

AZSR165

65 AMP POWER RELAY

FEATURES

- Up to 80 Amp switching capability
- Wide contact gap of ≥ 3.0 mm
- Clearance and creepage of ≥ 10 mm
- 4 kV dielectric strength, 10 kV surge withstand voltage
- UL Class F insulation (155°C)
- UL / CUR E365652
- TÜV B0887930008



CONTACTS

Arrangement	SPST-N.O. (1 Form A)
Ratings (max.)	(resistive load)
switched power	43200 VA
switched current	80 A
carrying current	65 A
switched voltage	690 VAC
Rated Loads	
UL/CUR/TÜV	80 A at 540 VAC, resistive, 85°C, 1k cycles ^{[1][2]} 10 A make - 65 A carry - 10 A break at 690 VAC, resistive, 85°C, 100k cycles ^[1] 20 A make - 65 A carry - 20 A break at 690 VAC, resistive, 85°C, 30k cycles ^[1] 20 A make - 65 A carry - 20 A break at 690 VAC, resistive, 85°C, 100k cycles ^[2]
Contact materials	AgNi - silver nickel ^[1] AgSnO ₂ - silver tin oxide ^[2]
Contact gap	≥ 3.0 mm
Contact resistance	
initial	≤ 10 m Ω (10 A - voltage drop method)
typical	< 1 m Ω (65 A - voltage drop method)

COIL

Nominal coil DC voltages	6, 9, 12, 24
Dropout voltage	$\geq 5\%$ of nominal coil voltage
Holding voltage	$\geq 40\%$ of nominal coil voltage
Coil power	
nominal	2.2 W
at pickup voltage	1.25 W
holding power	360 mW
Temperature Rise	70 K (126°F) at nominal coil voltage
Max. temperature	Class F insulation - 155°C (311°F)

GENERAL DATA

Life Expectancy	(minimum operations)
mechanical	1×10^6
electrical	see UL/CUR/TÜV ratings
Operate Time	40 ms (max.) at nominal coil voltage
Release Time	10 ms (max.) at nominal coil voltage, without coil suppression
Dielectric Strength	(at sea level for 1 min.) 4000 V _{RMS} coil to contact 2000 V _{RMS} between open contacts
Surge Voltage	coil to contact
	10 kV (at 1.2 x 50 μ s)
Insulation Resistance	1000 M Ω (min.) at 20°C, 500 VDC, 50% RH
Creepage	coil to contact
	≥ 10.0 mm
Clearance	coil to contact
	≥ 10.0 mm
Temperature Range	(at nominal coil voltage)
operating	-40°C (-40°F) to 85°C (185°F)
Vibration resistance	1.5 mm (0.062") DA at 10-55 Hz
Shock resistance	10 g
Enclosure	P.B.T. polyester
type	RT II, flux proof
material group	IIIa
flammability	UL94 V-0
Terminals	Tinned copper alloy, P. C.
Soldering	
max. temperature	270 °C (518°F)
max. time	5 seconds
Cleaning	
max. solvent temp.	80°C (176°F)
max. immersion time	30 seconds
Dimensions	
length	38.0 mm (1,496")
width	33.0 mm (1,300")
height	41.5 mm (1,634")
Weight	76 grams (approx.)
Packing unit in pcs	10 per plastic tube / 150 per carton box
Compliance	UL 508, IEC 61810-1, RoHS, REACH

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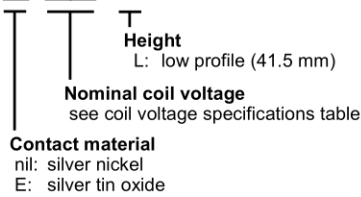
AZSR165

COIL VOLTAGE SPECIFICATIONS

Nominal Coil VDC	Must Operate VDC	Min. Holding VDC	Max. Cont. VDC	Resistance Ohm \pm 10%
6	4.5	2.4	6.6	16.2
9	6.75	3.6	9.9	36.8
12	9.0	4.8	13.2	65.0
24	18.0	9.6	26.4	262

