BAT1

Bolt-down fuse

Photo is representative

Applications

- Power tools
- Energy storage systems (ESS)
- Battery management systems (BMS)
- Cars / Trucks / SUVs
- Offroad vehicles
- Uninterruptable power supplies (UPS)
- Battery backup units (BBU)

Product features

- Compact space saving footprint
- Ideal for high current applications
- 32 Vdc/58 Vdc voltage rating
- Color coding indicates ampere rating
- Plastic housing with bolt in terminal design
- Housing material: UL94-HB (30 A-40 A), UL94-V0 (50 A-200 A)
- Tin plated copper terminals
- Designed to UL248-1 and ISO8820-5 Type SF 30
- Recommended environmental temperature: -40 °C to +125 °C
- Fuse accessories: HBAT1-101 fuse holder

Agency information

- cURus recognized file: E56412 (30 A to 200 A)

Environmental compliance

RoHS

Ordering part number

BAT1-XXX-R

Family name (BAT1)
Rated current (A)
RoHS compliance

Packaging

100 pieces per polybag, 5 bags per inner box, 8 boxes per carton

Carton size - 406 mm x 318 mm x 191 mm.

Powering Business Worldwide

Electrical characteristics

Amp rating	0.75 In	1.0 In	1.1 In	1.5 In	2.0 In	3.0 In	3.5 In	5.0 In	6.0 In
30 to 125	-	360,000 minimum	14,400 minimum	90 to 3600	3 to 100	0.3 to 3	-	0.1 to 1	-
150 to 200	360,000 minimum	-	-	-	1 to 15	-	0.3 to 5	-	0.1 to 1

Note: -mean not specified.

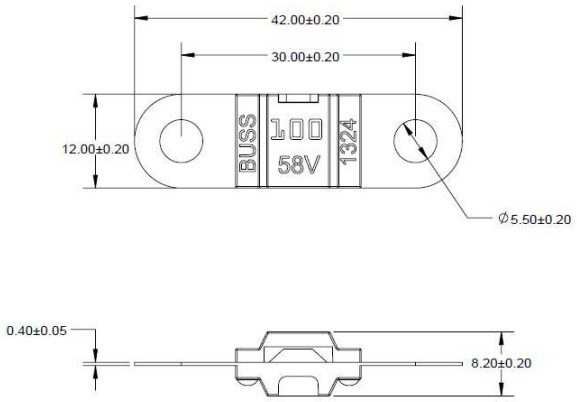
Product specifications

Part number	Rated voltage	Rated current (A)	Breaking capacity[a]	Typical cold resistance[b] (mOhms)	Voltage drop[c] (mV)	Typical pre-melting[d] I^2t (A^2sec)
BAT1-30-R	32 Vdc / 58 Vdc	30	2 kA @ 32 Vdc 1 kA @ 58 Vdc	2.30	105	5580
BAT1-40-R	32 Vdc / 58 Vdc	40	2 kA @ 32 Vdc 1 kA @ 58 Vdc	1.45	90	9440
BAT1-50-R	32 Vdc / 58 Vdc	50	2 kA @ 32 Vdc 1 kA @ 58 Vdc	1.40	80	13750
BAT1-60-R	32 Vdc / 58 Vdc	60	2 kA @ 32 Vdc 1 kA @ 58 Vdc	1.10	80	18000
BAT1-70-R	32 Vdc / 58 Vdc	70	2 kA @ 32 Vdc 1 kA @ 58 Vdc	0.95	80	23520
BAT1-80-R	32 Vdc / 58 Vdc	80	2 kA @ 32 Vdc 1 kA @ 58 Vdc	0.85	75	29440
BAT1-100-R	32 Vdc / 58 Vdc	100	2 kA @ 32 Vdc 1 kA @ 58 Vdc	0.50	75	43000
BAT1-125-R	32 Vdc / 58 Vdc	125	2 kA @ 32 Vdc 1 kA @ 58 Vdc	0.45	75	64063
BAT1-150-R	32 Vdc / 58 Vdc	150	2 kA @ 32 Vdc 1 kA @ 58 Vdc	0.38	70	83250
BAT1-175-R	32 Vdc / 58 Vdc	175	2 kA @ 32 Vdc 1 kA @ 58 Vdc	0.33	70	101063
BAT1-200-R	32 Vdc / 58 Vdc	200	2 kA @ 32 Vdc 1 kA @ 58 Vdc	0.30	70	128000

a. UL certified
b. Cold resistance is measured at <10% rated current at an ambient temperature of +25 °C
c. Voltage drop measured at rated current and an ambient temperature of +25 °C
d. Typical melting I^2t is measured at 10 In

Dimensions- mm

Drawing not to scale



Bolt down terminal installation

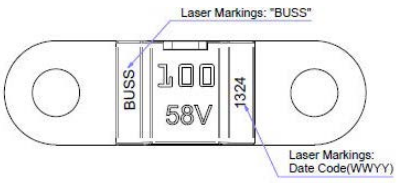
Recommended tightening torque:
4.5 Nm ±1.0 Nm for M5 threaded stud and hex nuts

