

RS35 and RS50

Relays for Photovoltaic Systems



- Relays to control power in photovoltaic systems which generate electric energy
- Max. switching current: 35 A (version RS35); 50 A (version RS50)
- 5000 V / 10 mm reinforced insulation
- Contact gap > 1.75 mm • Holding power 0.1 W
- For PCB
- DC coils



		RS35	RS50
Contact Data			
Number and type of contacts		DPST (2 NO)	DPST (2 NO)
Contact material		AgSnO ₂	AgSnO ₂
Rated / max. switching voltage	AC	250 V / 440 V	250 V / 440 V
Min. switching voltage		10 V	10 V
Rated load	AC1	35 A / 250 V AC	48 A / 250 V AC
	DC1	35 A / 24 V DC	48 A / 24 V DC
Min. switching current		10 mA	10 mA
Rated current		35 A	50 A
Max. breaking capacity	AC1	8750 VA	12500 VA
	DC1	90 W 0.3 A / 300 V	90 W 0.3 A / 300 V
Min. breaking capacity		1 W	1 W
Contact resistance		≤ 50 mΩ	≤ 50 mΩ
Max. operating frequency	AC1	360 cycles/hour	360 cycles/hour
		• at rated load	• at rated load
		• no load	• no load
Coil Data			
Rated voltage	DC	5 ... 110 V	5 ... 110 V
Must release voltage		DC: ≥ 0.05 U _n	DC: ≥ 0.05 U _n
Operating range of supply voltage		0.75...2.0 U _n ; see page 103	0.75...2.0 U _n ; see page 103
Rated power consumption	DC	0.48 W	0.48 W
Power consumption at pickup voltage		0.3 W	0.3 W
Max. continuous dissipation		1.9 W 20 °C	1.9 W 20 °C
Insulation			
Insulation rated voltage		250 V AC	250 V AC
Rated surge voltage		6000 V 1.2 / 50 μs	6000 V 1.2 / 50 μs
Overvoltage category		III	III
Insulation pollution degree		3	3
Insulation resistance		1000 MΩ	1000 MΩ
Dielectric strength			
• between coil and contacts		5000 V AC type of insulation: reinforced	5000 V AC type of insulation: reinforced
• contact clearance		2500 V AC type of clearance: full-disconnection	2500 V AC type of clearance: full-disconnection
• pole - pole		2500 V AC type of insulation: basic	2500 V AC type of insulation: basic
Contact - coil distance			
• clearance		≥ 10 mm	≥ 10 mm
• creepage		≥ 10 mm	≥ 10 mm
General data			
Operating / release time (typical values)		40 ms / 5 ms	40 ms / 5 ms
Electrical life			
• resistive AC1		3 x 10 ⁴ ; 35 A. 250 V AC. 20 °C	10 ⁴ ; 50 A. 250 V AC. 20 °C
• AC7a		3 x 10 ⁴ ; 35 A. 250 V AC. 20 °C	3 x 10 ⁴ ; 50 A. 250 V AC. 20 °C
Mechanical life (cycles)		10 ⁶	10 ⁶
Dimensions (L x W x H)		40 x 25 x 49.2 mm	40 x 25 x 49.2 mm
Weight		105 g	105 g
Ambient temperature			
• storage		-40...+105 °C	-40...+105 °C
• operating		-40...+85 °C	-40...+85 °C
Cover protection category		IP 40 PN-EN 60529	IP 40 PN-EN 60529
Environmental protection		RTI PN-EN 116000-3	RTI PN-EN 116000-3
Shock resistance		10 g	10 g
Vibration resistance		1.5 mm DA (constant amplitude) 0...55 Hz	1.5 mm DA (constant amplitude) 10...55 Hz
Solder bath temperature		max. 270 °C	max. 270 °C
Soldering time		max. 5 s	max. 5 s