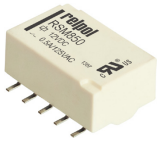
version THT ❷

version SMT ❸



- Polarized, monostable relays
- DC coils of up to 24 V DC, low coil power 0,14 ... 0,20 W
- For PCB • Sealed, for wave soldering and cleaning; for reflow soldering • Dielectric strength 1000 Vrms
- Applications: for telecommunication devices, office equipment, alarm systems, measuring instruments, medical monitoring devices, AV devices, control sensors
- Conforms to FCC Part 68 - 1500 V - lightning surge
- Recognitions, certifications, directives: RoHS,

Contact data

Number and type of contacts		2 CO
Contact material		**AgPd/Au flash gold plating**
Rated / max. switching voltage	AC	125 V / 250 V
Min. switching voltage		10 mV ❶
Rated load	AC1	0,5 A / 125 V AC
	DC1	2 A / 30 V DC
Min. switching current		0,01 mA ❶
Rated current		2 A
Max. breaking capacity	AC1	62,5 VA
Contact resistance		≤ 50 mΩ

Coil data

Rated voltage	DC	3, 5, 6, 9, 12, 24 V
Must release voltage		DC: ≥ 0,1 U_n
Operating range of supply voltage		see Table 1
Rated power consumption	DC	0,14 W 3 ... 12 V 0,20 W 24 V

Insulation according to EN 60664-1

Insulation resistance	1 000 MΩ 500 V DC, 60 s
Dielectric strength	
• between coil and contacts	1 000 V AC type of insulation: basic
• contact clearance	1 000 V AC type of clearance: micro-disconnection
• pole - pole	1 000 V AC type of insulation: basic
Contact - coil distance	
• clearance	≥ 0,5 mm
• creepage	≥ 0,9 mm

General data

Operating / release time (typical values)		3 ms / 3 ms
Electrical life		
• resistive AC1	1 200 cycles/hour	10^5 0,5 A, 125 V AC
• resistive DC1	1 200 cycles/hour	2×10^5 1 A, 30 V DC
Mechanical life	10 800 cycles/hour	10^8
Dimensions (L x W x H)		THT: 14,3 x 9,3 x 5,4 mm ❷ SMT: 14,3 x 9,3 x 6,6 mm ❸
Weight		1,5 g
Ambient temperature (non-condensation and/or icing)	• operating	THT: -40...+70 °C SMT: -40...+85 °C
Cover protection category		IP 67 EN 60529
Environmental protection		RTIII EN 61810-7
Shock resistance		50 g (500 m/s²) 11 ms - functional
Vibration resistance		3 mm DA (constant amplitude) 10...55 Hz
Solder temperature		
• for wave		THT: max. 260 °C
• manual soldering with the tool of max. 60 W		THT: max. 350 °C
• reflow		SMT: see "Reflow soledring profiles"
Soldering time		
• for wave		THT: max. 5 s
• manual soldering with the tool of max. 60 W		THT: max. 3 s
• reflow		SMT: see "Reflow soledring profiles"

The data in bold type relate to the standard versions of the relays. ❶ Values refer to new relays, which have not been used for signals exceeding the maximum 10 mA and/or 6 V (DC or AC). After the current exceeds 10 mA and/or 6 V (DC or AC) relay can not be used for signals with the minimum values indicated in the technical data sheet. ❷ For version THT: cover - black colour. ❸ For version SMT: cover - white colour.

PRECAUTIONS:

1. Ensure that the parameters of the product described in its specification provide a safety margin for the appropriate operation of the device or system and never use the product in circumstances which exceed the parameters of the product. **2.** Never touch any live parts of the device. **3.** Ensure that the product has been connected correctly. An incorrect connection may cause malfunction, excessive heating or risk of fire. **4.** In case of any risk of any serious material loss or death or injuries of humans or animals, the devices or systems shall be designed so to equip them with double safety system to guarantee their reliable operation.

