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
- TÜV R 50432008

Illustration similar

CONTACTS

Arrangement	SPST-NO (1 Form A) SPST-NC (1 Form B) SPDT (1 Form C)
Ratings (max.)	(resistive load)
switched power	1500 W or 12000 VA
switched current	50 A (NO contacts), 35 A (NC 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.
Rated Loads	
UL/CUR	NO contact 50 A at 240 VAC, 10k cycles, resistive 40 A at 240 VAC, 50k cycles, resistive NC contact 35 A at 240 VAC, 10k cycles, resistive 30 A at 240 VAC, 50k cycles, resistive
TÜV	NO contact 50 A at 240 VAC, 10k cycles, resistive NC contact 35 A at 240 VAC, 10k cycles, resistive Note: Approvals only with the vent hole open for RT III (wash tight) types.
Contact materials	$AgSnO_2$ / $AgSnO_2$+Ag
Initial resistance	≤ 30 mΩ

COIL

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

GENERAL DATA

Life Expectancy	(minimum operations)
mechanical	1×10^7
electrical	5×10^4 at 40 A 250 VAC resistive (N.O.)
Operate Time	
max.	15 ms at nominal coil voltage
Release Time	
max.	10 ms at nom. coil voltage, w/o coil suppression
Dielectric Strength	(at sea level for 1 min.)
coil to contact	4000 V_{RMS}
between open contacts	1500 V_{RMS}
Insulation Resistance	1000 MΩ (min.) at 20°C, 500 VDC, 50% RH
Temperature Range	(at nominal coil voltage)
operating	-55°C (-67°F) to 85°C (185°F)
Vibration resistance	1.5 mm (0.062") DA at 10–55 Hz
Shock	20 g
Enclosure	
protection category	RT II, flux proof; RT III, wash tight
material group	IIIa
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	32.5 mm (1.280")
width	27.6 mm (1.087")
height	20.5 mm (0.807")
Weight	30 grams (approx.)
Compliance	IEC 61810-1, UL 508, RoHS, REACH
Packing unit in pcs	15 per plastic tube / 300 per carton box

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COIL VOLTAGE SPECIFICATIONS

Nominal Coil VDC	Must Operate VDC	Max. Continuous VDC	Resistance Ohm ± 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

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

ORDERING DATA

AZ21501-□□□□-□□D□□

Insulation system
F: class F coil wire

Sealing option
nil: RT II - non sealed
E: RT III - sealed version

Nominal coil voltage
see coil voltage specifications table

Contact rating
T: 50 Amp

Contact material
E: silver-tin-oxide

Contact arrangement
1A: 1 Form A (SPST-N.O.)
1B: 1 Form B (SPST-N.C.)
1C: 1 Form C (SPDT)

Example ordering data

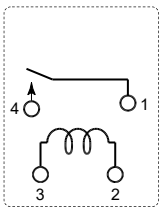
AZ21501-1AET-12DF 1 Form A, 12 VDC nominal coil voltage, non sealed

AZ21501-1CET-24DEF 1 Form C, 24 VDC nominal coil voltage, sealed

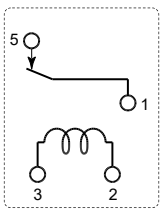
WIRING DIAGRAMS

Viewed towards terminals.

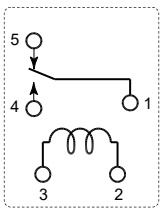
1 Form A



1 Form B

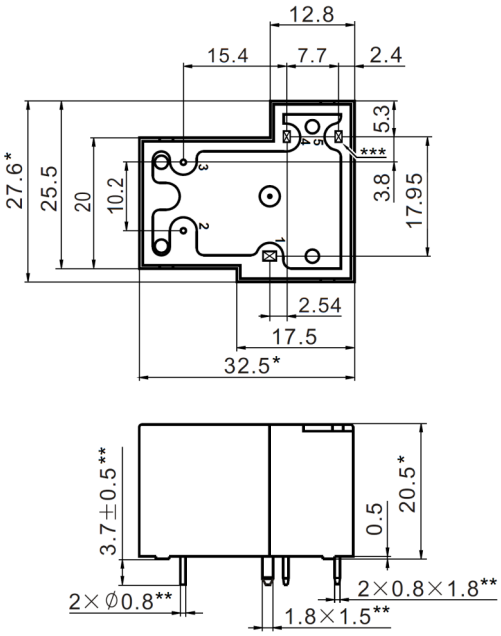


1 Form C



MECHANICAL DATA

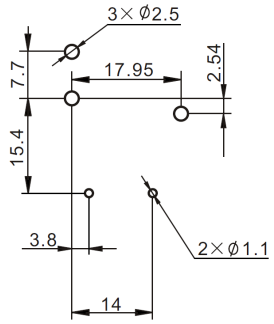
Dimensions in mm. Unless otherwise stated, tolerance for dimensions ≤ 5 mm is ± 0.3 mm, tolerance for dimensions > 5 mm is ± 0.4 mm.



Notes: * Dimensions are maximum values.
** Dimensions of terminals are without tin dipping.
*** 1 Form A versions without terminal 5, 1 Form B versions without terminal 4.

PC BOARD LAYOUT

Recommendation for PC board layout. Dimensions in mm. Viewed towards terminals.



NOTES

1. All values at reference temperature of 23°C (73°F) unless stated otherwise.
2. Relay may pull in with less than “Must Operate” value.
3. Provide sufficient PCB cross section as heat spreader on load terminals.
4. Coil suppression circuits such as diodes, etc. in parallel to the coil will lengthen the release time.
5. Relay adjustment may be affected if excessive shock is applied to the relay.
6. Specifications subject to change without notice.

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.