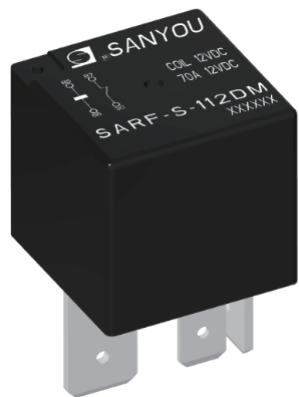


Automotive Relay

SARF-Series



Features:

- 70A high switching capability
- High operating temperature 125°C
- 1Form A contact configuration
- Dustproof and sealed type available
- Transient suppression resistance or diode paralleled type available.

Typical Applications

- Cooling fan control, fuel pump control, heating control automotive air conditioner, rear window
- Headlight or foglight control, electric power distribution traction control system, ABS.

Contact Capacity

Nominal switching capacity (res. load)	70A 14VDC (at 23°C) 50A 14VDC (at 85°C)
Max. switching current	70A
Max. switching voltage	16VDC
Max. switching power	980W

Characteristic Data

Contact material	Silver alloy	
Contact voltage drop	ordinary type: 200mV Max.at 10A. special type: 10mV Max.at 10A	
Operate time (at nominal volt.)	10msec. Max	
Release time (at nominal volt.)	ordinary type:7msec.Max. with resistor or diode type :15 msec. Max.	
Initial insulation resistance	500MΩ Min.(500VDC)	
Initial dielectric strength	Between open contacts	500VAC, 50/60Hz for 1min
	Between coil and contact	500VAC, 50/60Hz for 1min
Shock resistance	Functional	30 G Min.
	Destructive	18 G Min.
Vibration resistance	Functional	10~55Hz at double amplitude of 1.5mm
	Destructive	10~55Hz at double amplitude of 1.5mm
Endurance	Mechanical (at 10,800 ops./h)	1×10 ⁵
	Electrical (at 600 ops./h)	1×10 ⁴
Ambient temperature	-40°C ~ +125°C (no condensation)	
weight	Standard type: Approx. 36.0 g ; PCB type: Approx. 30.0g	

Coil Data (at 20°C)

Standard (D)

Nominal voltage (VDC)	Nominal operating current ±10%(mA)	Coil resistance ±10%(Ω)	Parallel resistance (Ω)	Equivalent resistance (Ω)	Max. Allowable voltage	Pick-up voltage (Max.)	Drop-out voltage (Max.)	Nominal operating power
6	266.67	22.5	--	--	150% of nominal voltage	60% of nominal voltage	10% of nominal voltage	Approx 1.6W
12	133.33	90	--	--				
24	66.67	360	--	--				
6	266.67	22.5	180	20				Approx 1.8W
12	133.33	90	680	80				
24	66.67	360	2,700	320				

Coil Data (at 20°C)

Sensitivity (L)

Nominal voltage (VDC)	Nominal operating current $\pm 10\%$ (mA)	Coil resistance $\pm 10\%$ (Ω)	Parallel resistance (Ω)	Equivalent resistance (Ω)	Max. Allowable voltage	Pick-up voltage (Max.)	Drop-out voltage (Max.)	Nominal operating power
6	333.33	18	--	--	115% of nominal voltage	60% of nominal voltage	10% of nominal voltage	Approx 2.0W
12	166.67	72	--	--				
24	83.33	288	--	--				
36	55.56	648	--	--				
6	333.33	18	180	16				Approx 2.2W
12	166.67	72	680	65				
24	83.33	288	2,700	260				