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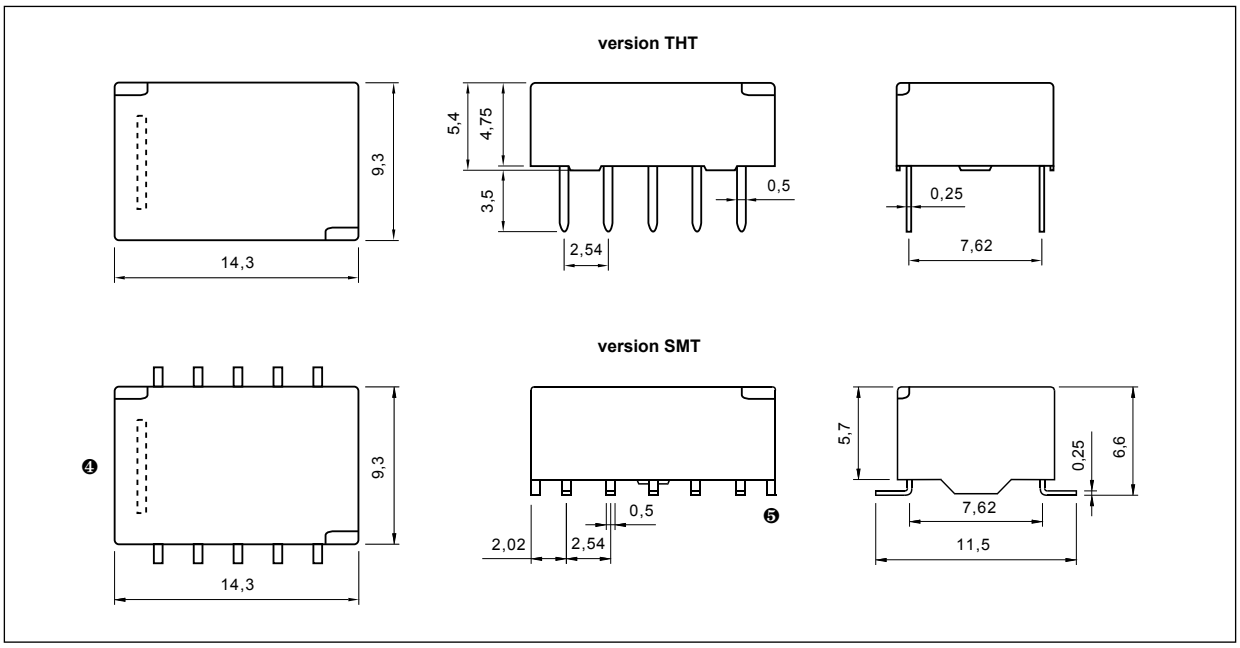
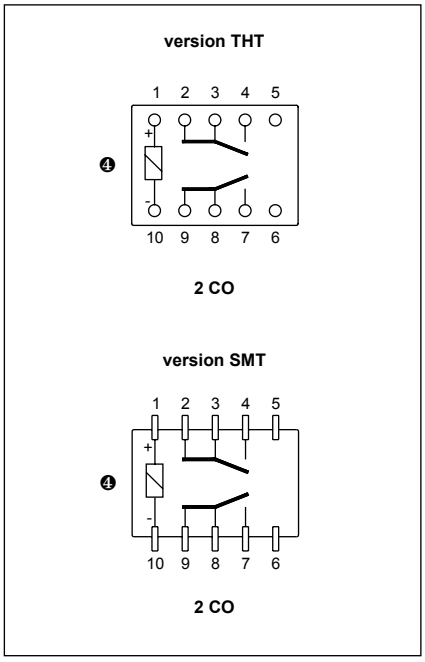
Dimensions

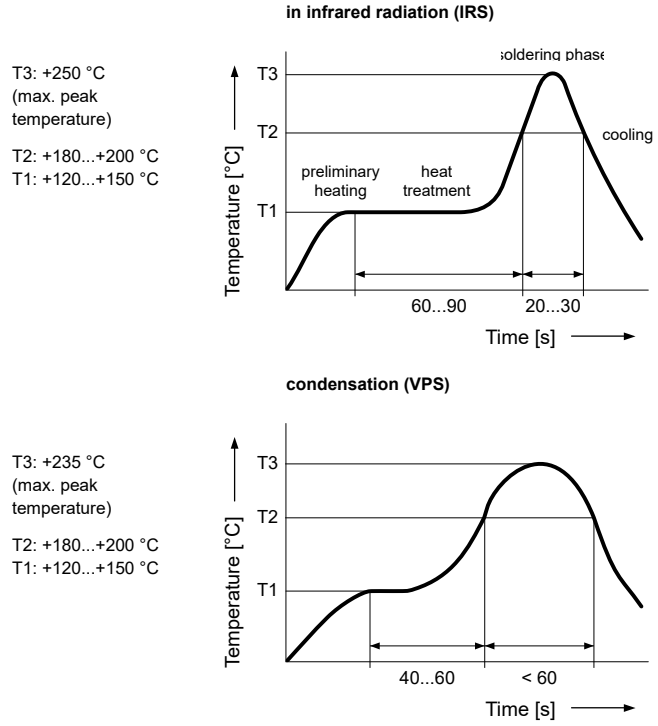


Connection diagrams
(pin side view)



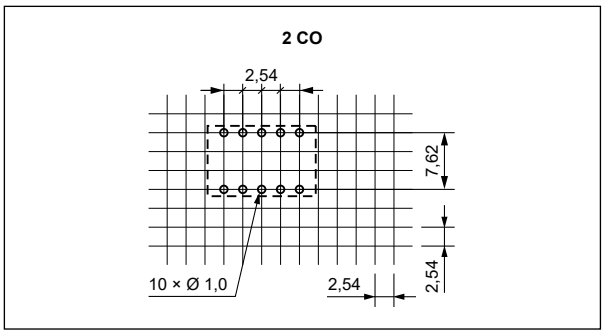
❹ Coil terminals position is indicated by the vertical strip on the relay cover.

