



**THE DATASHEET OF  
ERB-SE1R50U**



To Digi Key

Micro Chip Fuse  
ERBSE type

Reliability test Data

Panasonic Electronic Devices Co., Ltd  
Circuit Components Business Unit

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# Panasonic

## 1. Resistance to Soldering Heat

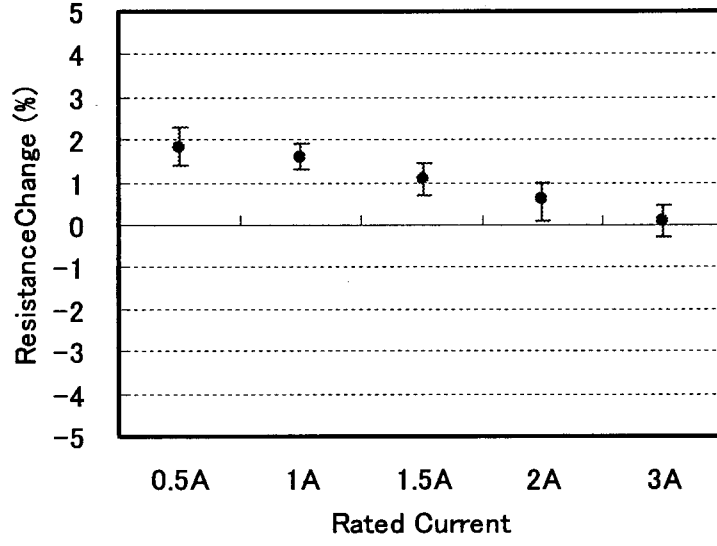
Method: Reflow peak temperature: 260 deg.C, time: 10s

Criteria and Result: Resistance change  $\pm 10\%$ ,

100% of rated current at 25 deg.C : No open for 4 hours minimum

200% of rated current at 25 deg.C. : Open within 5 seconds maximum

n=12



## 2. Temperature Cycle

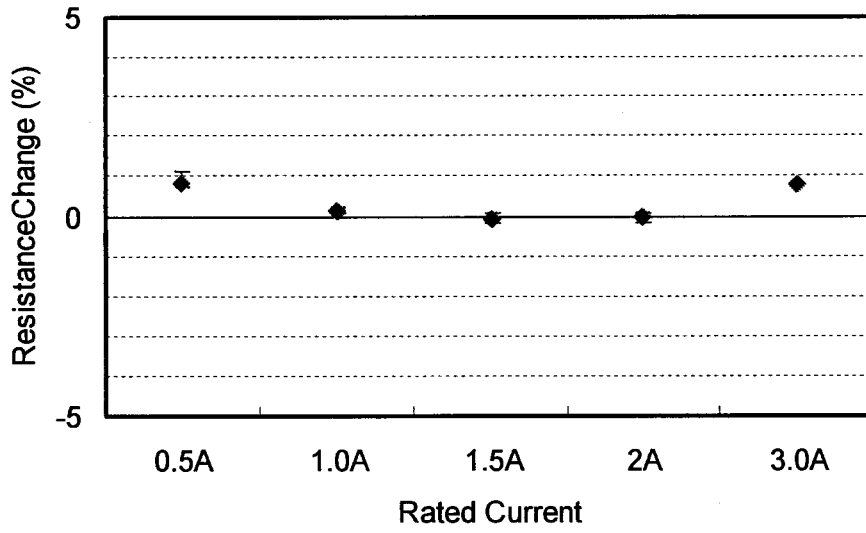
Method: -40 to +100 deg.C (each 30 minutes), 5 cycles

