



## Feature :

- 20 amps rated load
- Ceramic brazing technology is used to prevent arcing leakage, fire and explosion.
- No polarity requirement for load wiring and coil
- RoHS compliant

## Feature

- UL/CUL File No: E179745
- CE File No: N8A 1247400001

## Contact Data

Item	Specification	
Contact arrangement	1 Form A	
Rated current	20A	
Contact resistance	≤4.5mΩ (at20A)	
Min.Switching load	12VDC 1A	
Max. Switching voltage	1500VDC	
Max. Breaking current	200A, (1000VDC, 1 time)	
Electrical endurance <sup>(1)</sup>	1000VDC	1500VDC
	Switch: 1000VDC,20A 6 x 10 <sup>3</sup> cycles	Switch: 1500VDC,20A 6 x 10 <sup>3</sup> cycles
Current endurance <sup>(2)</sup>	20A:continuously	
	30A:1 h	
	40A:20 min	
	80A:30 s	
	120A:10 s	
	200A:0.6 s	

## Parameters

Item	Specification	
Mechanical endurance	2x10 <sup>5</sup> cycle	
Insulation resistance	1000MΩ(1000VDC)	
Dielectric strength	Between open contacts	4000VAC 1min 1mA
	Between contact and coil	4000VAC 1min 1mA
Operation time (at rated coil voltage)	≤30ms	
Release time (at rated coil voltage)	≤10ms	
Shock resistance	Functional	Closed State: 490m/s <sup>2</sup> (50G) Disconnected state: 98m/s <sup>2</sup> (10G)
	Destructive	490m/s <sup>2</sup> (50G)
Vibration resistance	10Hz~55Hz 49m/s <sup>2</sup> (5G)	
Ambient temperature	-40°C~+85°C	
Ambient humidity	5%~85% RH	
Weight	150g	
External dimension	78x 39.8 x 46.1	

### Coil Data

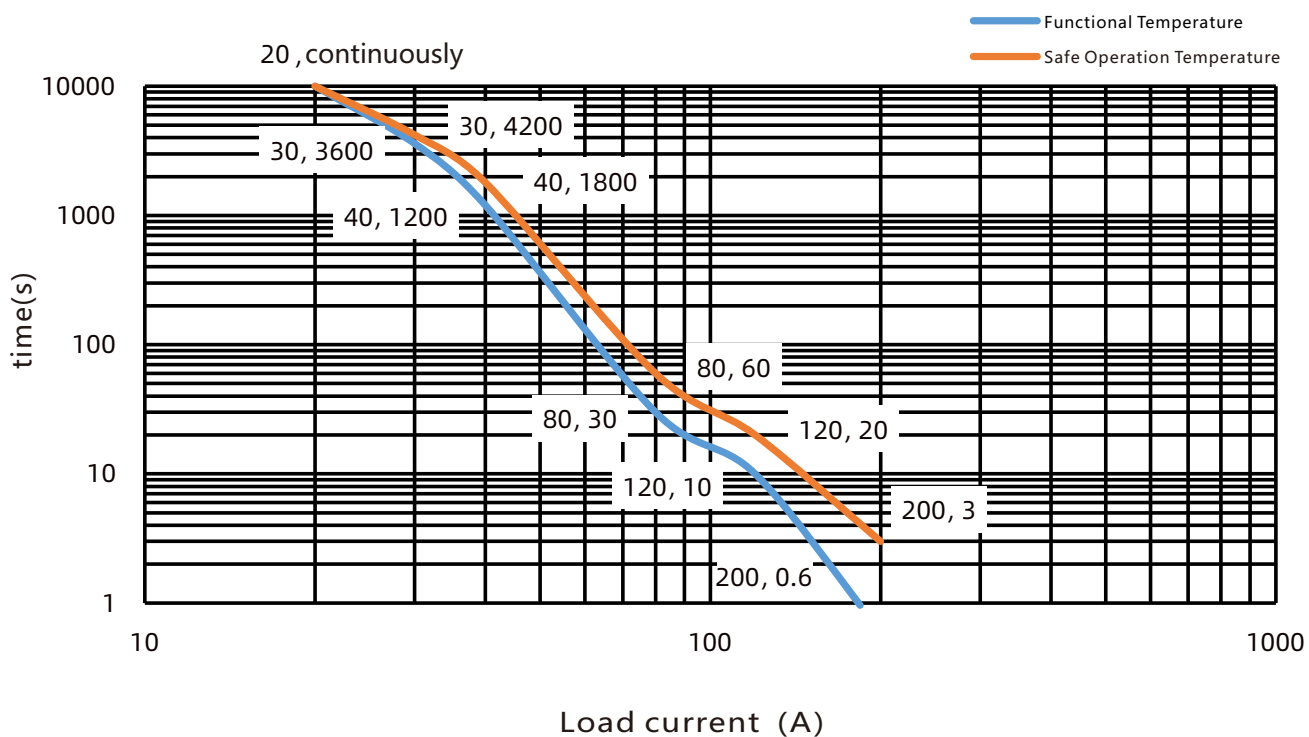
Rated voltage (VDC)	Operation voltage (VDC)	Max. voltage (VDC)	Pick-up voltage (VDC)	Drop-out voltage (VDC)	Coil resistance (±10%)(Ω)	Operating power (inrush, W)	Operating power (stable, W)
12	12	16	≤9.6	≥1.0	55.4	2.6	2.6
24	24	32	≤19.2	≥2.0	221.6	2.6	2.6

