

AZ576

20 AMP MINIATURE POWER RELAY

FEATURES

- 20 Amp switching capability
- Available in SPST-NO and SPDT versions
- Dielectric strength of 5000 VAC
- Ambient temperature up to 105°C (221°F)
- Epoxy sealed versions available
- Compact size, low seated height of 15.3 mm
- UL / CUR file E44211
- TÜV: R50400691



CONTACTS

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|---|--|
| Arrangement | SPST-NO (1 Form A) SPDT (1 Form C) |
| Ratings (max.) switched power switched current switched voltage | (resistive load) 510 W or 5540 VA 20 A 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/CUR 1 Form A | 20 A at 277 VAC, resistive, 85°C, 30k cycles 17 A at 277 VAC, resistive, 105°C, 100k cycles 16 A at 277 VAC, general use, 85°C, 100k cycles 17 A at 30 VDC, resistive, 105°C, 100k cycles 5 A at 120/277 VAC, pilot duty, 85°C, 30k cycles 1 HP at 120/240/480 VAC, 100k cycles 10 FLA / 60 LRA at 250 VAC, 100k cycles TV-8 at 120 VAC, 25k cycles |
| 1 Form C | 20 A at 277 VAC, resistive, 85°C, 30k cycles 17 A at 277 VAC, resistive, 105°C, 30k cycles 16 A at 277 VAC, general use, 85°C, 30k cycles 17 A at 30 VDC, resistive, 105°C, 30k cycles 5 A at 120/277 VAC, pilot duty, 85°C, 30k cycles 1 HP at 120/240/480 VAC, 100k cycles 10 FLA / 60 LRA at 250 VAC, 100k cycles |
| TÜV | 17 A at 277 VAC, resistive, 105°C, 100k cycles * 17 A at 30 VDC, resistive, 105°C, 100k cycles * * Note: Versions with 15 VDC nominal coil voltage are not TÜV approved. |
| Contact material | AgSnO ₂ (silver tin oxide) |
| Initial resistance max. typ. | 100 mΩ (1A / 6VDC, voltage drop method) < 10 mΩ (at rated current) |

COIL

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|---|--|
| Nominal coil voltages | see coil voltage specifications tables |
| Dropout | ≥ 5% of nominal coil voltage |
| Coil power nominal at pickup voltage | typ. at 23°C (73°F) coil temperature 400 mW 225 mW |
| Temperature Rise | 42 K (76°F) typ. at nominal coil voltage |
| Max. temperature | 155°C (311°F), class F insulation system |

GENERAL DATA

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|---|---|
| Life Expectancy mechanical electrical | (minimum operations) 1 x 10 ⁷ see UL/CUR/TÜV rated loads |
| Operate Time max. | (at nominal coil voltage) 15 ms |
| Release Time max. | (at nom. coil voltage, without coil suppression) 8 ms |
| Dielectric Strength coil to contacts between open contacts | (at sea level for 1 min.) 5000 VAC 1000 VAC |
| Surge voltage coil to contacts | (1.2/50 μs) 10 kV |
| Insulation Resistance | 1000 MΩ (min.) at 23°C, 500 VDC, 50% RH |
| Insulation coil to contacts | Reinforced insulation |
| Temperature Range operating | (at nominal coil voltage) -40°C (-40°F) to 105°C (221°F) |
| Vibration resistance | 0.062" (1.5 mm) DA at 10-55 Hz |
| Shock resistance | 10 g |
| Enclosure protection category material group flammability | P.B.T. polyester RT II - flux proof, RT III - 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 | (RT III - wash tight versions only) 80°C (176°F) 30 seconds |
| Dimensions length width height | 29.3 mm (1.154") 12.7 mm (0.500") 15.3 mm (0.602") |
| Weight | 14 grams (approx.) |
| Packing unit in pcs | 20 per plastic tube / 1000 per carton box |
| Compliance | UL 508, IEC 61810-1, RoHS, REACH |

