Alloy Current Shunt

Customer oriented

FEATURES

· Advance alloy technology from ISABELLENHÜETTE
· Long term stability
· Low temperature coefficient
· Pules loading capability up to 1000W
· Maximum power loading up to 36W
· Customer oriented sensing terminal available upon request
· Resistance range from 5μΩ to 500μΩ
· Customer oriented products available upon request

APPLICATIONS

· RV battery monitor and battery chargers
· Marine battery monitor and battery chargers
· Golf cart batteries and chargers
· Digital panel meter Ammeter
· Wheelchair batteries and chargers
· Solar Power batteries and chargers
· Wind Power generators, batteries and chargers
· Electroplating and metal plating Amp Hour measurement
· Ham Radio & Amateur Radio base station equipment
. Battery monitoring and chargers
· Electric bike batteries and chargers
· Power supply with high reliability

1. Product: High Power Alloy Current Shunt

2. Part number:

RCS	8420	36	T	J	2	E	L100
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)

(1) Series type: RCS (Resistors of High Power Alloy Current Shunt)

(2) Size: 8420

(3) Power rating: 36 = 36W; I_{max} = 600A

(4) Sensing terminal type: A; B; C; as showing in dimension figures. Customer oriented sensing terminal available upon request

(5) Resistance Tolerance: F(±1%); G(±2%); J(±5%)

(6) Temperature coefficient: 1= ±75ppm/℃; 2= ±50ppm/℃

(7) Packaging Material: E = Emboss

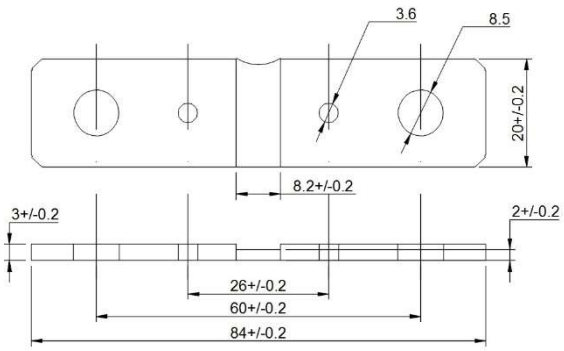
(8) Resistance Code: L100 = 100 $\mu\Omega$

Unless otherwise specified, all values are tested at the following condition:

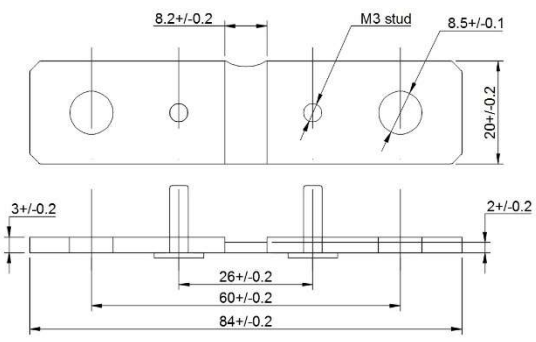
Temperature: 21℃ to 25℃ and Relative humidity: 45% to 70% via four pint probes testing system.