NOTES:

- (1) Unless specified otherwise, ambient temperature:23°C, on:off /0.6s: 5.4s.
- (2) If other types of rated coil voltage is needed, please contact us.

### Reference date

Tolerance curve



NOTE:

- (1)The upper limit of safety temperature is 180°C , and the upper limit of functional temperature is 150°C;
- (2)If the product needs to work for a long time, it is recommended that the product temperature should not exceed 150°C. If the safety temperature exceeds 180°C, the relay may be ignited;
- (3)Ambient temperature is 85°C, wire cross sectional area ≥4mm<sup>2</sup>; (Test conditions for this curve)

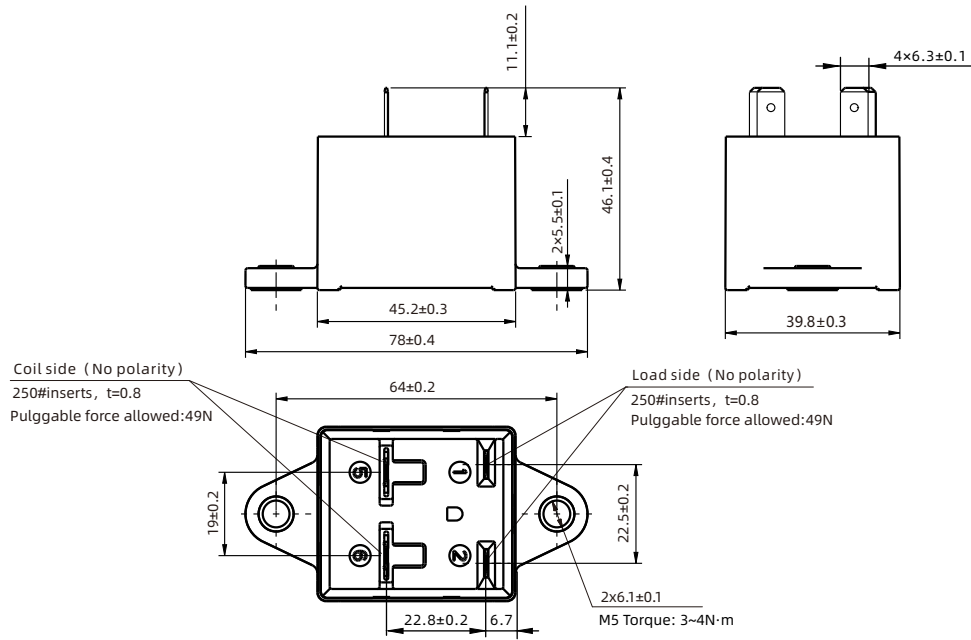
Ordering Information

Nomenclature

SEP	20	-	<input type="checkbox"/>	M	<input type="checkbox"/>		
						Customer special code	<p>Nil: No customer special requirement</p> <p>Numbers or Letters: Customer special requirement</p>
						Coil voltage	<p>12: 12VDC</p> <p>24: 24VDC</p>
						Contact arrangement	M: 1 Form A
						Voltage rating	<p>1000: 1000VDC</p> <p>1500: 1500VDC</p>
						Series Code	20: 20A
						Type designation	SEP