SMT reflow soledring profiles

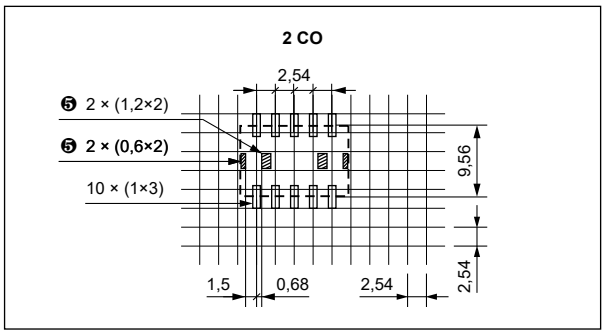


1. Do not exceed the admissible parameters of reflow soldering (otherwise the relay might become damaged). **2.** Following soldering process, the soldering areas shall be cooled as soon as possible in order to avoid relay damage. Cooling rate should not be higher than 5 °C/s. **3.** Following the soldering process, the relays may have the printed board washed. Immediately after soldering, application of cold washing agent should be avoided. The relays shall be cooled to the ambient temperature before they are washed. Mild washing agents, e.g. alcohol-based ones, are recommended. Aggressive washing detergents shall be avoided as they may react with the sealing and housing of the relay and damage it. The relays shall not be washed in ultrasonic cleaners.

Pinout - version THT (solder side view)



Soldering areas - version SMT (solder side view)



❺ Temporary glue pad on PCB.

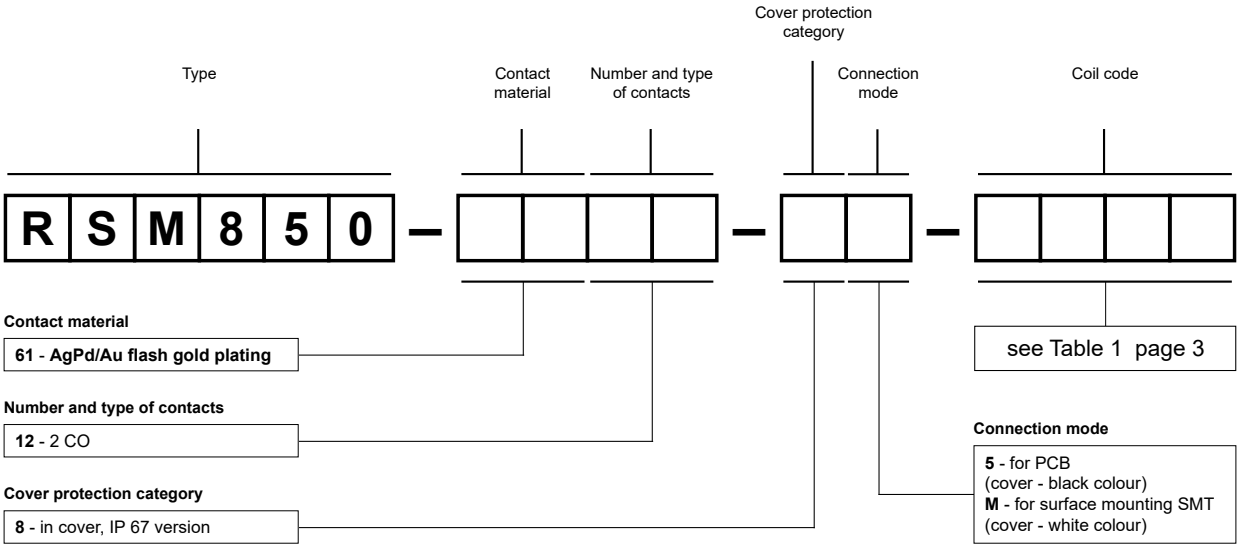
Mounting

Relays **RSM850** are designed for: • direct PCB mounting - THT (Through-Hole Technology) • surface mounting - SMT (Surface Mounting Technology).

Coil data - DC voltage version — Table 1

Coil code	Rated voltage V DC	Coil resistance at 20 °C Ω	Acceptable resistance	Coil operating range V DC	
				min. (at 20 °C)	max. (at 20 °C)
1003	3	64,3	± 10%	2,25	7,5
1005	5	178	± 10%	3,75	12,5
1006	6	257	± 10%	4,50	15,0
1009	9	579	± 10%	6,75	22,5
1012	12	1 028	± 10%	9,00	30,0
1024	24	2 880	± 10%	18,00	48,0

Ordering codes



Examples of ordering codes:

RSM850-6112-85-1012 relay **RSM850**, for PCB, two changeover contacts, contact material AgPd/Au flash gold plating, coil voltage 12 V DC, in cover (black colour) IP 67

RSM850-6112-8M-1048 relay **RSM850**, for surface mounting SMT, two changeover contacts, contact material AgPd/Au flash gold plating, coil voltage 48 V DC, in cover (white colour) IP 67