



RSZ307-1-T5Z&S5P&Q5Z 1000V DC High Speed Fuse

Specification

ZR/YC-0065 A1

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DC1000V 160-550A

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DC1000V 160-550A (1-T5Z)
Basics

- Conform to: IEC60269-4, UL248-13
- Rated Voltage: DC 1000V
- Rated Current: 160A~550A
- Breaking Capacity: 50kA(Time constant: 10~15ms)
- Utilization Category: aR
- UL, RoHS Compliant

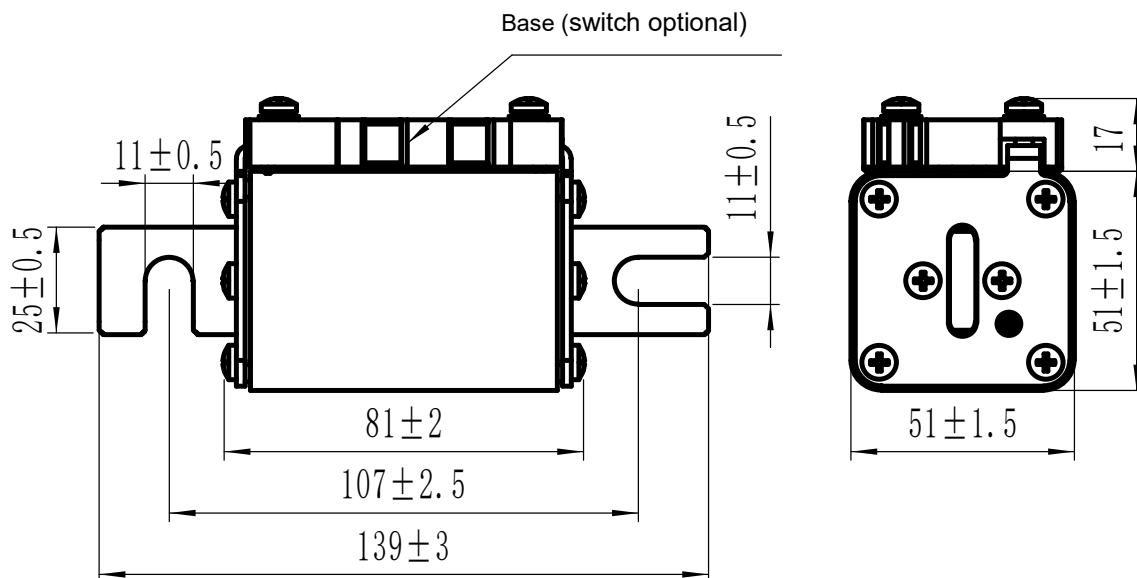
Suitable for rail transport, electric vehicles, ships and other industrial applications. Used for energy storage system, power system, conductor, and short-circuit overcurrent devices and equipment, as well as backup protection.

Note: All test data are measured in a DC environment, test parameters and connector in accordance with IEC 60269.

No.	Part Number	Size	Current (A)	I ² t (A ² s)		Loss (W)		Weight (g)	Min Package (pcs)	Max Package (pcs)	Mounting
				Prearc	Clearing	0.5I _n	I _n				
1	RSZ307-1-T5Z-160A1000V	1	160	5000	16500	10.5	50	691× (1±3%)	3	12	Bolt M10 Torque 21±1N
2	RSZ307-1-T5Z-200A1000V		200	8500	27500	13	60				
3	RSZ307-1-T5Z-250A1000V		250	16000	53000	14.5	68				
4	RSZ307-1-T5Z-315A1000V		315	28500	93500	17	81				
5	RSZ307-1-T5Z-350A1000V		350	38500	127500	18	86				
6	RSZ307-1-T5Z-400A1000V		400	57000	188000	19	92				
7	RSZ307-1-T5Z-450A1000V		450	78500	260000	21	99				
8	RSZ307-1-T5Z-500A1000V		500	110000	363000	22	103				
9	RSZ307-1-T5Z-550A1000V		550	145000	480000	23	109				

Note: 1. Base indicator(default), if end needs visual indicator, add "-T" e.g. RSZ307-1-T5Z-550A1000V-T;

2. If no visual indicator is needed, add "-N" e.g. RSZ307-1-T5Z-550A1000V-N(No visual indicator and base);

Outline Dimensions (mm)
Outline Mounting


DC1000V 160-550A (1-S5P)

