

# AZSR235 / AZSR250

## 35 A / 50 A POWER RELAY

### FEATURES

- 35 Amp switching (AZSR235)
- 50 Amp switching (AZSR250)
- Contact gap > 2.05 mm (AZSR235), > 1.85 mm (AZSR250)
- Holding power <100 mW
- Dielectric strength 5000 V<sub>RMS</sub>
- Isolation spacing greater than 10 mm
- Double insulation, IEC 60730-1 (VDE 0631, part 1)
- Reinforced insulation, IEC 60335-1 (VDE 0700, part 1)
- UL, CUR E44211
- VDE certificate 40033251



### CONTACTS

<b>Arrangement</b>	SPST (1 Form A) DPST (2 Form A)
<b>Ratings (max.)</b> AZSR235	(resistive load)
switched power	1050 W or 9695 VA
switched current	35 A
switched voltage	150 VDC* or 440 VAC
AZSR250	
switched power	1500 W or 13850 VA
switched current	50 A
switched voltage	150 VDC* or 440 VAC
	* Note: If switching voltage is greater than 30 VDC, special precautions must be taken. Please contact the factory.
<b>Rated Loads</b>	
UL	AZSR235: 35 A at 277 VAC, resistive load AZSR250: 50 A at 277 VAC, resistive load
VDE	AZSR235: 35 A at 263 VAC, referring AC-7a, 85°C AZSR250: 50 A at 263 VAC, referring AC-7a, 85°C
<b>Contact material</b>	AgSnO <sub>2</sub> (silver-tin-oxide)
<b>Contact gap</b>	
AZSR235	> 2.05 mm
AZSR250	> 1.85 mm
<b>Initial resistance</b>	< 50 mΩ

### COIL

<b>Nominal coil DC voltages</b>	see coil voltage specifications table
<b>Dropout</b>	> 5% of nominal coil voltage
<b>Power at pickup voltage</b>	270 mW (typ.)
<b>Holding power</b>	< 100 mW
<b>Max. continuous dissipation</b>	2.0 W at 20°C (68°F) ambient
<b>Temperature Rise</b>	15 K (27°F) at nominal coil voltage
<b>Max. temperature</b>	155°C (311°F) class F

### NOTES

1. All values at 20°C (68°F).
2. Relay may pull in with less than "Must Operate" value.
3. Provide sufficient PCB cross section as heat spreader on terminals.
4. Specifications subject to change without notice.

### GENERAL DATA

<b>Life Expectancy</b>	(minimum operations)
mechanical	1 x 10 <sup>6</sup>
electrical	AZSR235: 5 x 10 <sup>4</sup> at 35 A 250 VAC resistive AZSR250: 5 x 10 <sup>4</sup> at 50 A 250 VAC resistive
<b>Operate Time</b>	40 ms (typ.) at nominal coil voltage
<b>Release Time</b>	5 ms (typ.) at nominal coil voltage, without coil suppression
<b>Dielectric Strength</b>	(at sea level for 1 min.) 5000 V <sub>RMS</sub> coil to contact 2500 V <sub>RMS</sub> between contact sets 2500 V <sub>RMS</sub> between open contacts
<b>Insulation Resistance</b>	1000 MΩ (min.) at 20°C, 500 VDC 50% RH
<b>Isolation spacing</b>	> 10 mm
<b>Insulation</b>	C250 Overvoltage category: III Pollution degree: 3 Nominal voltage: 250 VAC (according to DIN VDE 0110, IEC 60664-1) Double insulation according to IEC 60730-1 (VDE 0631, part 1) Reinforced insulation according to IEC 60335-1 (VDE 0700, part 1)
<b>Operating Temp. Range</b>	-40°C (-40°F) to 85°C (185°F) ambient (at nominal coil voltage)
<b>Vibration</b>	1.5 mm (0.062") DA at 10–55 Hz
<b>Shock</b>	10 g
<b>Enclosure</b>	PA
<b>Terminals</b>	Tinned copper alloy, P. C.
<b>Soldering</b>	
max. temperature	270°C (518°F)
max. time	5 seconds
<b>Dimensions</b>	
length	40.0 mm (1.55")
width	25.0 mm (0.98")
height	49.2 mm (1.94")
<b>Weight</b>	105 grams
<b>Compliance</b>	IEC 61810-1, UL 508, RoHS, REACH
<b>Packing unit in pcs</b>	10 per inner carton / 100 per carton box

**ZETTLER electronics GmbH** - A ZETTLER GROUP Company

Junkersstr. 3, D-82178 Puchheim, Germany

phone: +49 89 800 97-0  
fax: +49 89 800 97-200

office@ZETTLERelectronics.com  
www.ZETTLERelectronics.com

This product specification is to be used only together with the application notes which can be downloaded from [www.ZETTLERelectronics.com/pdfs/relais/ApplicationNotes.pdf](http://www.ZETTLERelectronics.com/pdfs/relais/ApplicationNotes.pdf)