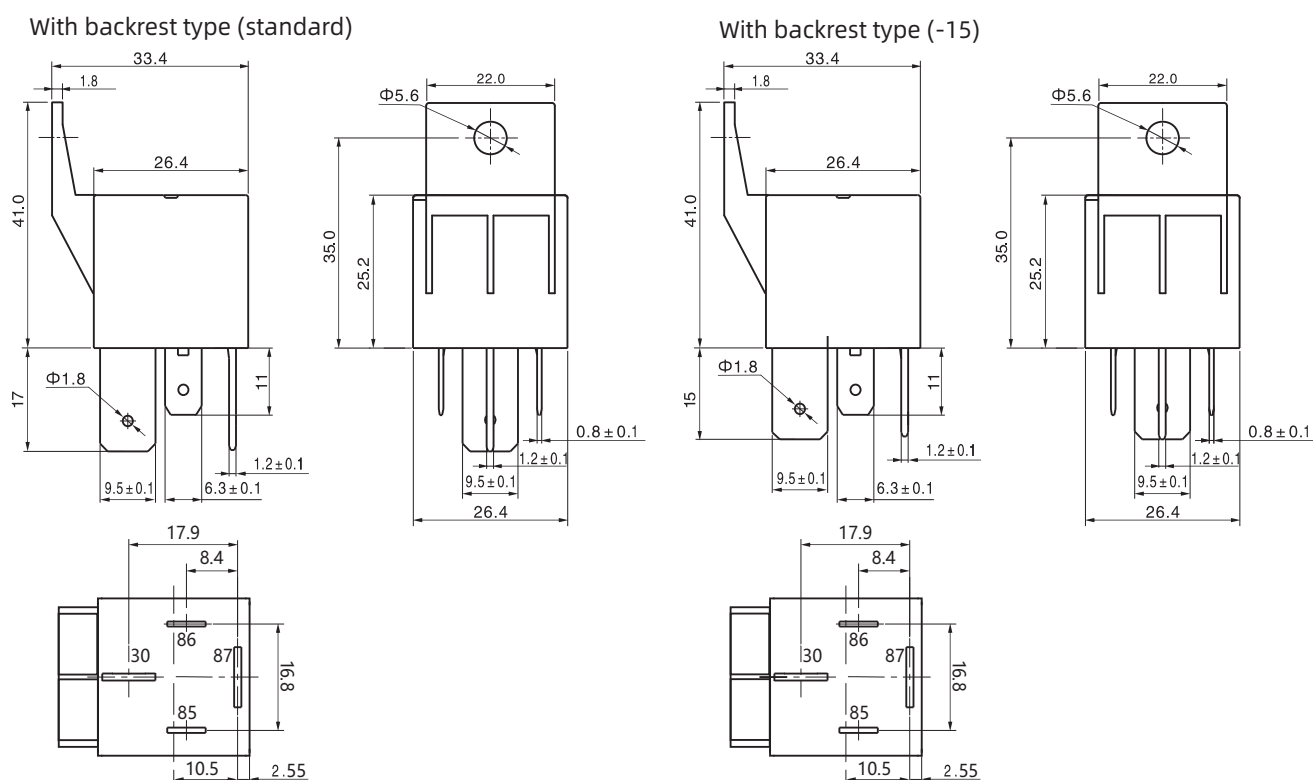
订货标记

SARF	-S	-1	12	D	M	1	F	R	-XX	Special Parameter: Nil-Standard type, Letter or number-Special requirement
										Accessory Form: Nil-Without accessory, R-With resistor, D-With diode DC-with diode
										MountingType: Nil-w/t backrest, F-w/ backrest, P-PCB type
										Contact Material: Nil-AgSnO ₂ , 1-AgCdO
										Contact Form: M-Form A
										Coil Power: D-1.6W/1.8W, H-2.0W/2.2W
										Coil Voltage (VDC): 6, 12, 24, 36
										Number of Poles : 1-1 Pole
										Protective Construction: Nil-Dust protected, S-Flux proofed
										Type Designation: SARF:

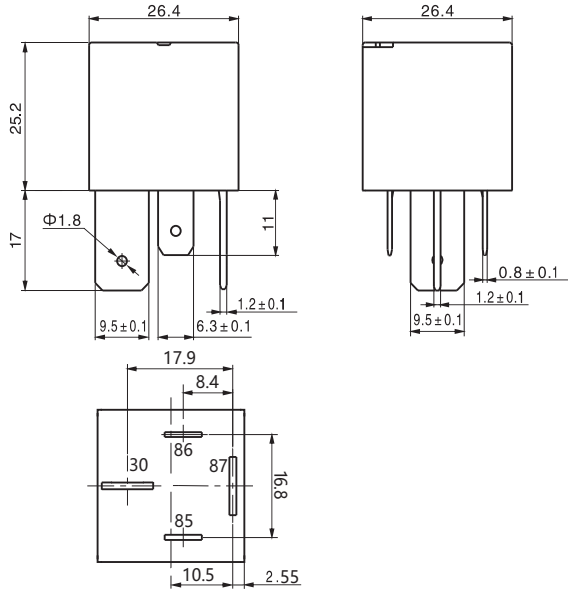
NOTES: 1) -15 means that the length of terminal outside of the case is 15 millimetre referring to outline dimensions .