Criteria and Result: Resistance change  $\pm 10\%$ ,

100% of rated current at 25 deg.C : No open for 4 hours minimum

200% of rated current at 25 deg.C. : Open within 5 seconds maximum

n=24



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## 3. Vibration

Method: Testing frequency: 10 to 55 to 10 Hz (sweep time 1 minutes),

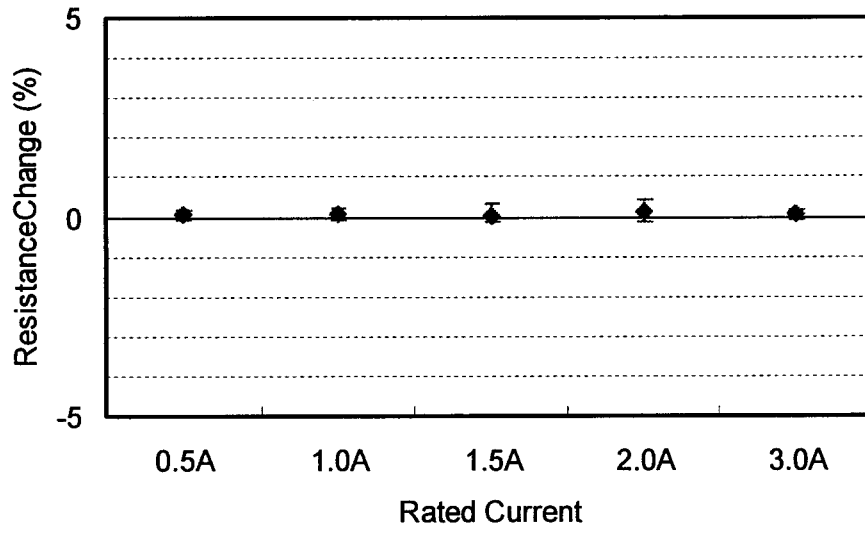
All the amplitude: 1.5 mm, 3(X,Y,Z) directions each 2 hours.

Criteria and Result: Resistance change  $< \pm 10\%$ ,

100% of rated current at 25 deg.C : No open for 4 hours minimum

200% of rated current at 25 deg.C. : Open within 5 seconds maximum

n=24



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**4. Endurance (Under Load and Heat)**

Method: Temp.: 70 +/-2 deg.C ,

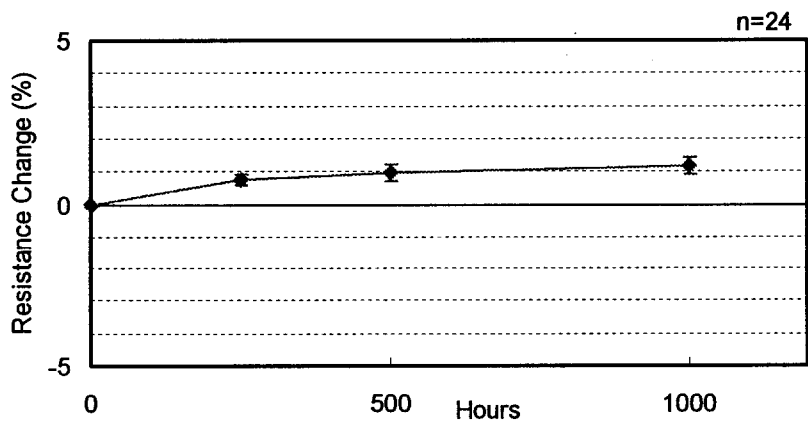
Load: 70% rated current/1.5 hours ON and 0.5 hours OFF/1000 hours.

Criteria and Result: Resistance change <+/-10%,

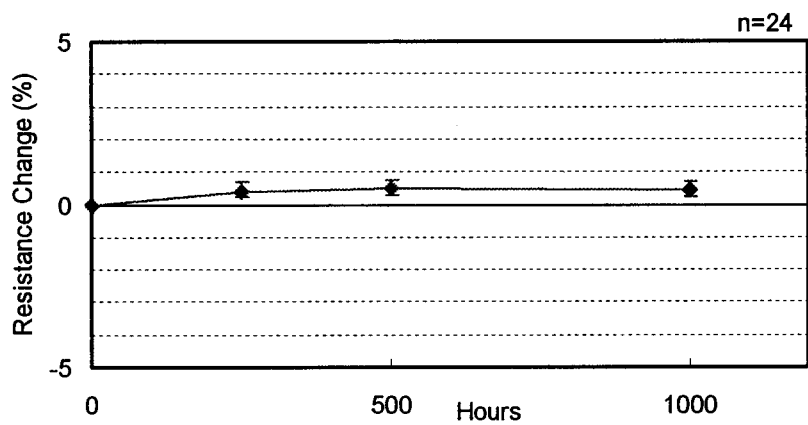
100% of rated current at 25 deg.C : No open for 4 hours minimum