3. Dimensions

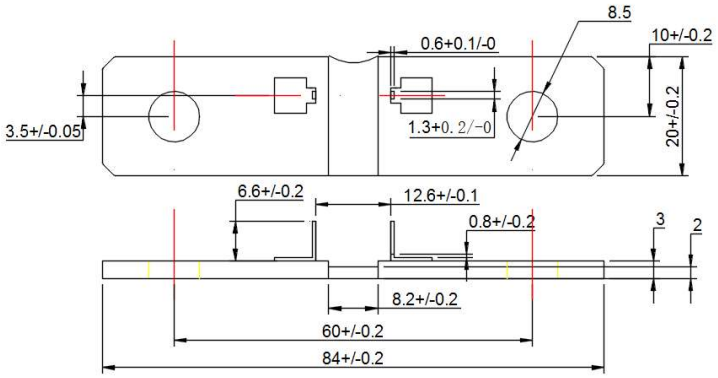
TYPE A



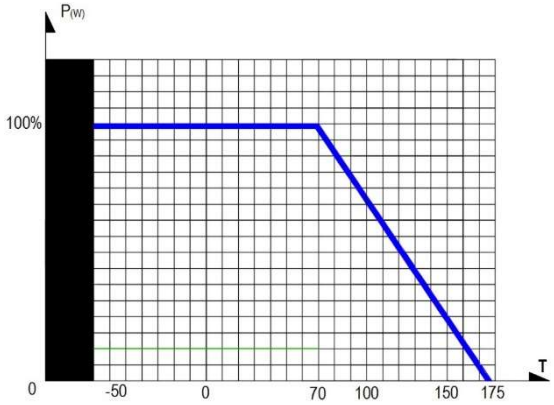
TYPE B



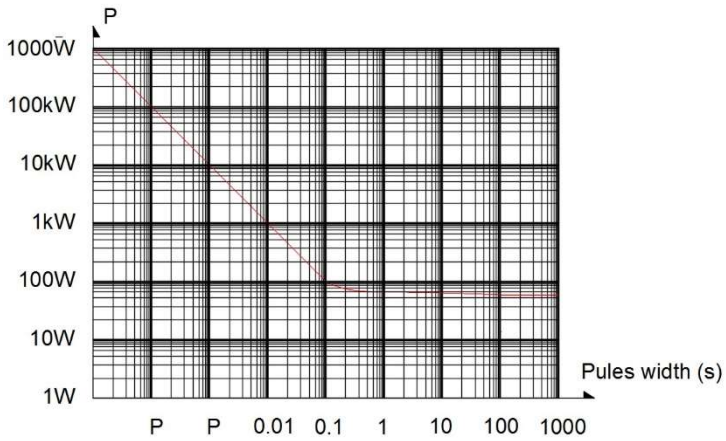
TYPE C



4. Derating Curve



5. High pulse load performance



6. Environmental Characteristics

(1) Insulation Resistance

IEC 60115-1, 4.6: in V-block for 60 seconds, the test resistance should be high than 10,000 M Ohm.

(2) Temperature Coefficient Test

IEC 60115-1, 4.8: Test of resistors at room temperature and 60°C or 100°C on request above room temperature. Then measure the resistance. The Temperature Coefficient is calculated by the following equation and its value should be within the range requested.

$$\textbf{Resistor Temperature Coefficient} = \frac{R - R_0}{R_0} \times \frac{1}{t - t_0} \times 10^6$$

R = Resistance value under the testing temperature

R_0 = Resistance value at the room temperature

t = the 2nd testing temperature

t_0 = Room temperature

(3) Short Time Over Load Test

IEC60115-1 4.13: At 10 times rated voltage or 2 times the maximum working voltage whichever is lower for 5 seconds, the resistor should be free from defects. The change of the resistance value should be within ±(0.50%+0.0005 Ω) as compared with the value before the test.

(4) Solderability

IEC 60115-1, 4.17: 235±5°C for 3±0.5 Seconds, there are at least 95% solder coverage on the termination.

(5) Resistance to soldering heat:

IEC 60115-1, 4.18: 260±3°C for 10±1 Seconds, immersed to a point 3±0.5mm from the body. The change of the resistance value should be within ±(0.15%+0.0005Ω) as compared with the value before the test.

(6) Climatic sequence

IEC 60115-1, 4.19: -55°C to Room Temp. to +155°C to Room Temp. (5 cycles). The change of the resistance value shall be within ±(0.50%+0.0005Ω) as compared with the value before the test.

(7) Damp Heat Steady State

IEC 60115-1, 4.24: 40±2°C, 90-95% RH for 56 days, loaded with 0.1 times RCWV or the maximum working voltage whichever is lower. The change of the resistance value should be within ±(0.50%+0.0005Ω) as compared with the value before the test.

(8) Load Life Test

IEC 60115-1, 4.25: 70±2°C at RCWV or the maximum working voltage whichever is lower for 1,000+48/-0 Hr. (1.5Hr. on, 0.5Hr. off). The resistors shall be arranged not much effected mutually by the temperature of others and the excessive ventilation shall not be performed. The change of the resistance value should be within ±(0.50%+0.0005Ω) as compared with the value before the test.

(9) Accidental Overload Test

IEC 60115-1, 4.26: 4 times RCWV for 1 Minute. No evidence of flaming or arcing

(10) Perodical-pulse high-voltage overload test

IEC 60115-1, 4.27: Apply 4 times rated voltage or 2 times the maximum working voltage whichever is lower to the resistor at the 0.1 second on and 2.5 seconds off cycle for 1000 cycles. The change of the resistance shall be within ± (0.5%+0.0005Ω).

7. ECN

Engineering Change Notice：The customer will be informed with ECN if there is significant modification on the characteristics and materials described in Approval Sheet.