Outline Dimensions, Wiring Diagram, Mounting Holes (unit: mm)

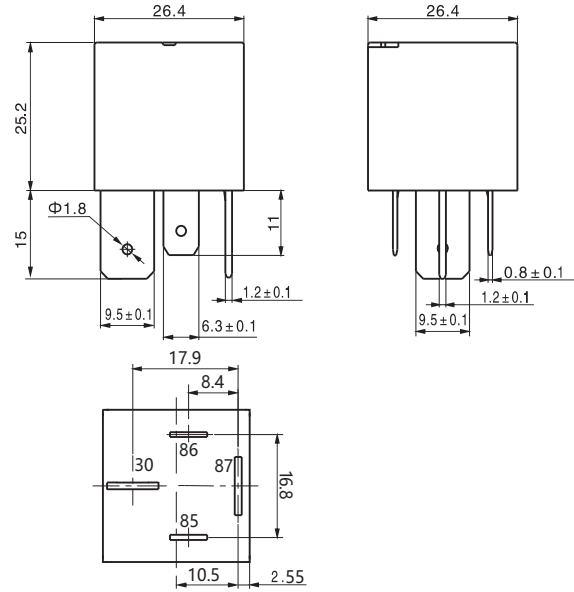
Outline Dimensions



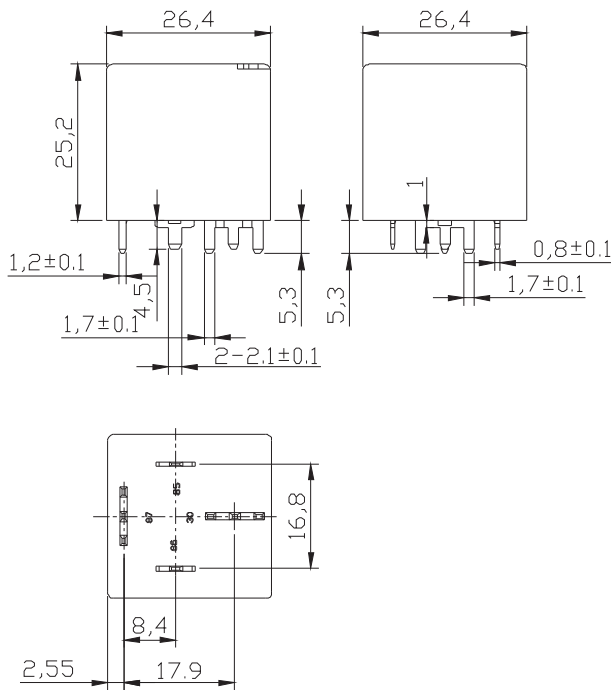
Normal type (standard)



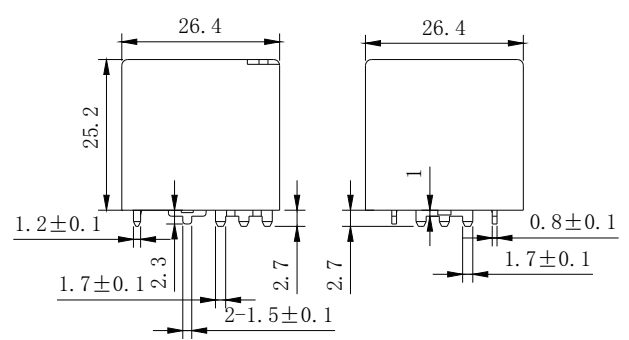
Normal type (-15)



PCB type (Standard)



PCB type (short end foot)



Unless otherwise specified:

If dimension < 1mm, tolerance: ± 0.2 mm;

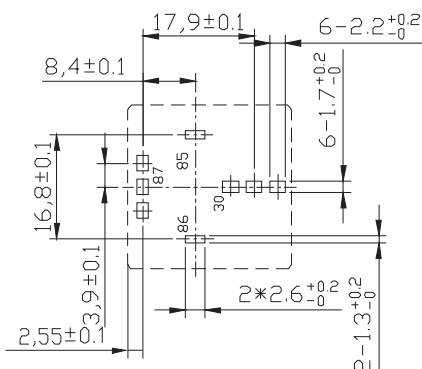
If dimension 1~5mm, tolerance: ± 0.3 mm;

If dimension > 5mm, tolerance: ± 0.4 mm.

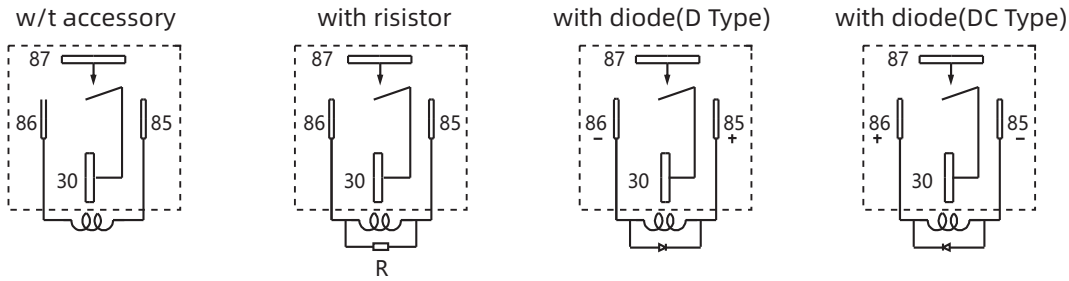
Note: 1. Extended terminal dimension is dimension before soldering.

