

# AZ9701/AZ9711

## 45 AMP AUTOMOTIVE RELAY

### FEATURES

- Up to 45 Amp switching capability in a compact size
- Epoxy sealed versions available
- Coils to 24 VDC
- Small footprint
- 1 Form A and C contacts available
- Vibration and shock resistant
- QS9000, ISO9001, ISO14000
- Tested in accordance with SAE J2544
- Cost effective
- Designed for high in-rush applications



### CONTACTS

|             |  |
|-------------|--|
| Arrangement | SPST (1 Form A)<br>SPDT (1 Form C)   |
| Ratings     | Resistive load:<br>Max. switched power: Form A: 630 W<br>Form C: 630 W/420W N.O./N.C.<br>Max. switched current: Form A: 45 A<br>Form C: 45 A/30A N.O./N.C.<br>Max. switched voltage: 150* VDC<br>Max. carry current: 60 A<br>* If switching voltage is greater than 30 VDC, special precautions must be taken. Please contact the factory. |
| Material    | Silver nickel  |
| Resistance  | < 100 milliohms initially<br>(24 V, 1 A voltage drop method)   |

### COIL

|                             |   |
|-----------------------------|---|
| Power                       |   |
| At Pickup Voltage (typical) | 484-573 mW standard coil<br>675 mW sensitive coil |
| Max. Continuous Dissipation | 4.2W 20°C (68°F) ambient                          |
| Temperature Rise            | 50°C (90°F) nominal coil VDC                      |
| Max. Temperature            | 155°C (311°F)                                     |

### 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<br>Mechanical<br>Electrical      | Minimum operations<br>5 x 10 <sup>6</sup> operations<br>1 x 10 <sup>5</sup> 40 A 14 VDC Res.                          |
| Operate Time (typical)                           | 5 ms at nominal coil voltage  |
| Release Time (typical)                           | 3 ms at nominal coil voltage<br>(with no coil suppression)  |
| Dielectric Strength<br>(at sea level for 1 min.) | 500 VDC coil to contact<br>500 VDC between open contacts  |
| Insulation Resistance                            | 100 megohms min. at 20°C (68°F), 500 VDC,<br>50% RH   |
| Dropout  | Greater than 6% of nominal coil voltage   |
| Ambient Temperature<br>Operating<br>Storage      | At nominal coil voltage<br>-40°C (-40°F) to 135°C (275°F)<br>-40°C (-40°F) to 155°C (311°F)                           |
| Vibration  | 10-40 Hz – 1.27 mm DA<br>40-70 Hz – 50 m/s <sup>2</sup><br>70-100 HZ – 0.5 mm DA<br>100-500 Hz – 100 m/s <sup>2</sup> |
| Shock  | 20 g  |
| Enclosure  | P.B.T. polyester  |
| Terminals  | Tinned copper alloy, P.C.   |
| Max. Solder Temp.                                | 270°C (518°F)   |
| Max. Solder Time                                 | 5 seconds   |
| Max. Solvent Temp.                               | 80°C (176°F)  |
| Max. Immersion Time                              | 30 seconds  |
| Weight   | 20 grams  |



**AMERICAN ZETTLER, INC.**

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10/7/03W

# AZ9701/AZ9711

## RELAY ORDERING DATA – STANDARD COIL

| COIL SPECIFICATIONS |                  |                     |                            | ORDER NUMBER  |               |                |                |
|---------------------|------------------|---------------------|----------------------------|---------------|---------------|----------------|----------------|
| Nominal Coil VDC    | Must Operate VDC | Max. Continuous VDC | Coil Resistance $\pm 10\%$ | Open          |               | Sealed*        |                |
| 6                   | 3.3              | 9.0                 | 19.0                       | AZ9701-1A-6D  | AZ9701-1C-6D  | AZ9711-1A-6DE  | AZ9711-1C-6DE  |
| 12                  | 6.8              | 19.6                | 90.0                       | AZ9701-1A-12D | AZ9701-1C-12D | AZ9711-1A-12DE | AZ9711-1C-12DE |
| 24                  | 13.9             | 39.3                | 362.0                      | AZ9701-1A-24D | AZ9701-1C-24D | AZ9711-1A-24DE | AZ9711-1C-24DE |

## RELAY ORDERING DATA – SENSITIVE COIL

| COIL SPECIFICATIONS |                  |                     |                            | ORDER NUMBER   |                |                 |                 |
|---------------------|------------------|---------------------|----------------------------|----------------|----------------|-----------------|-----------------|
| Nominal Coil VDC    | Must Operate VDC | Max. Continuous VDC | Coil Resistance $\pm 10\%$ | Open           |                | Sealed*         |                 |
| 6                   | 4.5              | 11.3                | 30.0                       | AZ9701-1A-6DS  | AZ9701-1C-6DS  | AZ9711-1A-6DSE  | AZ9711-1C-6DSE  |
| 12                  | 9.0              | 22.6                | 130.0                      | AZ9701-1A-12DS | AZ9701-1C-12DS | AZ9711-1A-12DSE | AZ9711-1C-12DSE |
| 24                  | 19.2             | 45.2                | 480.0                      | AZ9701-1A-24DS | AZ9701-1C-24DS | AZ9711-1A-24DSE | AZ9711-1C-24DSE |

\*Add suffix "K" to add third yoke pin.

## MECHANICAL DATA

AZ9701 Outline Dimensions and PCB Layout

Side view dimensions: .748 [19.0 MAX] width, .717 [18.2 MAX] height, .138 [3.5 MAX] pin height.

Top view dimensions: .909 [23.1 MAX] width.

Detailed view dimensions: .134 [3.4], .211 [5.35], .092 [2.33], .213 [5.4], .147 [3.73], .467 [11.87], .148 [3.75], .161 [4.08], .483 [12.28].

Terminal Dimensions

| Term. | Dimensions               |
|-------|--------------------------|
| 3, 5  | .070 [1.78] x .032 [.81] |
| 1, 2  | .025 [.64] x .048 [1.22] |
| 4     | .048 [1.22] x .063 [1.6] |

AZ9711 Outline Dimensions and PCB Layout

Side view dimensions: .866 [22.0 MAX] width, .878 [22.3 MAX] height, .142 [3.6 MAX] pin height.

Top view dimensions: 1.043 [26.5 MAX] width.

Detailed view dimensions: .176 [4.47], .211 [5.35], .092 [2.33], .268 [6.81], .147 [3.73], .467 [11.87], .148 [3.75], .161 [4.08], .483 [12.28].

Optional 3rd Yoke Terminal

Viewed towards terminals

Terminal layout diagram for FORM A showing pins 4, 2, 1, 5, 4 in a specific arrangement.

FORM A

Terminal layout diagram for FORM C showing pins 4, 2, 1, 3, 5 in a specific arrangement.

FORM C

Viewed towards terminals

Dimensions in inches with metric equivalents in parentheses. Tolerance:  $\pm 0.010$ "



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