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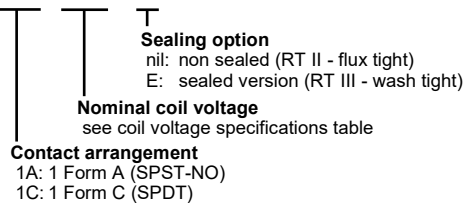
COIL VOLTAGE SPECIFICATIONS

| Nominal Coil VDC | Must Operate VDC | Max. Coil VDC | Nom. Current mA (ref.) | Resistance Ohm ($\pm 10\%$) |
|------------------|------------------|---------------|------------------------|-------------------------------|
| 3 | 2.25 | 4.5 | 133.3 | 22.5 |
| 5 | 3.75 | 7.5 | 80.0 | 62 |
| 6 | 4.5 | 9.0 | 66.7 | 90 |
| 9 | 6.75 | 13.5 | 44.4 | 202 |
| 12 | 9.0 | 18.0 | 33.3 | 360 |
| 15 | 11.25 | 22.5 | 26.8 | 560 |
| 18 | 13.5 | 27.0 | 22.2 | 810 |
| 22 | 16.5 | 33.0 | 18.2 | 1210 |
| 24 | 18.0 | 36.0 | 16.7 | 1440 |
| 36 | 27.0 | 54.0 | 11.1 | 3240 |
| 48 | 36.0 | 72.0 | 8.3 | 5760 |
| 60 | 45.0 | 90.0 | 6.7 | 9000 |
| 110 | 82.5 | 165.0 | 3.6 | 30250 |

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

ORDERING DATA

AZ576--D



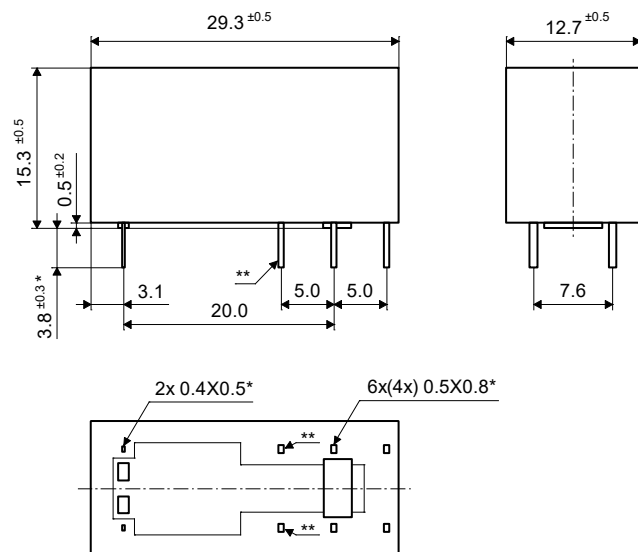
Example ordering data

AZ576-1A-9D 1 Form A, 9 VDC nom. coil voltage, RT II flux tight
 AZ576-1C-12DE 1 Form C, 12 VDC nom. coil voltage, RT III wash tight

MECHANICAL DATA

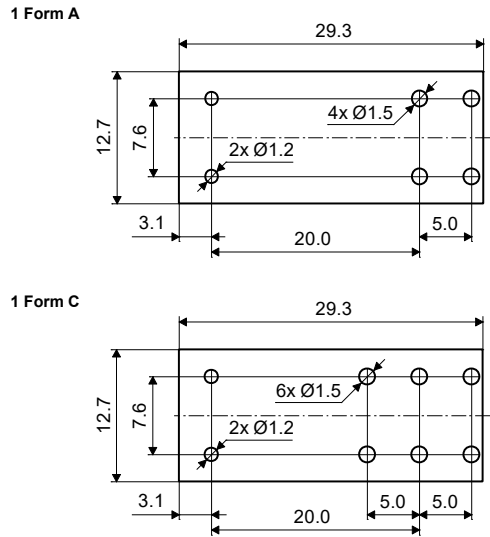
Dimensions in mm. If not stated otherwise, tolerance: ± 0.3 mm

Notes: * Pin dimensions for reference only and given without tin coating.
 ** Only for 1 Form C (SPDT) contact arrangement versions.



PC BOARD LAYOUT

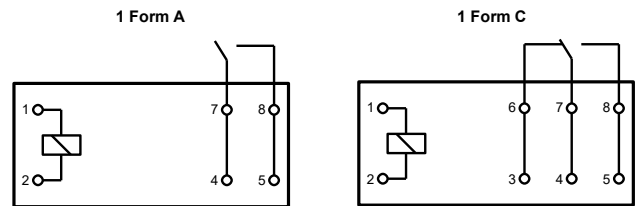
Layout recommendation. Dimensions in mm. Viewed towards terminals.



WIRING DIAGRAMS

Viewed towards terminals.

Note: Connect associated load terminals on PCB to ensure proper operation and service life.



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. "Maximum Coil Voltage" is the maximum voltage the coil can endure for a short period of time.
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 or if undue pressure is exerted on the relay case.
6. Substances containing silicone or phosphorus must be avoided in the vicinity to the relay as these will shorten its service life.
7. RTII (flux proof) relays must not be washed, immersion cleaned or conformal coated.
8. Specifications subject to change without notice.

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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.

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