No.	Part Number	Size	Current (A)	I ² t (A ² s)		Loss (W)		Weight (g)	Min Package (pcs)	Max Package (pcs)	Mounting
				Prearc	Clearing	0.5I _n	I _n				
1	RSZ307-1-S5P-160A1000V	1	160	5000	16500	10.5	50	658× (1±3%)	1	36	
2	RSZ307-1-S5P-200A1000V		200	8500	27500	13	60				
3	RSZ307-1-S5P-250A1000V		250	16000	53000	14.5	68				
4	RSZ307-1-S5P-315A1000V		315	28500	93500	17	81				
5	RSZ307-1-S5P-350A1000V		350	38500	127500	18	86				
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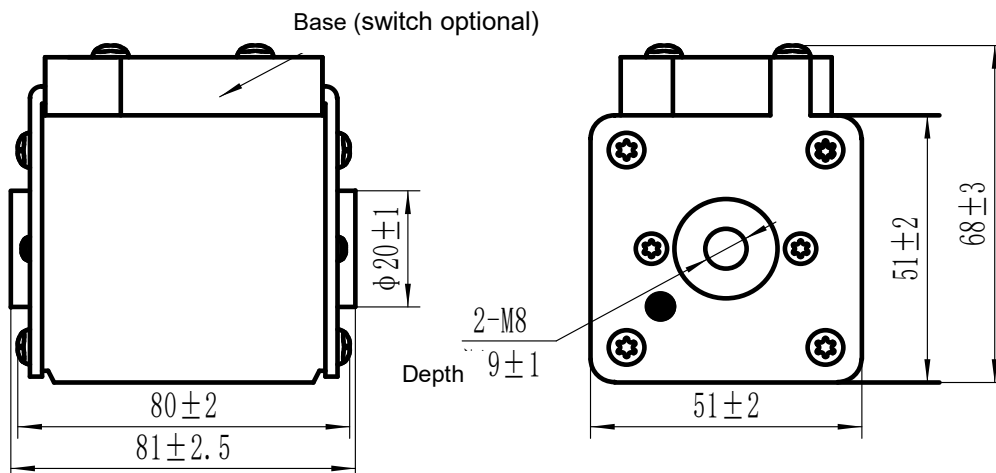
Note: 1. Base indicator(default), if end needs visual indicator, add "-T" e.g. RSZ307-1-S5P-550A1000V-T;

2. If no visual indicator is needed, add "-N" e.g. RSZ307-1-S5P-550A1000V-N(No visual indicator and base);

1-S5P Mounting

- When installing, the screw-in size of the stud should not exceed 9mm (Recommend 8mm);
- When tightening the nut, keep the stud from rotating;
- When the stud is screwed in, there is no recommended torque, and the depth of screw-in is 1mm below the thread.

Nut	Nut tightening torque
M8	10±1N.m

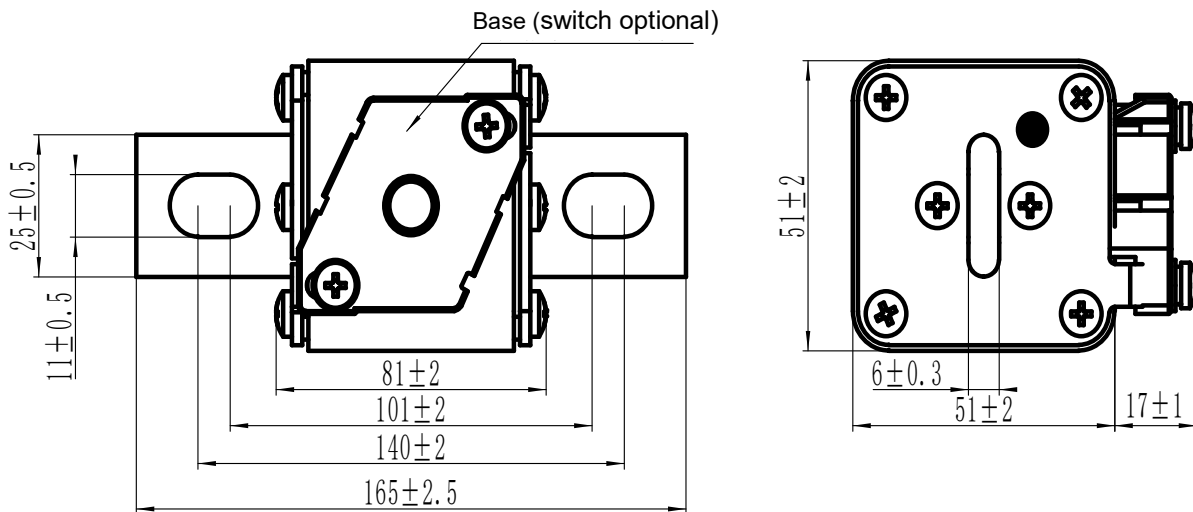
Outline Dimensions (mm)
Outline Mounting