200% of rated current at 25 deg.C. : Open within 5 seconds maximum

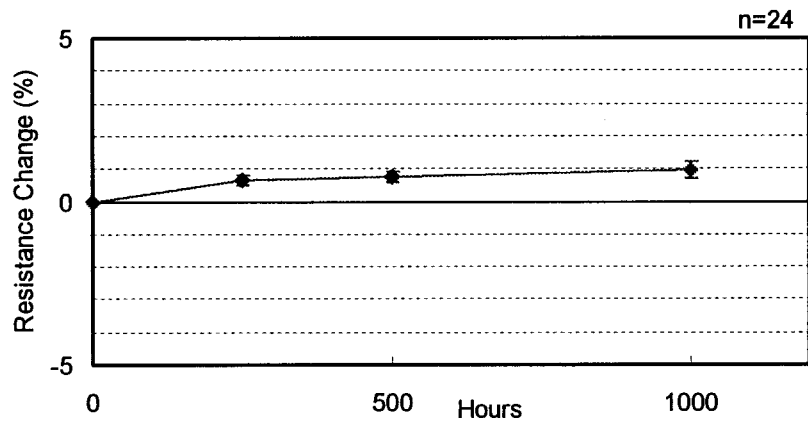
ERBSE0R50



ERBSE1R50



ERBSE3R00



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**5. Endurance (Under Load and Damp)**

Method: Temp. and Humidity: 60 +/-2 deg.C and 90 to 95% RH,

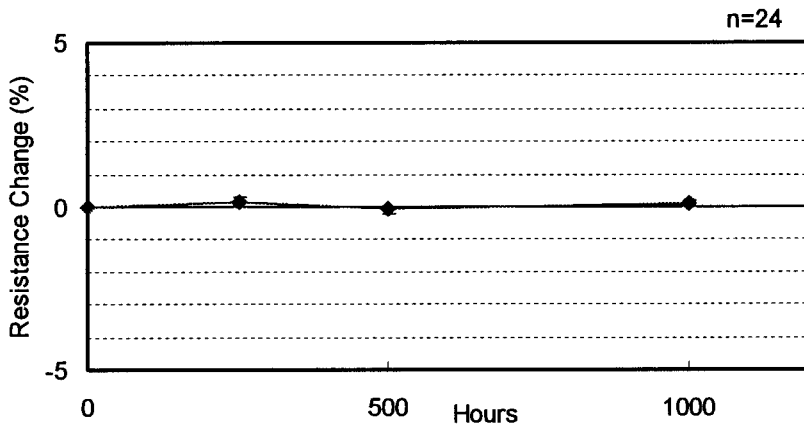
Load: 70% rated current/1.5 hours ON and 0.5 hours OFF/1000 hours.

Criteria and Result: Resistance change <+/-10%,

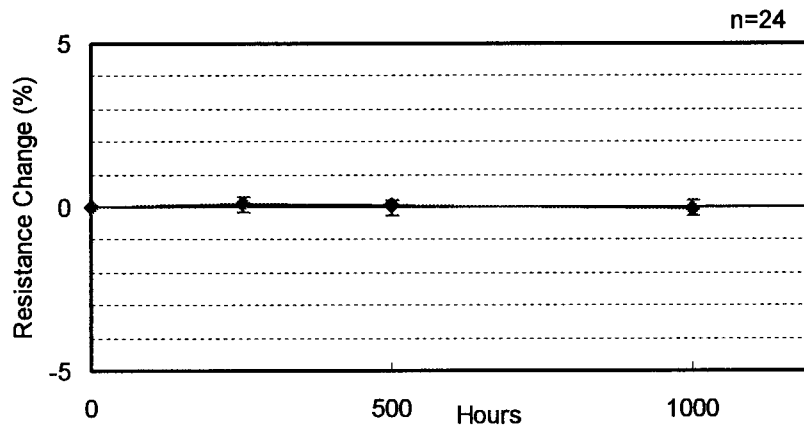
100% of rated current at 25 deg.C : No open for 4 hours minimum

