

# AZ21501

## MINIATURE 50 A POWER RELAY

### FEATURES

- 50 Amp switching capability
- 1 Form A, B and C contacts available
- Small dimensions and footprint
- Low coil power consumption
- Class F (155°C) insulation system standard
- Available with an epoxy seal for automatic wave soldering and immersion cleaning
- UL, CUR file E44211



Illustration similar

### CONTACTS

<b>Arrangement</b>	SPST-N.O. (1 Form A) SPST-N.C. (1 Form B) SPDT (1 Form C)
<b>Ratings (max.)</b>	(resistive load) switched power 1500 W or 12000 VA switched current 50 A (N.O. contacts), 35 A (N.C. contacts) switched voltage 30 VDC* or 300 VAC
	* Note: If switching voltage is greater than 30 VDC, special precautions must be taken. Please contact the factory.
<b>Rated Loads</b>	
UL/CUR	N.O. contacts 50 A at 250 VAC, 10k cycles, resistive, 40°C 40 A at 250 VAC, 50k cycles, resistive, 40°C
	N.C. contacts 35 A at 250 VAC, 10k cycles, resistive, 40°C 30 A at 250 VAC, 50k cycles, resistive, 40°C
<b>Contact materials</b>	AgSnO <sub>2</sub> (silver-tin-oxide)
<b>Initial resistance</b>	≤ 30 mΩ

### COIL

<b>Nominal coil DC voltages</b>	see coil voltage specifications table
<b>Dropout</b>	> 10% of nominal coil voltage
<b>Coil power</b>	(typ.) nominal 1.5 W at pickup voltage < 850 mW
<b>Max. continuous dissipation</b>	2.5 W at 20°C (68°F) ambient
<b>Temperature Rise</b>	56 K (133°F) at nominal coil voltage
<b>Max. temperature</b>	155°C (311°F) - class F coil wire

### GENERAL DATA

<b>Life Expectancy</b>	(minimum operations) mechanical 1 x 10 <sup>7</sup> electrical 5 x 10 <sup>4</sup> at 40 A 250 VAC resistive (N.O.)
<b>Operate Time</b>	15 ms (max.) at nominal coil voltage
<b>Release Time</b>	10 ms (max.) at nominal coil voltage, w/o coil suppression
<b>Dielectric Strength</b>	(at sea level for 1 min.) coil to contact 4000 V <sub>RMS</sub> between open contacts 1500 V <sub>RMS</sub>
<b>Insulation Resistance</b>	1000 MΩ (min.) at 20°C, 500 VDC, 50% RH
<b>Temperature Range</b>	(at nominal coil voltage) operating -55°C (-67°F) to 85°C (185°F)
<b>Vibration resistance</b>	1.5 mm (0.062") DA at 10–55 Hz
<b>Shock</b>	20 g
<b>Terminals</b>	Tinned copper alloy, P. C.
<b>Soldering</b>	max. temperature 270°C (518°F) max. time 5 seconds
<b>Cleaning</b>	max. solvent temp. 80°C (176°F) max. immersion time 30 seconds
<b>Dimensions</b>	length 32.5 mm (1.280") width 27.6 mm (1.087") height 20.5 mm (0.807")
<b>Weight</b>	30 grams (approx.)
<b>Compliance</b>	IEC 61810-1, UL 508, RoHS, REACH
<b>Packing unit in pcs</b>	15 per plastic tube / 300 per carton box

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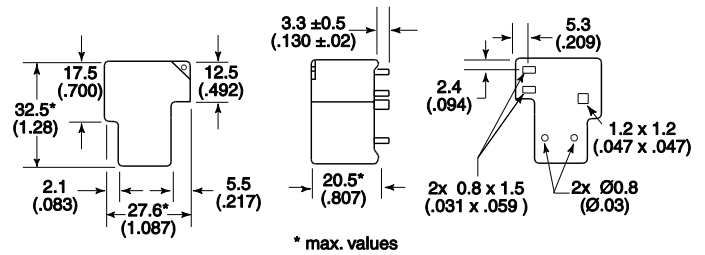
# AZ21501

## COIL VOLTAGE SPECIFICATIONS

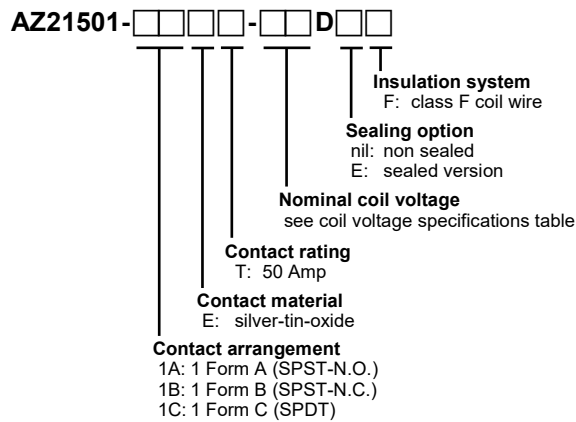
Nominal Coil VDC	Must Operate VDC	Max. Continuous VDC	Resistance Ohm $\pm 10\%$
3	2.25	3.9	6
5	3.75	6.5	16.7
6	4.5	7.8	24
9	6.75	11.7	54
12	9.0	15.6	96
15	11.25	19.5	150
18	13.5	23.4	216
24	18.0	31.2	384
48	36.0	62.4	1536
110	82.5	143	8067

## MECHANICAL DATA

Dimensions in mm. Inch equivalents in parentheses for information purposes.



## ORDERING DATA

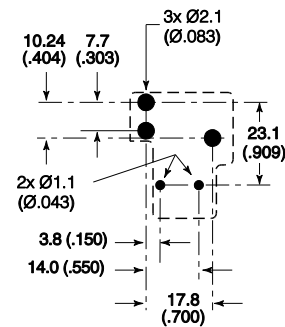


### Example ordering data

AZ21501-1AET-12DF 1 Form A, 12 VDC nominal coil voltage, non sealed  
AZ21501-1CET-24DEF 1 Form C, 24 VDC nominal coil voltage, sealed

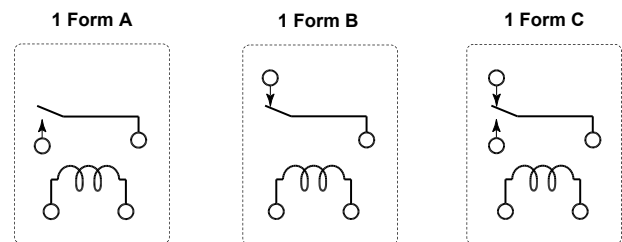
## PC BOARD LAYOUT

Dimensions in mm. Inch equivalents in parentheses for information purposes.  
Viewed towards terminals.



## WIRING DIAGRAMS

Viewed towards terminals.



## NOTES

- Specifications subject to change without notice.
- All values at 20°C (68°F).
- Relay may pull in with less than "Must Operate" value.
- Unsealed relays should not be dip cleaned.
- 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](http://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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