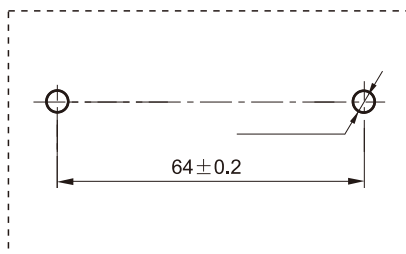
Package: 54/box

Outline Dimensions

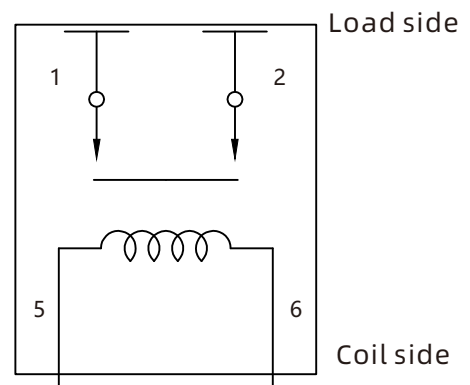


Size	tolerance
Less than 10mm:	±0.3
10 to 50mm:	±0.5
More than 50mm:	±0.8

Installation Size Chart



Schematic Diagram



Note: No polarity on load side and coil side

**NOTES:****● Mounting Precautions**

1. By principle, please do not use it when the relay drops on the ground.
2. It's forbidden to use the product at the temperature beyond  $-40\text{ }^{\circ}\text{C} \sim 85\text{ }^{\circ}\text{C}$  for a long time as the relay contacts are sealed and filled with gas and when the contact temperature changes, the gas will break the ceramic sealed chamber.
3. When installing the relay, always use washers to prevent the screws from loosening.
4. Tighten each screw with given torque as suggested. Exceeding the maximum torque may result in screw loose, breakage, etc. When using screws, please make sure the washers are strong enough to prevent the case from deformation.
5. Avoid mounting the relay near strong magnetic fields or a heat generator.

**● Precautions for connection of the load terminals**

1. Please avoid excessive load applied to the product. If the product exceeds the rated range, the performance of the product cannot be guaranteed.
2. Please treat the relay as a product with limited life and replace it when necessary.
3. Be careful that foreign particles or oil attach on the terminals, which will lead to abnormal heating on terminals. And below connectors or conductors with sizes are suggested.

10A	Min. $2\text{mm}^2$ nominal cross-sectional area
20A	Min. $3\text{mm}^2$ nominal cross-sectional area
40A	Min. $10\text{mm}^2$ nominal cross-sectional area
60A	Min. $15\text{mm}^2$ nominal cross-sectional area
100A	Min. $35\text{mm}^2$ nominal cross-sectional area
150A	Min. $45\text{mm}^2$ nominal cross-sectional area
200A	Min. $60\text{mm}^2$ nominal cross-sectional area
250A	Min. $80\text{mm}^2$ nominal cross-sectional area
300A	Min. $100\text{mm}^2$ nominal cross-sectional area
400A	Min. $200\text{mm}^2$ nominal cross-sectional area

**● Precautions for connection of the coil**

1. Please note that when using a diode, the release time will increase and the switching capacity may decrease. We recommend installing a surge protector varistor.
2. The pick-up voltage and drop-out voltage will change with ambient temperature, please use rated voltage to make sure the relay operate reliably. Don't exceed maximum coil voltage.
3. Please do not continuously apply maximum voltage on the coil.
4. The product with PWM, recommend using increase rapidly (phase step power supply mode) to drive the coil.
5. The product with PWM, after 0.1s the coil current automatic switch, please do not repeat switch the coil voltage at  $< 0.1\text{s}$ , otherwise the Product performance can be not guarantee.

**Disclaimer:**

1. This datasheet is for customer's reference only. Sanyou had tried its best to ensure the information accuracy but impossible to be avoided all the incorrects. The product specification and parameter might be change due to the product improvement. All of specification are subject to change without notice, please refer to the specification and samples.

2. We could not evaluate all the performance and parameters for every possible application. Thus the users should be in a right position to choose the suitable product for their own application. If there is any query, please contact Sanyou for technical service. However it is the users' responsibility to determine which product should be used only.

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