

DATASHEET

Product Name **Thermal Fuse Wire-wound Resistors**

Part Name **ASSY Series**

File No. **DIP-SP-071**

Uniroyal Electronics Global Co., Ltd.

88#, Longteng Road, Economic & Technical Development Zone, Kunshan, Jiangsu, China

Tel +86 512 5763 1411 / 22 /33

Email marketing@uni-royal.cn

Manufacture Plant Uniroyal Electronics Industry Co., Ltd.

Aeon Technology Corporation

Royal Electronic Factory (Thailand) Co., Ltd.

Royal Technology (Thailand) Co., Ltd.

1. Scope

- 1.1 This datasheet is the characteristics of Thermal Fuse Wire-wound Resistors manufactured by UNI-ROYAL.
- 1.2 High quality non-flame coating
- 1.3 Self fusing
- 1.4 High current load and pulse capacity
- 1.5 Application : Automobile
- 1.6 Compliant with RoHS directive.
- 1.7 Halogen free requirement.

2. Part No. System

The standard Part No. includes 14 digits with the following explanation:

- 2.1 Resistors the 1st to 4th digits are to indicate the product type.

Example: ASSY= ASSY type

- 2.2 5th digits are to indicate the Voltage :

Example: 1=12V

- 2.3 6th digits are to indicate the Cut off temp :

Example: A=92°C ; B=167°C ; C=184°C ; D=216°C ; E=227°C ; F=240°C

- 2.4 The 7th digit is to denote the Resistance Tolerance. The following letter code is to be used for indicating the standard Resistance Tolerance.

K= $\pm 10\%$

- 2.5 The 8th to 11th digits is to denote the Schematic style and resistance.

Example: 2A00=2 resistors circuit A

2B00=2 resistors circuit B

3A00=3 resistors circuit A

3B00=3 resistors circuit B

3C00=3 resistors circuit C

- 2.6 The 12th, 13th & 14th digits.

- 2.6.1 The 12th digit is to denote the Packaging Type with the following codes:

B=Bulk /Box

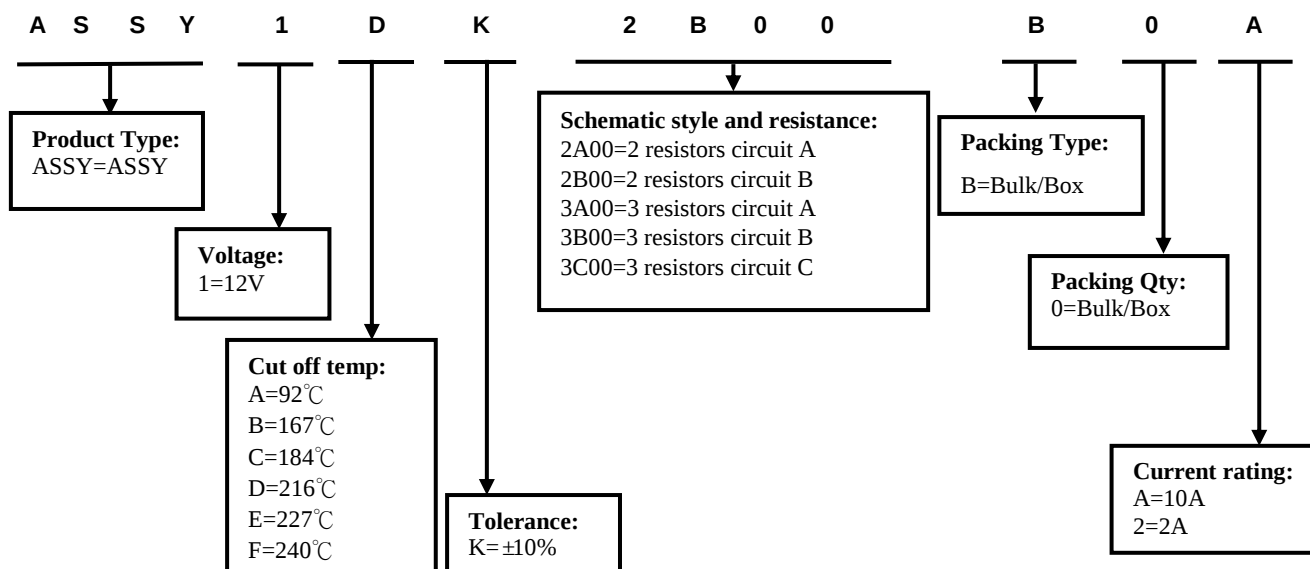
- 2.6.2 The 12th digit is to denote the packing qty . B=Bulk/Box

- 2.6.3 The 14th digit is to denote the Current rating

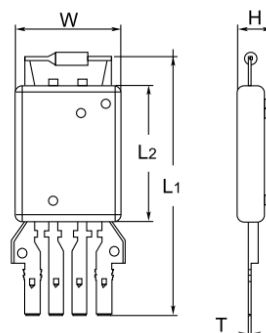
A=10A ; B=2A

3. Ordering Procedure

(Example: ASSY 12V 216°C $\pm 10\%$ 10A 0.5 Ω +0.5 Ω B/B)



