

AZSR143

50 AMP MINIATURE POWER RELAY

FEATURES

- 50 Amp switching capability
- Contact gap: 1.8mm standard / 2.0mm available
- Dielectric strength 4.5 kV_{RMS}
- 10kV Surge
- UL class F insulation
- UL / CUR E365652
- TÜV B0887930015
- CQC 19002227975



CONTACTS

Arrangement	SPST-N.O. (1 Form A)
Ratings (max.) switched power switched current continuous current switched voltage	(resistive load) 13850 VA 50 A 50 A 277 VAC
Rated Loads UL/CUR/TÜV/CQC	43 A at 277 VAC, resistive, 85°C, 30k cycles 33 A at 277 VAC, resistive, 105°C, 30k cycles 50 A at 277 VAC, resistive, 85°C, 6k cycles 20 A at 277 VAC on, carry 50A, 20A 277VAC off, resistive, 85°C, 50k cycles
Contact material	AgSnO ₂ (silver tin oxide)
Contact gap standard version option (103) version	1.8 mm 2.0 mm
Contact resistance initial typical	(load contact) ≤ 100 mΩ < 3 mΩ

COIL

Nominal coil DC voltages	5, 9, 12, 18, 24, 48
Dropout voltage	> 5% of nominal coil voltage
Holding voltage	> 35% of nominal coil voltage
Coil power nominal holding power at pickup voltage	(at 23 °C) 1.6 W 196 mW 900 mW
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 x 10 ⁵ see UL/CUR/TÜV/CQC ratings
Operate Time	20 ms (max.) at nominal coil voltage
Release Time	10 ms (max.) at nominal coil voltage, without coil suppression
Dielectric Strength coil to load contacts open load contacts	(at sea level for 1 min.) 4500 V _{RMS} 2500 V _{RMS}
Surge Voltage	10kV @1.2/50μs (coil to contacts)
Insulation Resistance	1000 MΩ (min.) at 23°C, 500 VDC, 50% RH
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	20 g
Enclosure protection category material group flammability	P.B.T. polyester RT II, flux proof IIla UL94 V-0
Terminals	Tinned copper alloy, P. C.
Soldering max. temperature max. time	270 °C 5 s
Dimensions length width height	35.0 mm (1.38") 16.0 mm (0.63") 27.9 mm (1.10")
Weight	25 grams (approx.)
Compliance	UL 508, IEC 61810-1, RoHS, REACH
Packing unit in pcs	50 per plastic tray / 500 per carton box

ZETTLER

AZSR143

COIL VOLTAGE SPECIFICATIONS

Nominal Coil VDC	Must Operate VDC	Min. Holding VDC	Max. Cont. VDC	Resistance Ohm $\pm 10\%$
5	3.75	1.75	6.0	15.5
9	6.75	3.15	10.8	50.5
12	9.0	4.2	14.4	90.0
18	13.5	6.3	21.6	202.5
24	18.0	8.4	28.8	360.0
48	36.0	16.8	57.6	1440

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

ORDERING DATA

AZSR143-1AE-D

Options

nil: standard version
(103): 2.0 mm contact gap version

Nominal coil voltage
see coil voltage specifications table

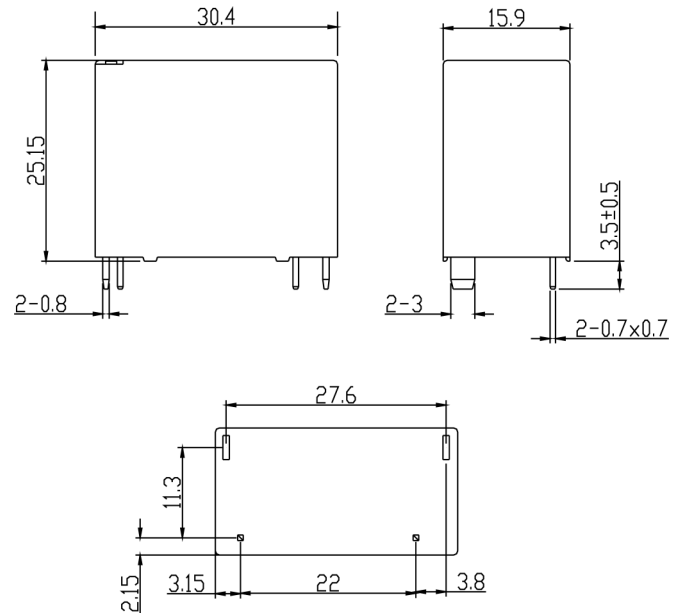
Example ordering data

AZSR143-1AE-24D 24 VDC nominal coil voltage, 1.8 mm contact gap

AZSR143-1AE-24D(103) 24 VDC nominal coil voltage, 2.0 mm contact gap

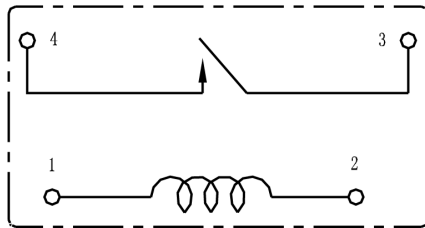
MECHANICAL DATA

Dimensions in mm. Tolerance: $\pm 0.3\text{mm}$



WIRING DIAGRAMS

Viewed towards terminals

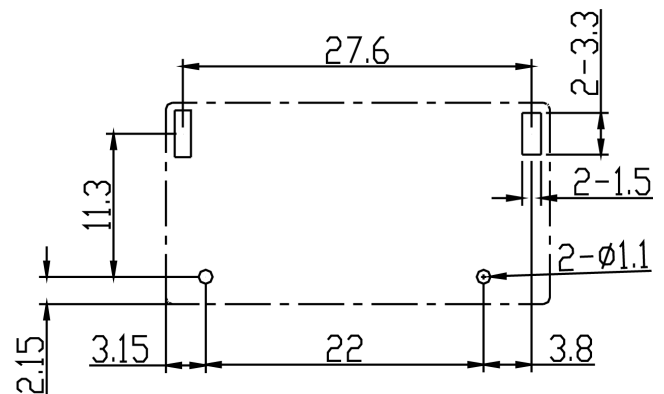


NOTES

1. All values at 23°C (73°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.

PC BOARD LAYOUT

Viewed towards terminals. Dimensions in mm.



ZETTLER

www.ZETTLER-group.com

page 2 of 3

2020-06-26

AZSR143

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.

ZETTLER GROUP

Building on a foundation of more than a century of expertise in German precision engineering, ZETTLER Group is a world-class enterprise, engaged in the design, manufacturing, sales and distribution of electronic components. Our industry leadership is based on a unique combination of engineering competence and global scale.

For more information on other ZETTLER Group companies, please visit [zettler-group.com](https://www.zettler-group.com). For support on this product or other ZETTLER relays, please visit one of the group sites below.

SITES FOR ZETTLER RELAYS

NORTH AMERICA

American Zettler, Inc.
www.azettler.com
sales@azettler.com

EUROPE

Zettler Electronics, GmbH
www.zettlerelectronics.com
office@zettlerelectronics.com

Zettler Electronics, Poland
www.zettlerelectronics.pl
office@zettlerelectronics.pl

CHINA

Zettler Group, China
www.zettlercn.com
relay@zettlercn.com

ASIA PACIFIC

Zettler Electronics (HK) Ltd.
www.zettlerhk.com
sales@zettlerhk.com



ZETTLER