DC1000V 160-550A (1-Q5Z)

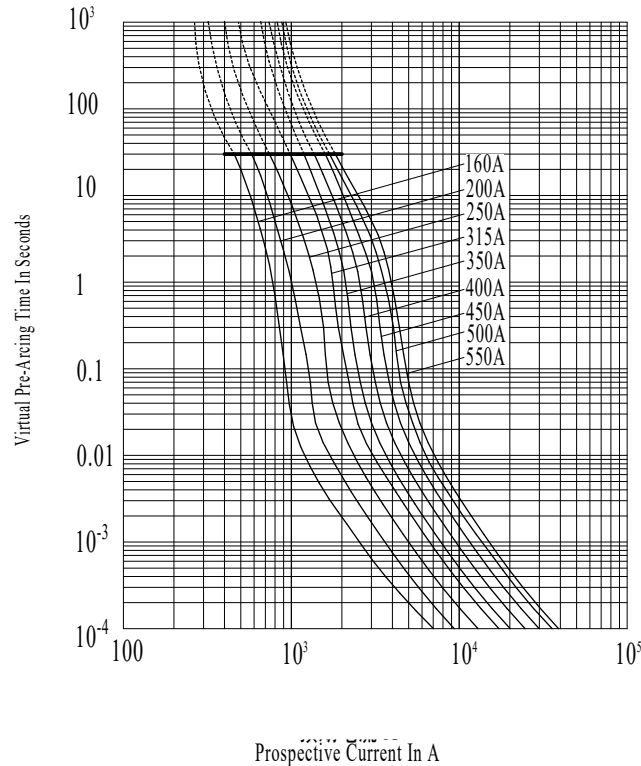
No.	Part Number	Size	Current (A)	I ² t (A ² s)		Loss (W)		Weight (g)	Min Package (pcs)	Max Package (pcs)	Mounting
				Prearc	Clearing	0.5I _n	I _n				
1	RSZ307-1-Q5Z-160A1000V	1	160	5000	16500	10.5	50	710× (1±3%)	3	12	Bolt M10 Torque 21±1N
2	RSZ307-1-Q5Z-200A1000V		200	8500	27500	13	60				
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Note: 1. Base indicator(default), if end needs visual indicator, add "-T" e.g. RSZ307-1-Q5Z-550A1000V-T;

2. If no visual indicator is needed, add "-N" e.g. RSZ307-1-Q5Z-550A1000V-N(No visual indicator and base);

Outline Dimensions (mm)
Outline Mounting


DC1000V 160-550A

Characteristic Curves:
Current Characteristic Curves:


- Note: 1. Curves: current tolerance $\pm 15\%$;
 2. Minimum breaking current at least $8I_n$.

Transport and Storage
Transport

Avoid rain/snow or mechanical damage during transportation.

Storage

Storage temp: $-40^{\circ}\text{C} \sim 120^{\circ}\text{C}$, Maximum 70% RH at 40°C ;

Maximum 80% RH at 30°C ; Maximum 90% RH at 20°C ;

Package and Storage temp: $-40^{\circ}\text{C} \sim 70^{\circ}\text{C}$, Maximum 90% RH ; no dewing.

Usage Conditions
Normal Condition and Corrections

Correction is not required under normal conditions.

For other conditions, if they are within tolerable range, certain correction measures may be required. If conditions are beyond tolerable range, please consult our team for evaluation and testing.

Long-term through current is recommended to be $< 80\%$ of rated current.