Recommend cable size:
As below, test fixture follow ISO8820-5

BAT1 fuse test cable sizes

Current rating (A)	Conductor cross sectional area (mm^2)
30	2.5
40	4
50	6
60	
70	10
80	
100	16
125	25
150	
175	
200	
Test cable length:	500 ±50 mm

Marking detail



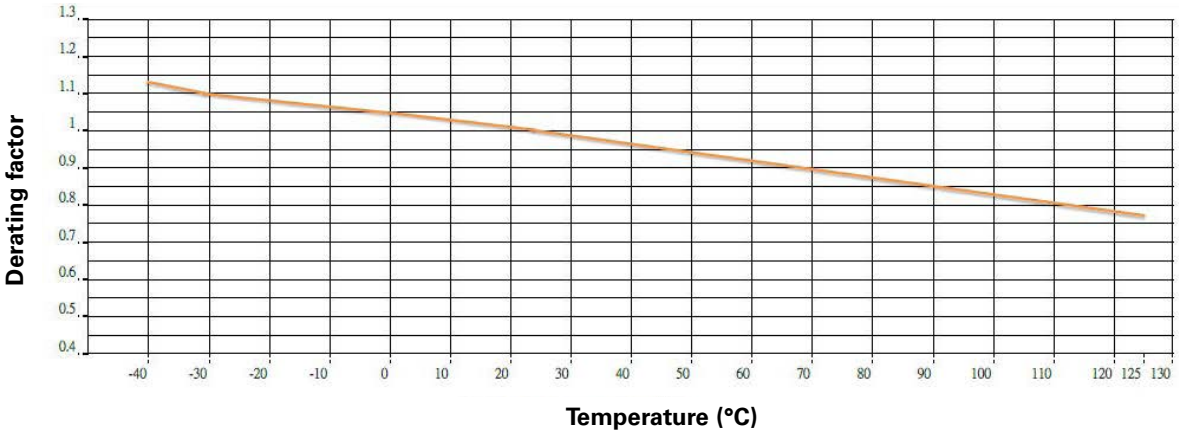
Part number	Marking on left	Marking on middle	Middle color code	Marking on right*
BAT1-30-R	BUSS	30 58V	Orange	Date code (WWYY)
BAT1-40-R	BUSS	40 58V	Green	Date code (WWYY)
BAT1-50-R	BUSS	50 58V	Red	Date code (WWYY)
BAT1-60-R	BUSS	60 58V	Yellow	Date code (WWYY)
BAT1-70-R	BUSS	70 58V	Brown	Date code (WWYY)
BAT1-80-R	BUSS	80 58V	White	Date code (WWYY)
BAT1-100-R	BUSS	100 58V	Blue	Date code (WWYY)
BAT1-125-R	BUSS	125 58V	Pink	Date code (WWYY)
BAT1-150-R	BUSS	150 58V	Gray	Date code (WWYY)
BAT1-175-R	BUSS	175 58V	Tan	Date code (WWYY)
BAT1-200-R	BUSS	200 58V	Violet	Date code (WWYY)

