

AZ9405

10 AMP MINIATURE POWER RELAY

FEATURES

- 10 A switching capability
- Available in SPST-N.O. and SPDT versions
- 4 kV dielectric strength, 8 kV surge withstand voltage
- Epoxy sealed version available
- Standard and sensitive coil available
- UL Class F insulation (155°C) standard
- Compact size, low seated height of 15.2 mm
- UL, CUR file E44211
- TÜV R50304647



CONTACTS

Arrangement SPST-N.O. (1 Form A), SPDT (1 Form C)

Ratings (max.) (resistive load)
switched power 150 W or 1400 VA
switched current 10 A
switched voltage 30 VDC* or 277 VAC

* Note: If switching voltage is greater than 30 VDC, special precautions must be taken. Please contact the factory.

Rated Loads

UL

1 Form A

10 A at 125 VAC, resistive, 85°C, 100k cycles
5 A at 277 VAC, gen.use/resistive, 85°C, 100k cycles
5 A at 30 VDC, gen.use/resistive, 85°C, 100k cycles
 $\frac{1}{10}$ HP at 125/250 VAC, 100k cycles

1 Form C (N.O. contact)

5 A at 277 VAC, gen.use/resistive, 85°C, 100k cycles
5 A at 30 VDC, gen.use/resistive, 85°C, 100k cycles
 $\frac{1}{10}$ HP at 125/250 VAC, 100k cycles

1 Form C (N.C. contact)

3 A at 277 VAC, gen.use/resistive, 85°C, 100k cycles
3 A at 30 VDC, gen.use/resistive, 85°C, 100k cycles

TÜV

1 Form A

10 A at 125 VAC, resistive, 85°C, 100k cycles
5 A at 277 VAC, resistive, 85°C, 100k cycles

1 Form C (N.O. contact)

5 A at 277 VAC, resistive, 85°C, 100k cycles
5 A at 30 VDC, resistive, 85°C, 100k cycles

1 Form C (N.C. contact)

3 A at 277 VAC, resistive, 85°C, 100k cycles
3 A at 30 VDC, resistive, 85°C, 100k cycles

Contact material AgSnO₂ (silver tin oxide)

Initial resistance ≤ 100 mΩ (1 A / 6 V - voltage drop method)

NOTES

1. All values at 20°C (68°F).
2. Relay may pull in with less than "Must Operate" value.
3. Specifications subject to change without notice.

GENERAL DATA

Life Expectancy (minimum operations)
mechanical 1×10^7
electrical 1×10^5 at rated loads

Operate Time (max.) at nominal coil voltage
standard coil 10 ms
sensitive coil 15 ms

Release Time 5 ms (max.) at nominal coil voltage, without coil suppression

Dielectric Strength (at sea level for 1 min.)
4000 V_{RMS} coil to contact
1000 V_{RMS} between open contacts

Surge voltage 8 kV (at 1.2 x 50 μs) coil to contact

Insulation Resistance 1000 MΩ (min.) at 20°C, 500 VDC, 50% RH
Clearance 4 mm (1 Form A), 3 mm (1 Form C)
Creepage 6 mm (1 Form A), 5 mm (1 Form C)

Temperature Range (at nominal coil voltage)
operating -40°C (-40°F) to 85°C (185°F)

Vibration resistance 0.062" (1.5 mm) DA at 10–55 Hz
Shock 10 g operating

Enclosure P.B.T. polyester, 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 20.0 mm (0.787")
width 10.0 mm (0.394")
height 15.2 mm (0.598")
Weight 7 grams (approx.)

Compliance UL 508, IEC 61810-1, RoHS, REACH

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

AZ9405

COIL

Nominal coil DC voltages	see coil voltage specifications tables
Dropout	> 5% of nominal coil voltage
Nominal power	
standard coil	400 mW
sensitive coil	200 mW
Power at pickup voltage	(typ.)
standard coil	225 mW
sensitive coil	113 mW
Max. continuous dissipation	
standard coil	676 mW
sensitive coil	338 mW
Temperature Rise	(at nominal coil voltage)
standard coil	42 K (76°F)
sensitive coil	24 K (44°F)
Max. temperature	Class F insulation - 155°C (311°F)

COIL VOLTAGE SPECIFICATIONS

Standard Coil

Nominal Coil VDC	Must Operate VDC	Max. Continuous VDC	Resistance Ohm ± 10%
3	2.25	3.9	22.5
5	3.75	6.5	63
6	4.5	7.8	90
9	6.75	11.7	203
12	9.0	15.6	360
18	15.5	23.4	810
24	18.0	31.2	1440
48	36.0	62.4	5760

Sensitive Coil

Nominal Coil VDC	Must Operate VDC	Max. Continuous VDC	Resistance Ohm ± 10%
3	2.25	3.9	45
5	3.75	6.5	125
6	4.5	7.8	180
9	6.75	11.7	400
12	9.0	15.6	720
18	13.5	23.4	1620
24	18.0	31.2	2800

ORDERING DATA

AZ9405-□□-□□D□□F

Sealing option
 nil: non sealed
 E: sealed version
Coil option
 nil: standard coil
 S: sensitive coil
Nominal coil voltage
 see coil voltage specifications tables
Contact arrangement
 1A: 1 Form A (SPST-N.O.)
 1C: 1 Form C (SPDT)

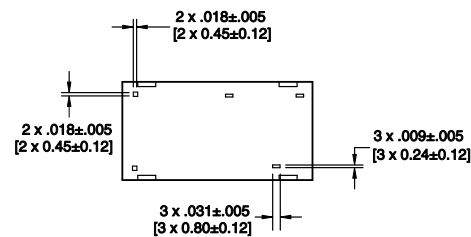
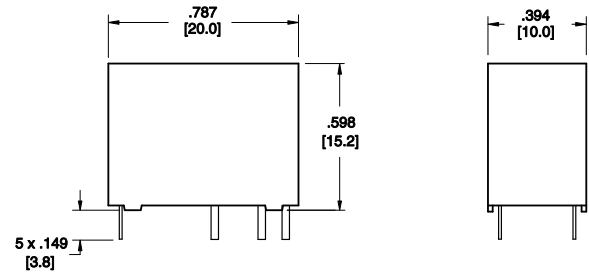
Example ordering data

AZ9405-1A-5DF 1 Form A, 5 VDC coil voltage, standard coil, non sealed

AZ9405-1A-12DSEF 1 Form A, 12 VDC coil voltage, sensitive coil, sealed

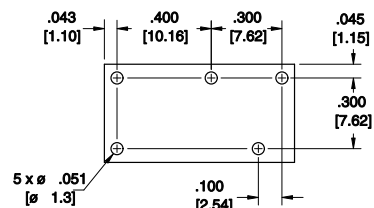
MECHANICAL DATA

Dimensions in inches with metric equivalents in parentheses. Tolerance: ± .010"



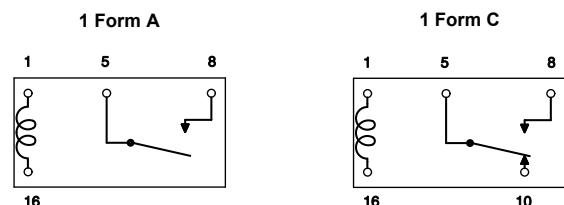
PC BOARD LAYOUT

Dimensions in inches with metric equivalents in parentheses. Tolerance: ± .010"
Viewed towards terminals.



WIRING DIAGRAMS

Viewed towards terminals.



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