Ambient Temperature

Normal Condition

$-5^{\circ}\text{C} \sim 40^{\circ}\text{C}$

Tolerable Condition

$-40^{\circ}\text{C} \sim 85^{\circ}\text{C}$

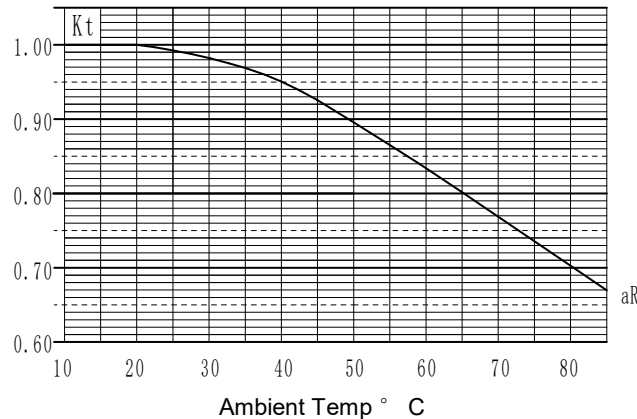
DC1000V 160-550A

Ambient temperature correction: operating below -5°C , resulting in longer pre-arc time under small overcurrent and slightly increased rated current.

If above 40°C , rated current is corrected as per factor $-Kt$.

Note 1: Kt value has considered safety margin of rated current during normal operation.

Note 2: ambient temperature should last 1-2 hrs. before it has a significant impact on fuse.



Altitude

Normal Condition

Below 2000m

Tolerable Condition

2000-4500m

Correction: higher altitude would affect insulation and dissipation, also changes air pressure.

- For every 100m higher, fuse temperature rise increases by 0.1-0.5k.
- For every 100m higher, ambient temperature drops by 0.5k approximately.
- Normally for fuses in open environment, altitude condition is negligible.
- For closed environment, if ambient temperature inside remains almost stable under different altitude.

If exceeding 40°C , fuse should be degraded. For every 1000m, rated current should be degraded by 2%-5%.

Note: for same series, larger rated fuse should use higher degrade %, and lower degrade % for smaller one.

Air Insulation Strength (Breakdown)

- Air insulation reduces with higher altitude. For 2000-4500m, insulation decreases by 12-15% for every 1000m as per GB/T16935.1. Thus adjust clearing space.
- Space between fuse terminals is often much larger than specified value in standard.
- User should consider altitude impact on spacing between fuse and other electric component, earthing etc.

Atmosphere

Normal Conditions

Clean atmosphere, maximum 50% RH at 40°C .

Higher RH is allowed when temperature is low, e.g. maximum 90% at 20°C .

Moderate dewing may occur under temperature changes.

Tolerable Conditions

If dewing is minor, RH could be up to 95%.

DC1000V 160-550A



Vibration

It has great withstand to anti-vibration and mechanical shock, up to 10g acceleration.

Conform to rail transport vibration grade II.

The withstand to anti-vibration and mechanical shock conform to GB/T 28046.3 for elastic body of passenger car

For severe vibration application, please consult our team for evaluation and testing.

Pollution Class

Grade 3 pollution withstand

Mounting Condition

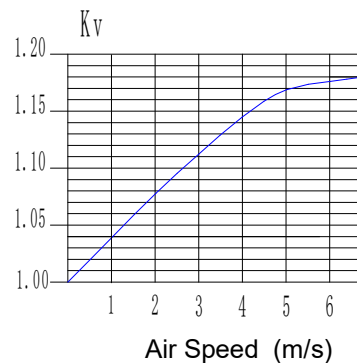
a) Installed in open air without any ventilation. No heat source within 1m except for conductors

b) Contact of fuses must be securely connected. Contact resistance should not affect operation.

c) Fuse can be mounted in any orientation. If spring compression is adopted, make sure it is properly mounted to avoid harmful effect due to gravity or vibration.

Forced Air and Liquid Cooling

Current carrying capacity of fuse can be improved by implementing forced air or liquid cooling.



Safety and Maintenance

a) Make sure sufficient clearance between installed fuses. Install insulation if necessary.

This is to avoid possible inter-phase short circuit while replacing fuse.

b) Periodic maintenance per electric equipment. Remove oxidation, dusts on contacting part.

c) It is compulsory to replace all mechanically damaged fuses.

d) Unless permissive (e.g. fused load-switch), do not replace fuses while energized.

e) While servicing, fuse will not generate gas, dust, noise or others that may harm the environment

f) Metallic part of fuse can be recycled. Non-metal part can be crushed and treated as normal industry waste. It will not cause further pollution to the environment.