* Date code (WWYY) WW= week, YY= last two digits of year

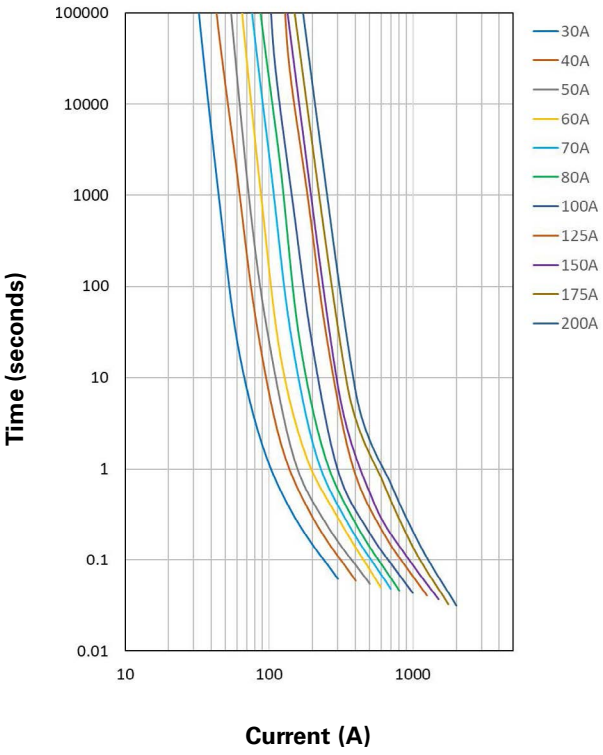
General specifications

Item	Standard/Specification	Conditions
Operating temperature		-40 °C to +125 °C with proper derating
Strength of terminals	ISO 8820-5 5.8	4.5 ±1.0 Nm
Mechanical load	ISO 8820-5 5.4.2	Free fall, drop 6 directions from 1 meter height
Climatic loads	ISO 8820-5 5.4.3	10 temperature / humidity cycles as Figure 2 defined, 48 temperature shock cycles as Figure 3 defined
Chemical loads	ISO 8820-5 5.4.4	Use a cotton cloth with a moistened area of diesel fuel, wipe five times with a force of 5 N over the external portions of the fuse-links
Transient current cycling	ISO 8820-5 5.3	5000 cycles pulse as Figure 1 defined
Current steps	ISO 8820-5 5.6	Increase current in steps of 2.5% of the fuse-link current rating
Storage shelf life		Minimum shelf life is three (3) years from date code manufactured provided product is maintained in its original packaging and stored in a controlled environment under the conditions of < +40 °C / 90% relative humidity.

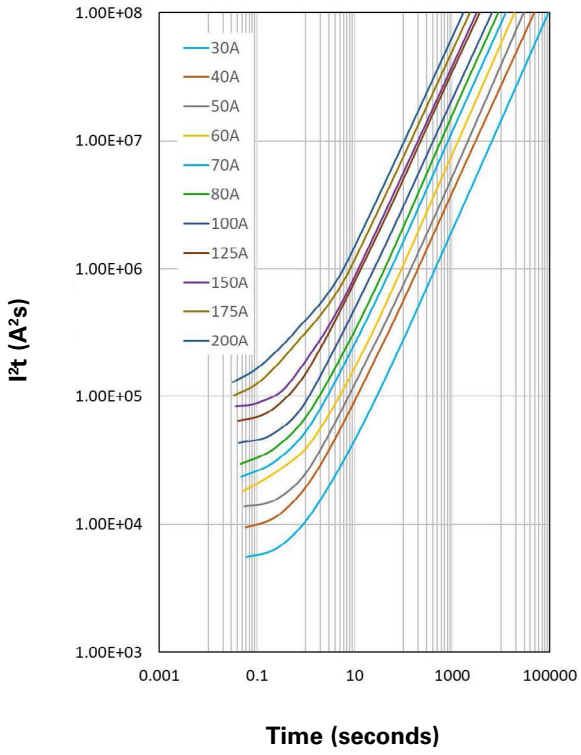
Temperature derating curve



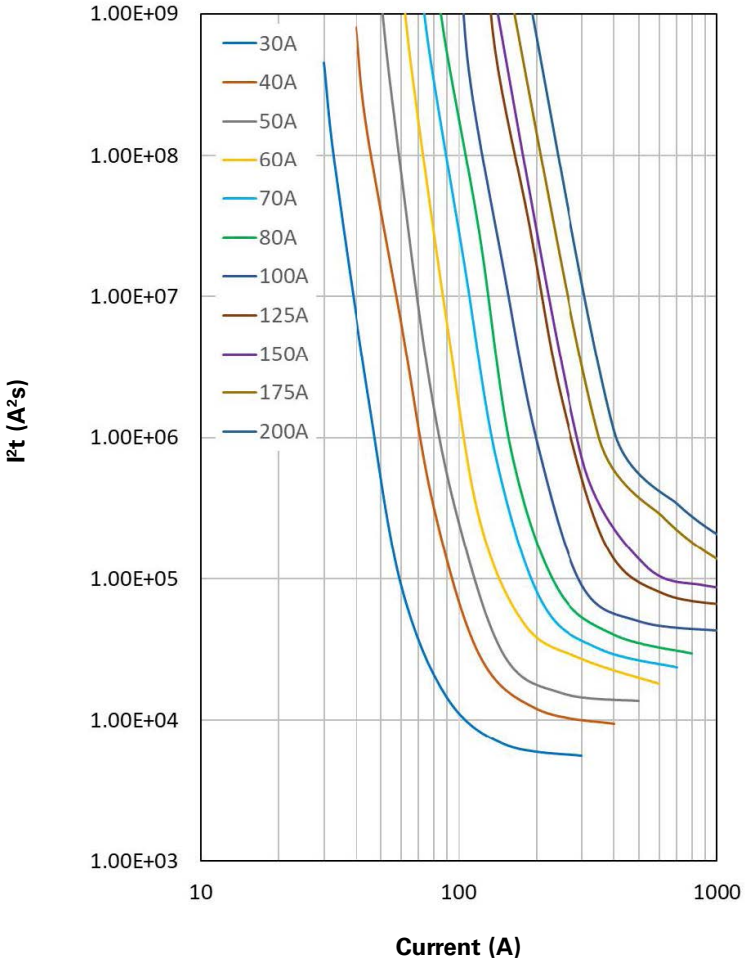
Current vs. time curve



I²T vs. time curve



I²t vs. current curve



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