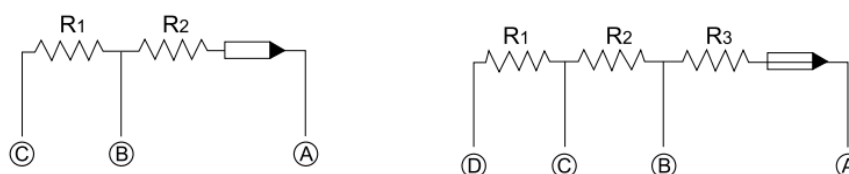
4. Dimension



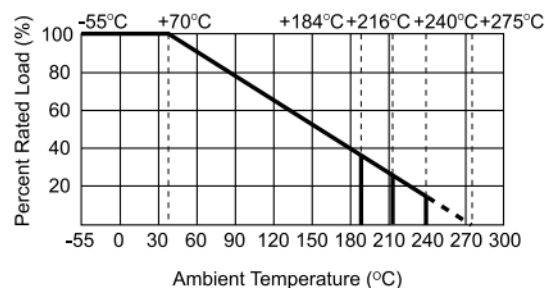
Unit: mm

Type	L1 ± 3	L2 ± 3	W ± 3	H (max)	T ± 0.2	Resistance Range
ASSY-4 Terminal	74	43	39	13	0.8	0.1Ω~10Ω
ASSY-5 Terminal	80	43	34	13	0.8	0.1Ω~10Ω

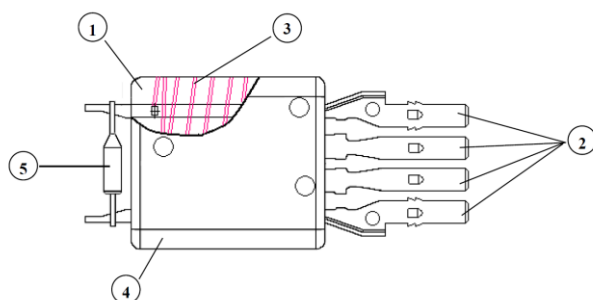
5. Circuit



6. Derating Curve



7. Construction



No.	Subpart Name	Material
①	Body	Rod Type Ceramics
②	Terminal	Nickel plated iron surface
③	Resistance wire	Alloy
④	Coating	Insulated & Non-Flame (Color : Green)
⑤	Thermal fuse	Thermal fuse

8. Performance Specification

Characteristic	Limits	Test Method (GB/T 5729&JIS-C-5201&IEC60115-1)
Temperature Coefficient	$\pm 400 \text{ PPM}/^{\circ}\text{C}$	4.8 Natural resistance changes per temp. Degree centigrade $\frac{R_2 - R_1}{R_1(t_2 - t_1)} \times 10^6 \text{ (PPM}/^{\circ}\text{C})$ R ₁ : Resistance Value at room temperature (t ₁) ; R ₂ : Resistance at test temperature (t ₂) t ₁ : +25 °C or specified room temperature t ₂ : Test temperature (+125 °C)
Short-time overload	Resistance change rate is $\pm(5\%+0.05\Omega)$ Max. with no evidence of mechanical damage	4.13 Permanent resistance change after the application of a potential of 2.5 times RCWV or Max. Overload Voltage whichever less for 5 seconds..
Rapid change of temperature	Resistance change rate must be in $\pm(5\%+0.05\Omega)$, and no mechanical damage.	4.19 30 min at -55 °C and 30 min at 155 °C; 5 cycles.
Load life in humidity	Resistance change rate must be in $\pm(5\%+0.05\Omega)$, and no mechanical damage.	7.9 Resistance change after 1000 hours (1.5 hours “ON” , 0.5 hours “OFF”) at RCWV or Max.Working Voltage whichever less in a humidity test chamber controlled at $40\pm 2^{\circ}\text{C}$ and $93\%\pm 3\%$ RH.
Load life	Resistance change rate must be in $\pm(5\%+0.05\Omega)$, and no mechanical damage.	4.25.1 Permanent Resistance change after 1000 hours operating at RCWV or Max.Working Voltage whichever less with duty cycle of 1.5 hours “ON” , 0.5 hour “OFF” at $70\pm 2^{\circ}\text{C}$ ambient.

9. Note

9.1. UNI-ROYAL recommend products store in warehouse with temperature between 15 to 35 °C under humidity between 25 to 75%RH.

Even under storage conditions recommended above, solder ability of products will be degraded stored over 1 year old.

9.2. Cartons must be placed in correct direction which indicated on carton, otherwise the reel or wire will be deformed.

9.3. Storage conditions as below are inappropriate:

- Stored in high electrostatic environment
- Stored in direct sunshine, rain, snow or condensation.
- Exposed to sea wind or corrosive gases, such as Cl₂, H₂S, NH₃, SO₂, NO₂, Br etc.

10. Record

Version	Description	Page	Date	Amended by	Checked by
1	First version	1~4	Jul.26, 2023	Haiyan Chen	Yuhua Xu

© Uniroyal Electronics Global Co., Ltd. All rights reserved. Specification herein will be changed at any time without prior notice