NEW

- **Relays for photovoltaic systems, solar inverters, power supplies and UPS**
- Max. switching current: 50 A
- Contact gap: ≥ 2 mm
- DC coils, insulation class F: 155 °C
- For PCB
- Recognitions, certifications, directives: RoHS,

Contact data

Number and type of contacts		1 NO
Contact material		**$AgSnO_2$**
Rated / max. switching voltage	AC	250 V / 277 V
Rated load	AC1	50 A / 250 V AC
Max. make current		50 A
Rated current		50 A
Max. breaking capacity	AC1	13 850 VA
Contact resistance		≤ 100 mΩ
Max. operating frequency • at rated load AC1 • no load		 360 cycles/hour 7 200 cycles/hour

Coil data

Rated voltage	DC	5, 6, 9, 12, 18, 24 V
Must release voltage		DC: ≥ 0,05 U_n
Operating range of supply voltage		0,75...1,1 U_n see Table 1
Rated power consumption	DC	1,6 W

Insulation according to EN 60664-1

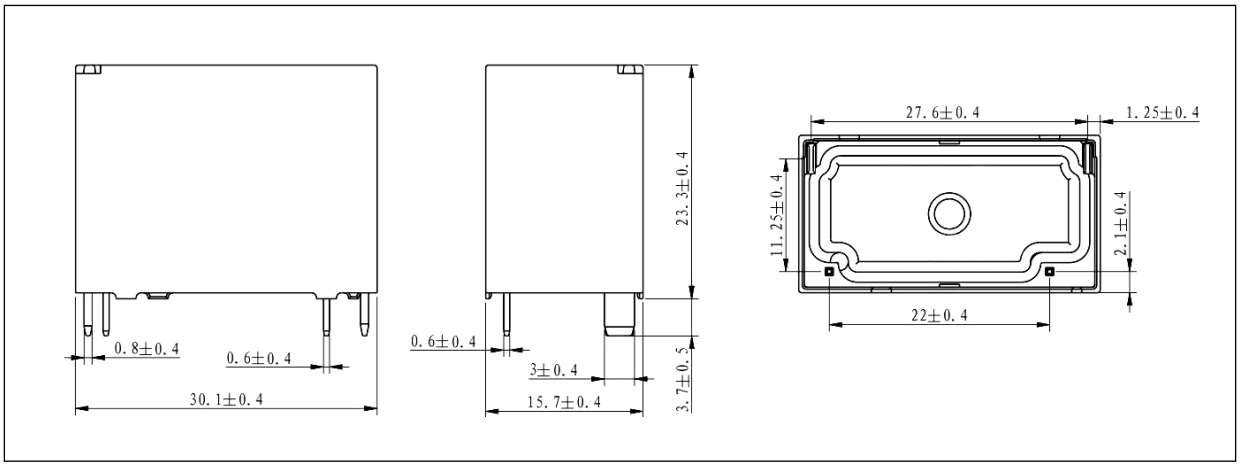
Insulation pollution degree		2
Insulation resistance		1 000 MΩ
Dielectric strength • between coil and contacts • contact clearance		 4 500 V AC 2 500 V AC

General data

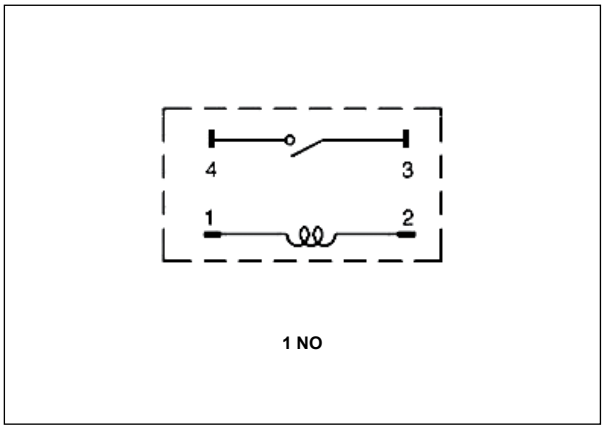
Operating / release time (typical values)		20 ms / 10 ms
Electrical life • resistive AC1	360 cycles/hour	 5×10^4 20 A make/break, 50 A carry, 250 V AC, 85 °C
Mechanical life (cykle)	7 200 cycles/hour	10^5
Dimensions (L x W x H)		30,1 x 15,7 x 23,3 mm
Weight		20,1 g
Ambient temperature (non-condensation and/or icing)	• operating	-40...+85 °C
Cover protection		flux proof
Shock resistance		10 g
Vibration resistance		1,5 mm DA 10...55 Hz

The data in bold type relate to the standard versions of the relays.

