

12 AMP MINIATURE POWER RELAY

FEATURES

- 12 Amp switching capability
- 5 kV dielectric strength, Isolation spacing ≥ 10 mm
- Reinforced insulation according IEC 60730-1, IEC 60335-1
- Proof tracking index (PTI/CTI) 250
- AC and DC coils available
- Compact size, low seated height of 15.7 mm
- UL / CUR file E43203
- VDE certificate 40012572



CONTACTS

Arrangement	SPST-N.O. (1 Form A) SPDT (1 Form C)
Ratings (max.) switched power switched current switched voltage	(resistive load) 300 W or 3000 VA 12 A 300 VDC* or 400 VAC * Note: If switching voltage is greater than 30 VDC, special precautions must be taken. Please contact the factory.
Rated Loads UL, CUR	12 A at 250 VAC, general use ^{[1][2]}
VDE	1 Form A - DC coil types 12 A at 250 VAC, 50k cycles, 85°C ^[1] 12 A at 250 VAC, 10k cycles, 85°C ^[2] 1 Form A - AC coil types 12 A at 250 VAC, 60k cycles, 70°C ^{[1][2]} 1 Form C - DC coil types 12 A at 250 VAC, 50k cycles, 85°C ^[1] 12 A at 250 VAC, 10k cycles, 85°C ^[2] 1 Form C - AC coil types 12 A at 250 VAC, 60k cycles, 70°C ^[1] 12 A at 250 VAC, 10k cycles, 70°C ^[2]
Contact material	AgNi (silver nickel) ^[1] AgNi+Au (silver nickel - gold plated) ^[1] AgSnO ₂ (silver tin oxide) ^[2]
Initial resistance	≤ 100 m Ω

COIL

Nominal coil voltages	see coil voltage specifications tables
Dropout DC coil types AC coil types	> 10% of nominal coil voltage > 15% of nominal coil voltage
Coil power DC coil types nominal max. continuous at pickup voltage AC coil types nominal max. continuous at pickup voltage	at 20°C (68°F) ambient temperature 0.4 W (approx.) 1.7 W 200 mW (typ.) 0.75 VA (approx.) 1.7 VA 0.42 VA (typ.)
Temperature Rise	26 K (47°F) at nominal coil voltage
Max. temperature	Class F insulation - 155°C (311°F)

GENERAL DATA

Life Expectancy mechanical electrical	(minimum operations) 3 x 10 ⁷ 1 x 10 ⁵ at 12 A 250VAC resistive
Operate Time Release Time	7 ms (typ.) at nominal coil voltage 3 ms (typ.) at nominal coil voltage, without coil suppression
Dielectric Strength	(at sea level for 1 min.) 5000 V _{RMS} coil to contact 1000 V _{RMS} between open contacts
Insulation Resistance Isolation spacing clearance creepage Insulation	10 ⁵ M Ω (min.) at 20°C, 500 VDC, 50% RH (coil to contact) ≥ 10 mm ≥ 10 mm B250 (1 Form C, flux proof versions) C250 (other versions) Overvoltage category: III Pollution degree: 3 Nominal voltage: 250 VAC (according to DIN VDE 0110, IEC 60664-1) Reinforced insulation according to IEC 60730-1 (VDE 0631, part 1) IEC 60335-1 (VDE 0700, part 1)
Temperature Range operating DC coil types AC coil types	(at nominal coil voltage) -40°C (-40°F) to 85°C (185°F) -40°C (-40°F) to 70°C (158°F)
Vibration resistance N.O. contacts N.C. contacts	20 g at 30 - 500 Hz 5 g at 20 - 500 Hz
Shock resistance	20 g
Enclosure type material group flammability	P.B.T. polyester flux proof, wash tight Illa UL94 V-0
Terminals	Tinned copper alloy, P. C.
Soldering max. temperature max. time	270 °C (518°F) 5 seconds
Cleaning max. solvent temp. max. immersion time	80°C (176°F) 30 seconds
Dimensions length width height	29.0 mm (1.142") 12.7 mm (0.500") 15.7 mm (0.618")
Weight	14 grams (approx.)
Packing unit in pcs Compliance	20 per carton tube / 1000 per carton box UL 508, IEC 61810-1, RoHS, REACH

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DC COIL VOLTAGE SPECIFICATIONS

Nominal Coil VDC	Must Operate VDC	Max. Cont. VDC	Nom. Current mA $\pm 10\%$	Resistance Ohm $\pm 10\%$
3	2.1	7.6	136	22
5	3.5	12.7	83.3	60
6	4.2	15.3	66.7	90
9	6.3	22.9	45.0	200
12	8.4	30.6	33.3	360
18	12.6	45.9	25.4	710
24	16.8	61.2	16.7	1440
36	25.2	92.0	11.5	3140
48	33.6	122	8.42	5700
60	42.0	153	8.0	7500
110	77.0	280	4.37	25200