# AZSR235 / AZSR250

## COIL VOLTAGE SPECIFICATIONS

Nominal Coil VDC	Must Operate VDC	Minimum Holding VDC		Max. Continuous VDC	Resistance Ohm $\pm 10\%$
		1-FORM-A (SPST)	2-FORM-A (DPST)		
5	3.75	1.7	2.1	10.0	50
9	6.75	3.1	3.8	18.0	170
12	9.0	4.0	5.0	24.0	300
18	13.5	6.5	7.5	36.0	675
24	18.0	8.0	10.0	48.0	1200

## ORDERING DATA

**AZSR2**     **D**

Coil  
D: DC coil

**Nominal coil voltage**  
see coil voltage specifications table

**Contact material**  
E: Silver-tin-oxide

**Contact arrangement**  
1A: 1-FORM-A (SPST)  
2A: 2-FORM-A (DPST)

**Type**  
35: 35 Amp switching version  
50: 50 Amp switching version

### Example ordering data

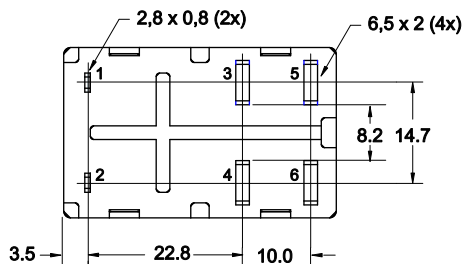
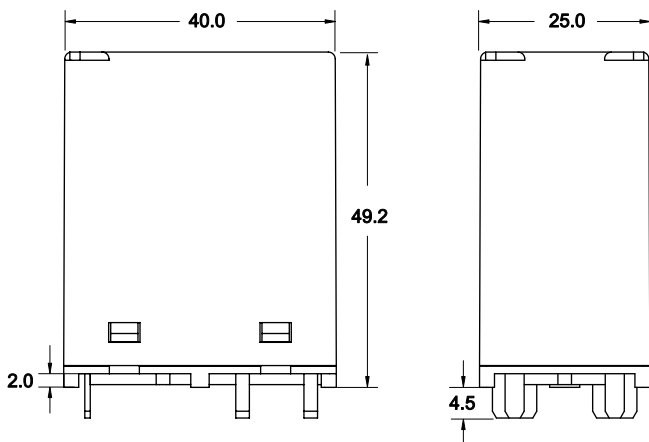
AZSR235-2AE-12D 35 Amp switching, 2 Form A (DPST), contact material: silver-tin-oxide, 12VDC nominal coil voltage

AZSR250-2AE-24D 50 Amp switching, 2 Form A (DPST), contact material: silver-tin-oxide, 24VDC nominal coil voltage

AZSR250-1AE-12D 50 Amp switching, 1 Form A (SPST), contact material: silver-tin-oxide, 12VDC nominal coil voltage

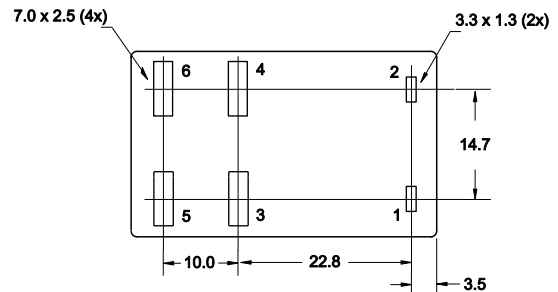
## MECHANICAL DATA

Viewed towards terminals. Dimensions in mm. Tolerance:  $\pm 0.25$  mm  
Note: Terminals 3 and 5 are not used on 1-Form-A (SPST) versions.



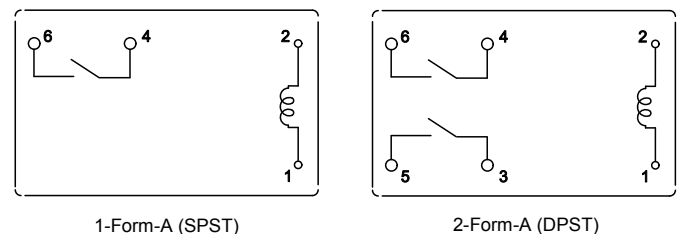
## PC BOARD LAYOUT

Viewed towards terminals.  
Note: Terminals 3 and 5 are not used on 1-Form-A (SPST) versions.



## WIRING DIAGRAM

Viewed towards terminals.



## ZETTLER electronics GmbH - A ZETTLER GROUP Company

Junkersstr. 3, D-82178 Puchheim, Germany

phone: +49 89 800 97-0  
fax: +49 89 800 97-200

office@ZETTLERelectronics.com  
www.ZETTLERelectronics.com

This product specification is to be used only together with the application notes which can be downloaded from [www.ZETTLERelectronics.com/pdfs/relais/ApplicationNotes.pdf](http://www.ZETTLERelectronics.com/pdfs/relais/ApplicationNotes.pdf)