ORDERING DATA

AZSR165-1A□-□DL



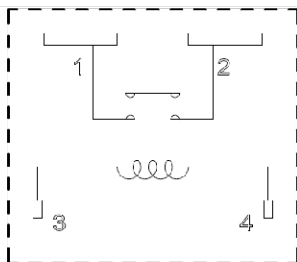
Example ordering data

AZSR165-1A-12DL Contact material: silver nickel, 12 VDC nom. coil voltage
 AZSR165-1AE-9DL Contact material: silver tin oxide, 9 VDC nom. coil voltage

WIRING DIAGRAMS

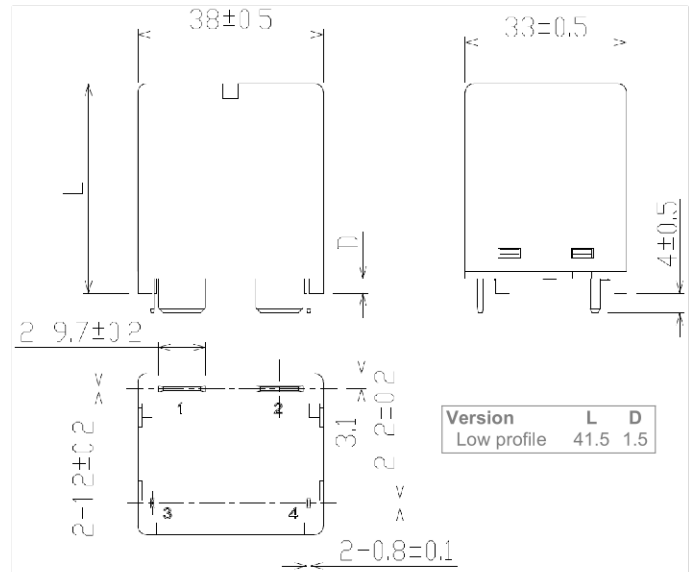
Viewed towards terminals.

Note: Provide sufficient PCB cross section on load terminals. Recommended cross section according to IEC 61810-1 at 65A: 16 mm².



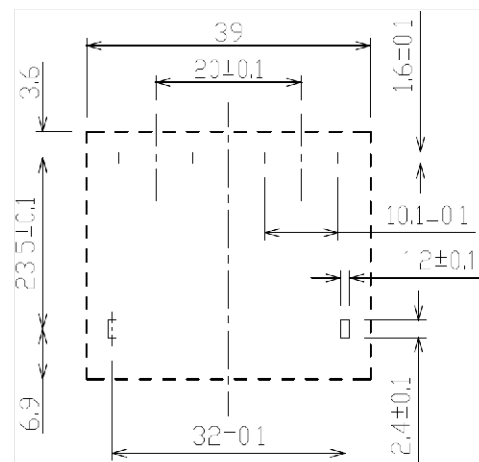
MECHANICAL DATA

Dimensions in mm. Tolerance: \pm 0.5 mm unless otherwise stated



PC BOARD LAYOUT

Dimensions in mm. Tolerance: \pm 0.1 mm unless otherwise stated



NOTES

- Specifications subject to change without notice.
- All values at 20°C (68°F).
- Relay may pull in with less than "Must Operate" value.
- Provide sufficient PCB cross section on load terminals. Recommended cross section according to IEC 61810-1 at 65A: 16 mm²
- Coil suppression circuits such as diodes, etc. in parallel to the coil will lengthen the release time.

DISCLAIMER

This product specification is to be used in conjunction with the application notes which can be downloaded from www.ZETTLERelectronics.com/pdfs/relais/ApplicationNotes.pdf

The specification provides an overview of the most significant part features. Any individual applications and operating conditions are not taken into consideration. It is recommended to test the product under application conditions. Responsibility for the application remains with the customer. Proper operation and service life cannot be guaranteed if the part is operated outside the specified limits.

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