

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
- 5 kV dielectric strength, 10 kV surge withstand voltage
- UL Class F insulation(155°C)
- UL / CUR E365652
- TÜV B0887930008
- CQC 17002178200



CONTACTS

Arrangement	SPST-N.O. (1 Form A)
Ratings (max.) switched power switched current continuous current switched voltage	(resistive load) 43200 VA 80A 65A 690VAC
Rated Loads UL/CUR/TÜV/CQC	80A 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 material	AgNi - silver nickel ^[1] AgSnO ₂ - silver tin oxide ^[2]
Contact gap	≥ 3.0 mm
Contact resistance initial	(load contact) ≤ 100 m Ω (at 6V, 1A, voltage drop method) ≤ 10 m Ω (at 10A, voltage drop method)
typical	< 3 m Ω (at 6V, 1A, 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 holding power at pickup voltage	2.2 W 360mW 1.25 W
Temperature Rise	70 K (126°F) at nom. coil voltage, 85°C
Max. temperature	Class F insulation - 155°C (311°F)

GENERAL DATA

Life Expectancy mechanical electrical	(minimum operations) 1×10^6 see UL/CUR/TÜV/CQC ratings
Operate Time max. typical	(at nominal coil voltage) 40 ms < 25 ms
Release Time max. typical	(at nominal coil voltage) 10 ms (without coil suppression) < 5 ms (suppression with Z-diode at 2 x Unom.)
Dielectric Strength	(at sea level for 1 min.) 5000 V _{RMS} coil to contact 2500 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 23°C, 500 VDC, 50% RH
Creepage coil to contact	≥ 10.0 mm
Clearance coil to contact	≥ 10.0 mm
Temperature Range operating	(at nominal coil voltage) -40°C (-40°F) to 85°C (185°F)
Vibration resistance	0.062" (1.5 mm) DA at 10–55 Hz
Shock	10 g
Enclosure protection category material group flammability	PBT(Case) and PA46(Base) RT II, flux proof Illa UL94 V-0
Terminals	Tinned copper alloy, P. C.
Soldering max. temperature max. time	270 °C (518°F) 5 seconds
Dimensions length width height	38.0 mm (1.50") 33.0 mm (1.30") 41.5 mm (1.63")
Weight	76 grams (approx.)
Compliance	UL 508, IEC 61810-1, RoHS, REACH
Packing unit in pcs	10 per plastic tube / 150 per carton box

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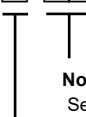
COIL VOLTAGE SPECIFICATIONS

Nominal Coil VDC	Must Operate VDC	Min. Holding VDC	Max. Cont. VDC	Resistance Ohm \pm 10%
6	4.5	2.4	6.6	16.5
9	6.75	3.6	9.9	37
12	9	4.8	13.2	65
24	18	9.6	26.4	260

Note: All values at 23°C (73°F), upright position, terminals downward.

ORDERING DATA

AZSR165-1A□-□DL



Nominal coil voltage
See coil voltage specifications table

Contact material
Nil: silver nickel
E: silver tin oxide

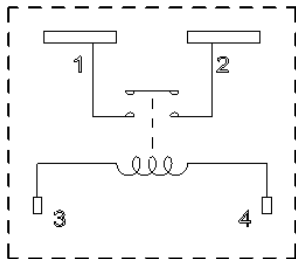
Example ordering data

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 is 16 mm²

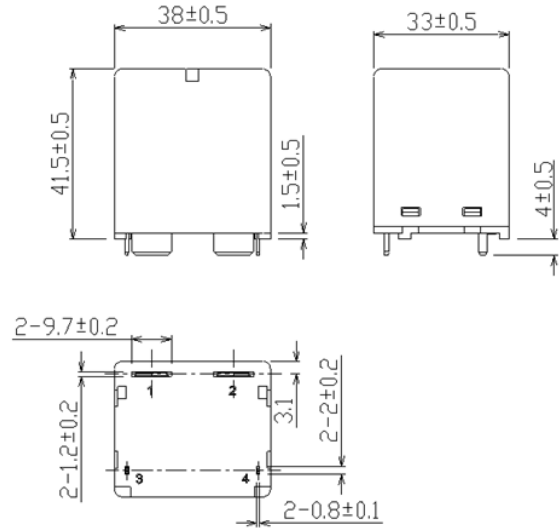


NOTES

- Specifications subject to change without notice.
- All values at 23°C (73°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: 16mm²
- Coil suppression circuits such as diodes, etc. in parallel to the coil will lengthen the release time.

MECHANICAL DATA

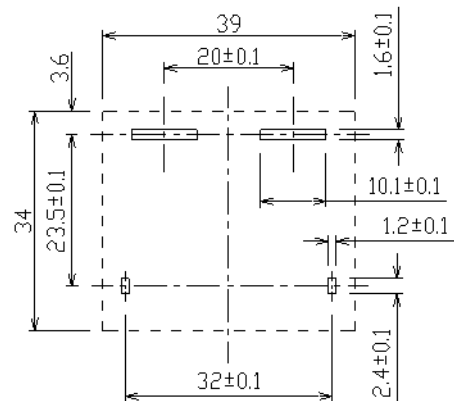
Dimensions in mm. Tolerance: \pm 0.5 mm unless otherwise stated



PC BOARD LAYOUT

Recommendation for PC board layout.

Dimensions in mm. Viewed towards terminals.



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DISCLAIMER

This product specification is to be used in conjunction with the application notes which can be downloaded from the regional ZETTLER relay websites. 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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