AC COIL VOLTAGE SPECIFICATIONS

Nominal Coil VAC	Must Operate VAC	Max. Cont. VAC	Nom. Current mA $\pm 10\%$	Resistance Ohm $\pm 10\%$
12	9.0	18.0	63.0	100
24	18.0	36.0	31.3	400
48	36.0	72.0	15.6	1550
60	45.0	90.0	12.5	2600
110	82.5	165.0	6.8	8900
115	86.3	172.5	6.5	9600
120	90.0	180.0	6.3	10200
220	165.0	330.0	3.4	35500
230	172.5	345.0	3.3	38500
240	180.0	360.0	3.1	42500

ORDERING DATA

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Sealing option
 nil: flux proof - non sealed
 E: wash tight - sealed

Coil type
 D: DC coil type
 A: AC coil type

Nominal coil voltage
 see coil voltage specifications tables

Contact material
 nil: silver nickel
 G: silver nickel - gold plated
 E: silver tin oxide

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

Pinout/Spacing
 nil: 3.5mm standard spacing
 L: 5.0mm LEFT spacing
 R: 5.0mm RIGHT spacing

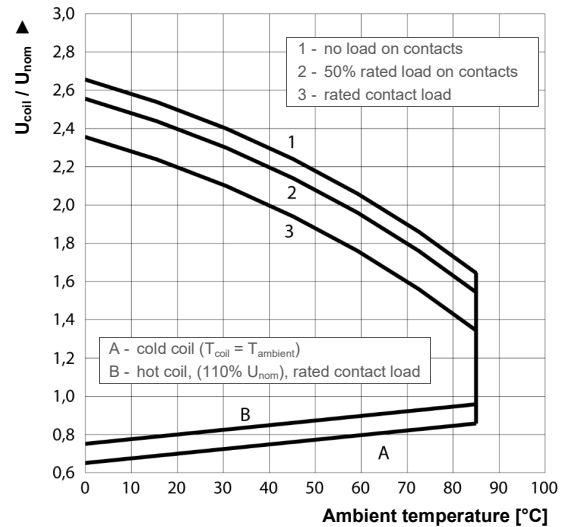
Example ordering data

AZ763-1AE-12D 1 Form A (SPST-N.O.), silver tin oxide, 12 VDC nominal coil voltage, 3.5mm standard spacing, flux tight version

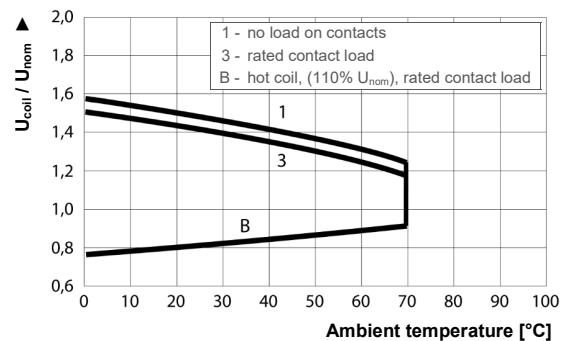
 AZ763R-1CG-24DE 1 Form C (SPDT), gold plated silver nickel, 24 VDC coil, 5.0 mm RIGHT spacing, wash tight version

 AZ763L-1A-230AE 1 Form A (SPST-N.O.), silver nickel, 230 VAC coil, 5.0 mm LEFT spacing, wash tight version