200% of rated current at 25 deg.C. : Open within 5 seconds maximum

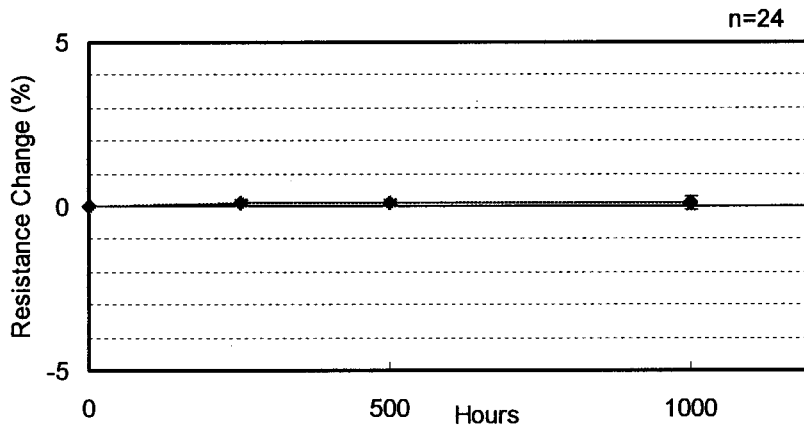
ERBSE0R50



ERBSE1R50



ERBSE3R00



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## 6. Resistance to Damp

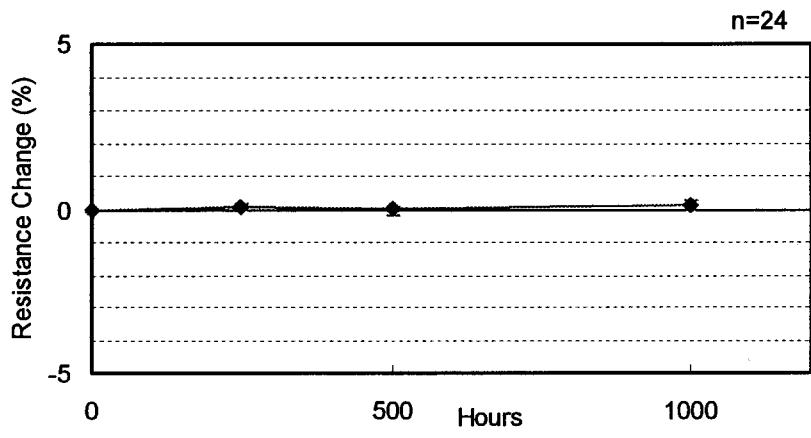
Method: Temp. and Humidity: 60 +/-2 deg.C and 90 to 95% RH/1000 hours (no load).

Criteria and Result: Resistance change <+/-10%,

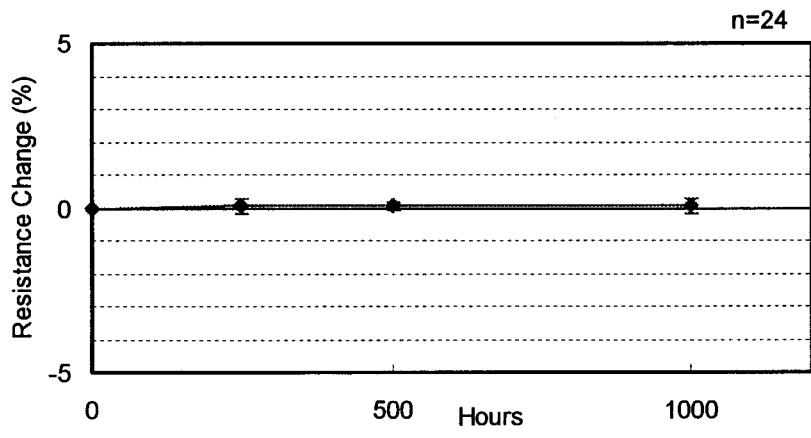
100% of rated current at 25 deg.C : No open for 4 hours minimum