2. Tolerance of mounting holes: ± 0.1 mm.

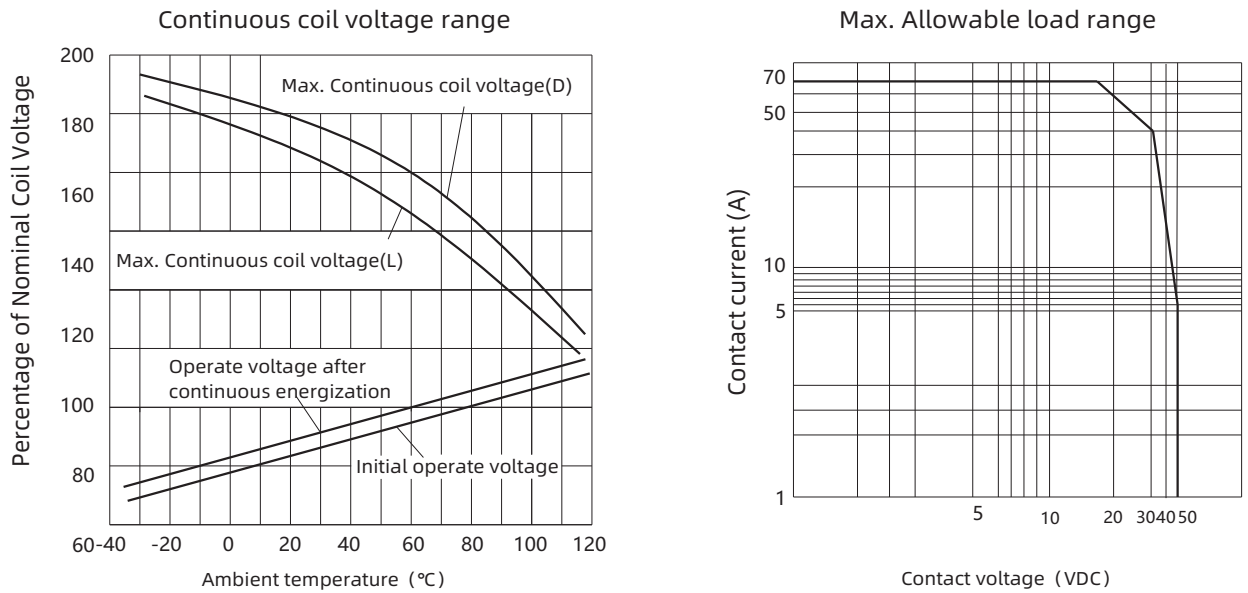
PCB hole position installation diagram



Wiring diagram



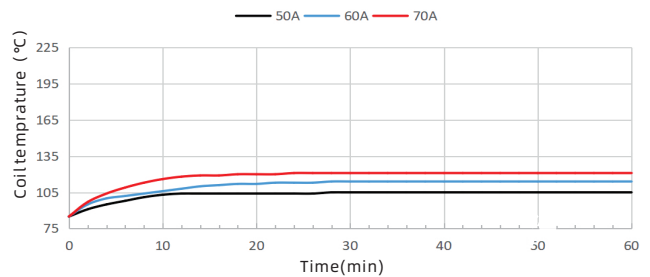
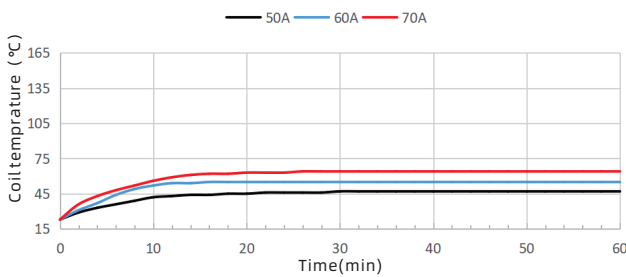
Characteristic Curves



Temperature rise chart

Test items: SARF
 Load current: 50A, 60A, 70A
 Environment temperature: 23°C

Test items: SARF
 Load current: 50A, 60A, 70A
 Environment temperature: 85°C



Statement:

This product specification is for reference only, subject to change without prior notice. We could not evaluate all test conditions for every possible application, thus customers should be in a right position to choose suitable products for their own application. If in doubt, please contact Sanyou for more technical support. However, it's the customer's responsibility to determine which product should be used.