DC COIL OPERATING RANGE

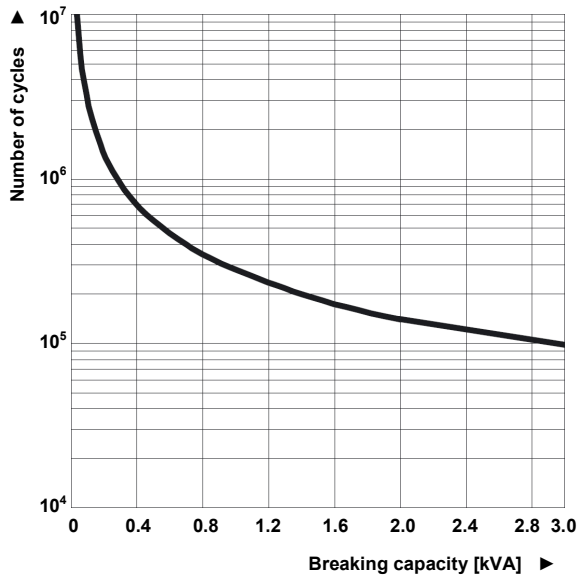


AC COIL OPERATING RANGE

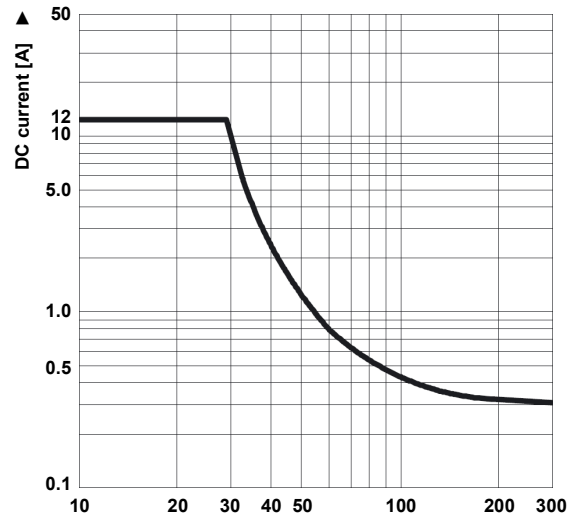


LIFE EXPECTANCY

Electrical life at 250VAC, resistive load

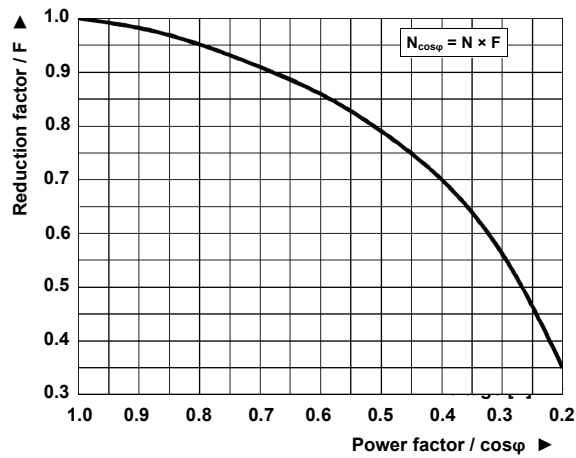


MAX DC RESISTIVE LOAD BREAKING CAPACITY



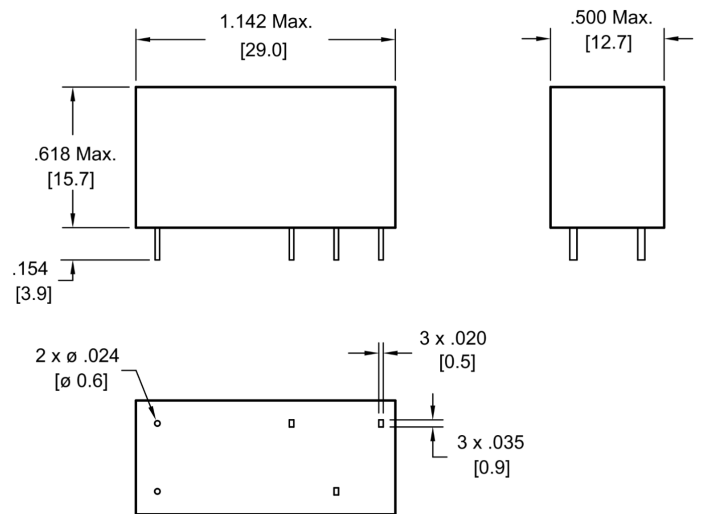
INDUCTIVE LOADS LIFE REDUCTION

Electrical life reduction factor at inductive AC load



MECHANICAL DATA

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



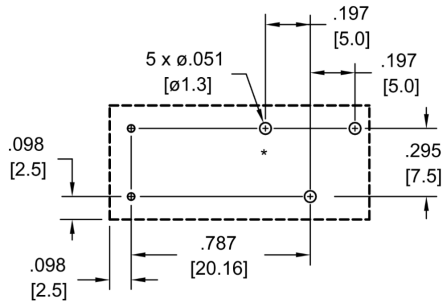
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PC BOARD LAYOUT

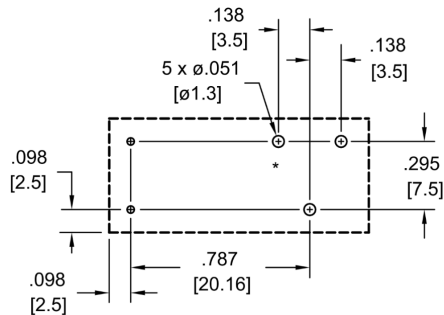
Dimensions in inches with metric equivalents in parentheses. Tolerance: $\pm .010$ "
Viewed towards terminals.

* Note: Pin not used on 1 Form A (SPST-N.O.) contacts

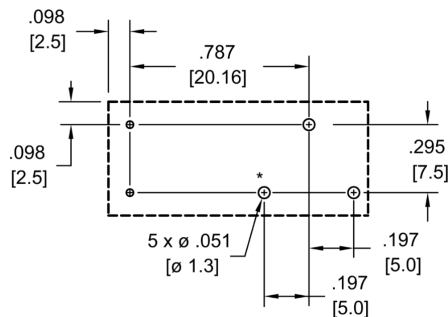
3.5 mm Standard Spacing



5.0 mm LEFT Spacing



5.0 mm RIGHT Spacing



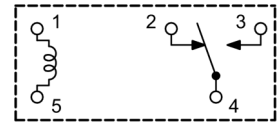
WIRING DIAGRAMS

Viewed towards terminals.

3.5 mm Standard Spacing and 5.0 mm LEFT Spacing



1 Form A

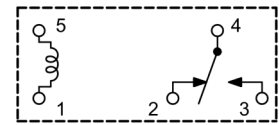


1 Form C

5.0 mm RIGHT Spacing



1 Form A



1 Form C

NOTES

1. Specifications subject to change without notice.
2. All values at 20°C (68°F) unless otherwise stated.
3. Relay may pull in with less than "Must Operate" value.
4. 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

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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