200% of rated current at 25 deg.C : Open within 5 seconds maximum

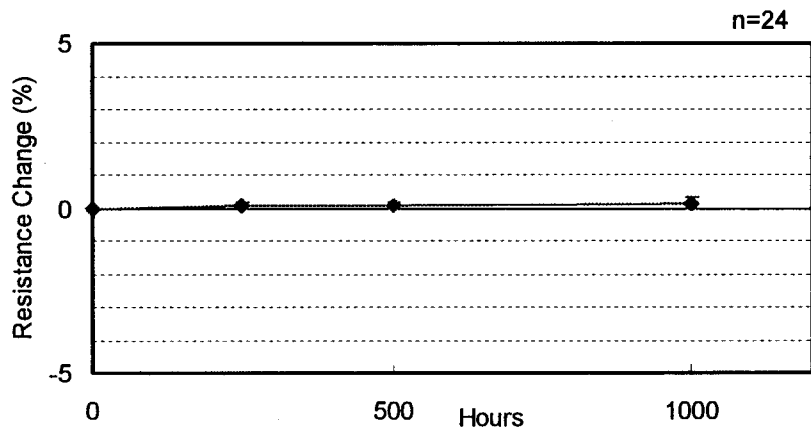
ERBSE0R50



ERBSE1R50



ERBSE3R00



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7. Resistance to Solvent

Method: Appearance after dipping into 2-propanol(IPA)/10 minutes.

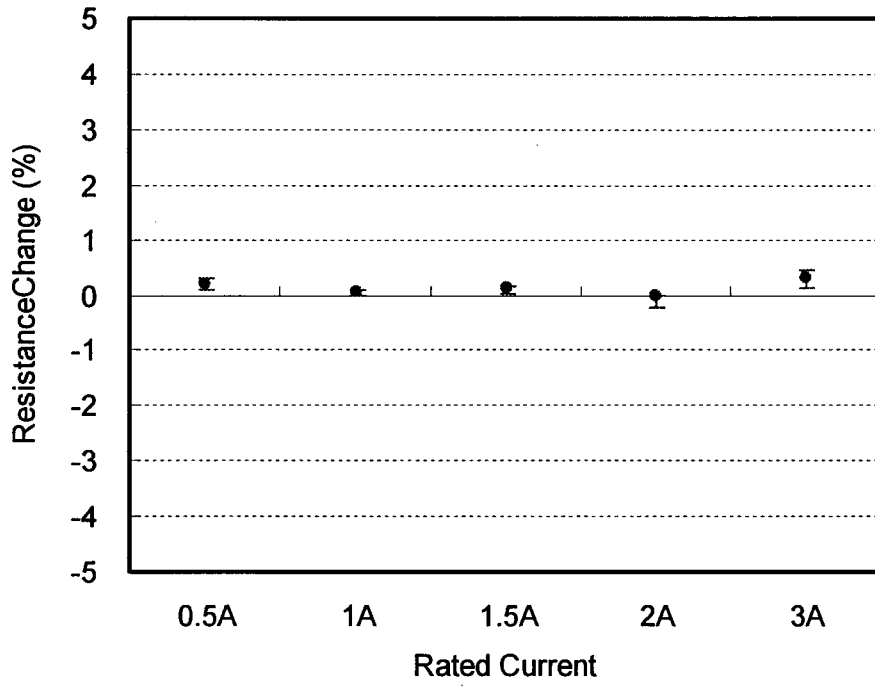
Criteria and Result:

No abnormality on appearance, Resistance change <+/-10%,

100% of rated current at 25 deg.C : No open for 4 hours minimum

200% of rated current at 25 deg.C. : Open within 5 seconds maximum

n=12



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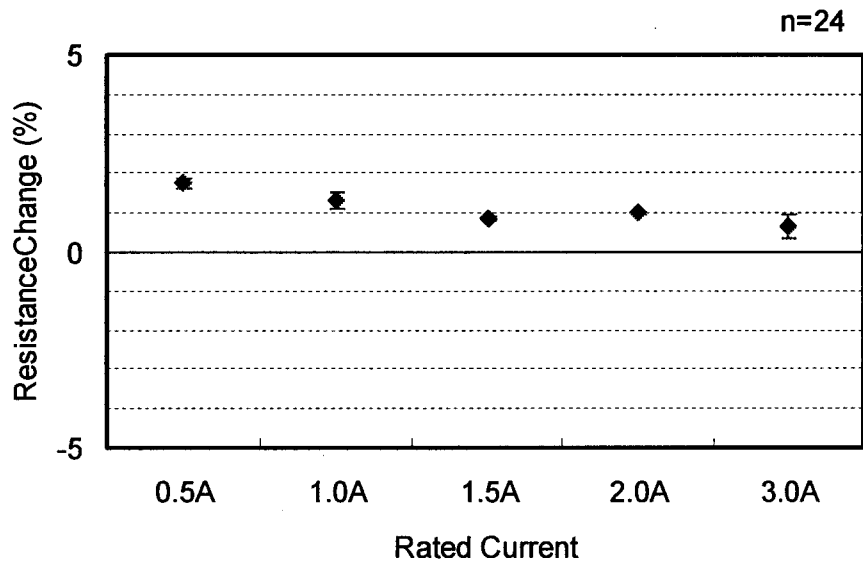
## 8. Resistance to Heat

Method: Temp.: +100 +/-2 deg.C ,

Criteria and Result: Resistance change <+/-10%,

100% of rated current at 25 deg.C : No open for 4 hours minimum

200% of rated current at 25 deg.C. : Open within 5 seconds maximum



## 9. Resistance to Cold

Method: Temp.: -40 +/-2 deg.C ,

Criteria and Result: Resistance change <+/-10%,

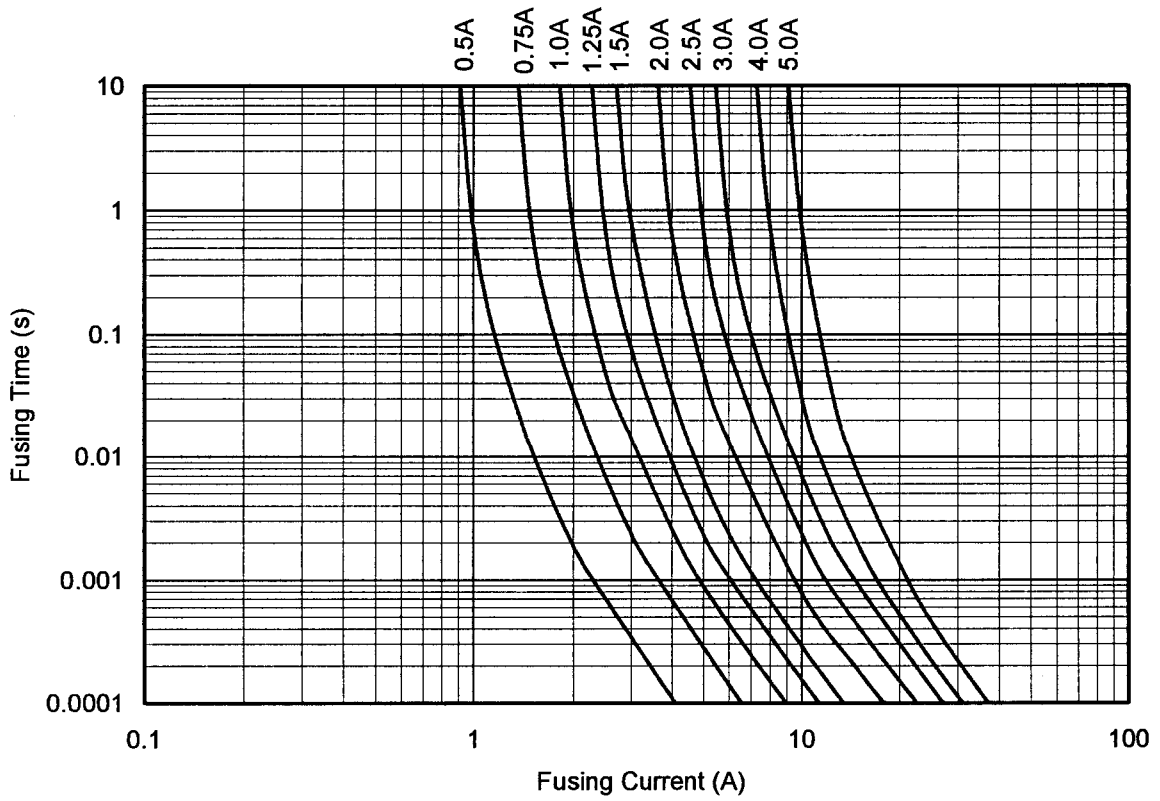
100% of rated current at 25 deg.C : No open for 4 hours minimum

