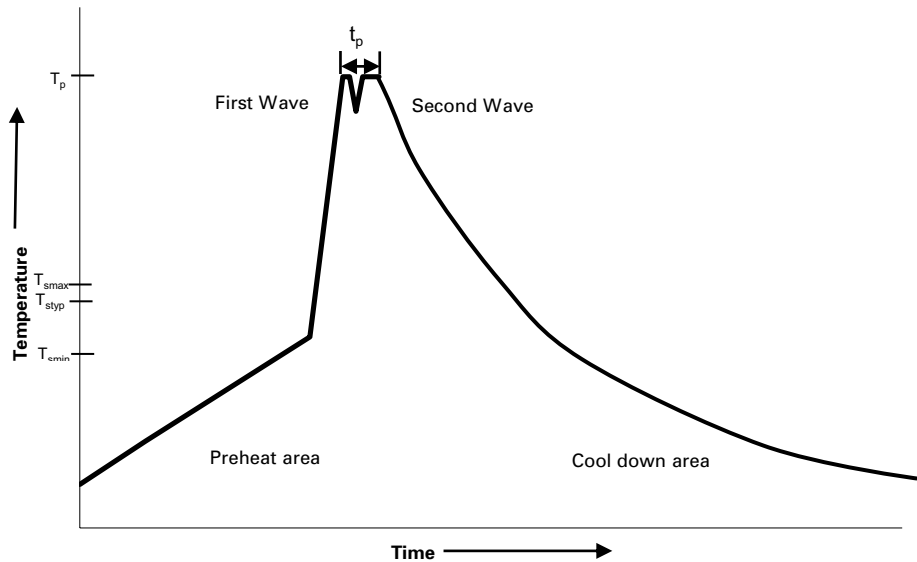
I²t vs. current curve



Cut-off 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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