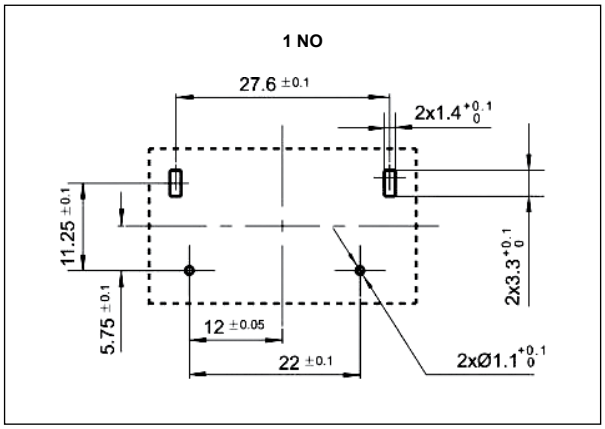
Dimensions



Connection diagrams (pin side view)



Pinout (solder side view)



Mounting

Relays **R50A** are designed for direct PCB mounting ❶.

❶ An appropriate cross-section of the PCB must be provided in accordance with design standards, to ensure proper heat dissipation from the contact pins under load.

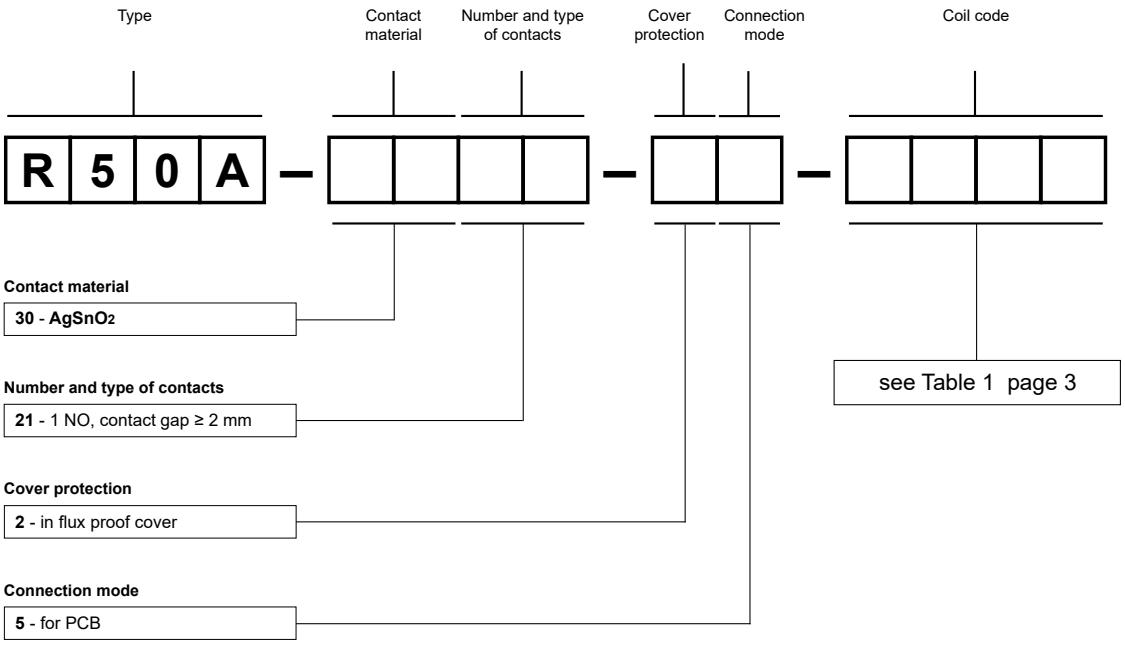
Coil data - DC voltage version

Table 1

Coil code	Rated voltage V DC ❷	Coil resistance at 20 °C Ω	Acceptable resistance	Coil operating range V DC	
				min. (at 20 °C)	max. (at 20 °C)
1005	5	16	± 10%	3,75	5,5
1006	6	23	± 10%	4,50	6,6
1009	9	51	± 10%	6,75	9,9
1012	12	90	± 10%	9,00	13,2
1018	18	203	± 10%	13,50	19,8
1024	24	360	± 10%	18,00	26,4

❷ The relay applies full coil voltage to maintain 200 ms. Coil holding voltage can be reduced to 50...75% of the rated coil voltage to achieve energy saving after applying 200 ms rated coil voltage. The relay coil is not allowed to apply more than the upper limit of the rated voltage for a long time to prevent the relay from overheating and burning out.

Ordering codes



Examples of ordering codes:

R50A-3021-25-1005 relay **R50A**, for PCB, one normally open contact, with contact gap ≥ 2 mm, contact material $AgSnO_2$, coil voltage 5 V DC, in flux proof cover

R50A-3021-25-1024 relay **R50A**, for PCB, one normally open contact, with contact gap ≥ 2 mm, contact material $AgSnO_2$, coil voltage 24 V DC, in flux proof cover

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.