200% of rated current at 25 deg.C. : Open within 5 seconds maximum

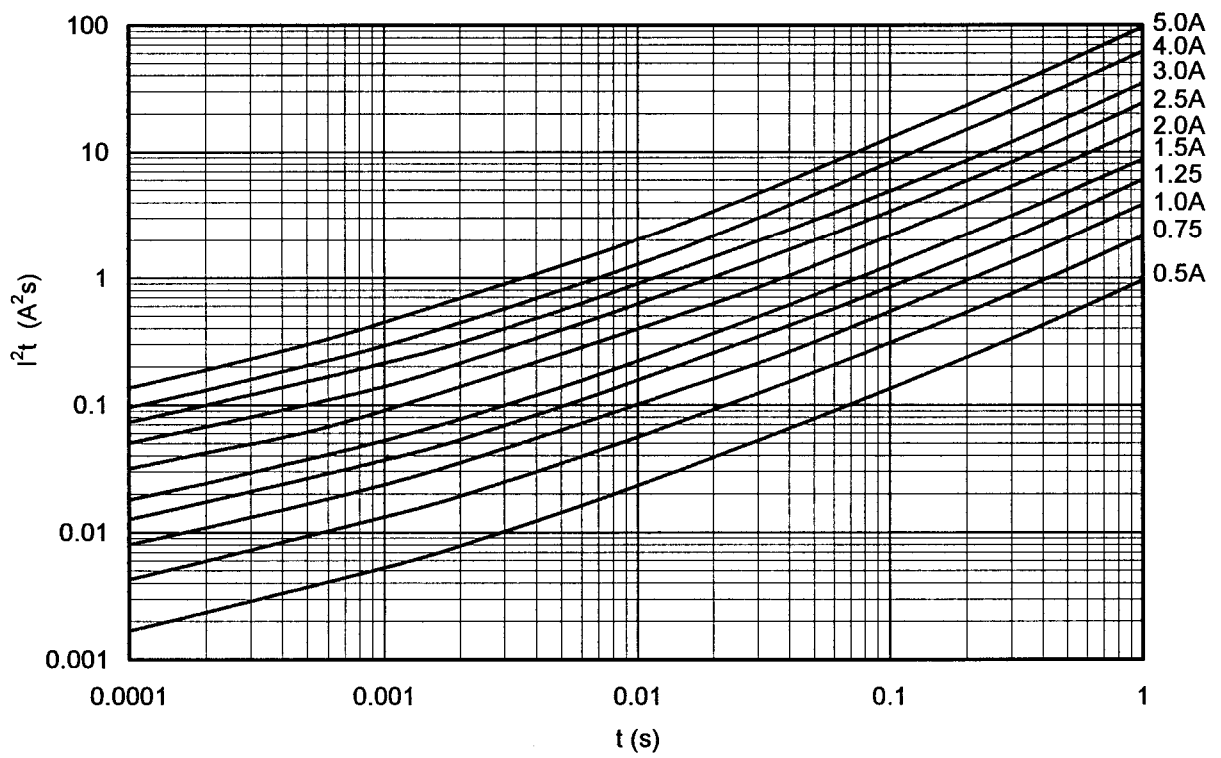


10. Reference data (Fusing Characteristics)

ERBSE series / I-t Characteristics (25°C, Typical)



ERBSE series / I<sup>2</sup>t Characteristics (25°C, Typical)









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