# AZ7705

## SUBMINIATURE POWER RELAY

### FEATURES

- Small footprint
- 4 kV dielectric strength, 10 kV surge
- Epoxy sealed available
- Class F insulation system standard
- 5 Amp switching
- High current 10A version available
- UL, CUR file E44211


### CONTACTS

| | |
|---|---|
| **Arrangement** | SPST (1 Form A) |
| **Ratings** | Resistive load:<br>Max. switched power: 150 W (SPST-NO) standard<br>1250 VA (SPST-NO) standard<br>Max. switched current: 5 A AC SPST-NO standard<br>5 A DC SPST-NO standard<br>3 A AC/DC SPST-NO sensitive<br>Max. switched voltage: 30* VDC or 277 VAC<br>*Note: If switching voltage is greater than 30 VDC, special precautions must be taken. Please contact the factory. |
| **Rated Load UL, CUR** | Form A<br>5 A at 277 VAC, Res., Standard, Ag, 100k cycles, 85°C<br>5 A at 30 VDC, Res., Standard, Ag, 100k cycles, 85°C<br>3 A at 250 VAC, Res., Sensitive, Ag, 100k cycles, 85°C<br>3 A at 30 VDC, Res., Sensitive, Ag, 100k cycles, 85°C<br>1/6 HP at 125 / 250 / 277 VAC, 100k cycles, 85°C<br>'T' High Current Version: Standard<br>10 A at 250 VAC, Res., AgCdO, 100k cycles, 85°C<br>10 A at 30 VDC, Res., AgCdO, 100k cycles, 85°C<br>1/6 HP at 125 / 250 VAC, 100k cycles, 85°C<br>'T' High Current Version: Sensitive<br>8 A at 250 VAC, Res., AgCdO, 100k cycles, 85°C<br>8A at 30 VDC, Res., AgCdO, 100k cycles, 85°C |
| **Material** | Silver Alloy, Silver Cadmium Oxide |
| **Resistance** | <100 milliohms initially<br>(24 V, 1 A voltage drop method) |

### COIL

| | |
|---|---|
| **Power** | |
| **At Pickup Voltage (typical)** | 221 mW standard<br>113 mW sensitive |
| **Max. Continuous Dissipation** | 761 mW at 20°C (68°F) ambient |
| **Temperature Rise** | 41°C (74°F) at nominal coil voltage, standard<br>30°C (40°F) at nominal coil voltage, sensitive |
| **Temperature** | Max. 155°C (311°F) |

### GENERAL DATA

| | |
|---|---|
| **Life Expectancy**<br>**Mechanical**<br>**Electrical** | Minimum operations<br>1 x $10^7$<br>1 x $10^5$ at 5 A 240 VAC Res. |
| **Operate Time (typical)** | 15 ms at nominal coil voltage |
| **Release Time (typical)** | 4 ms at nominal coil voltage<br>(with no coil suppression) |
| **Dielectric Strength (at sea level for 1 min.)** | 4000 Vrms coil to contact<br>750 Vrms between open contacts |
| **Surge Voltage Coil to contact** | 10,000V (at 1.2x50 μ s) |
| **Insulation Resistance** | 1000 megohms min. at 20°C<br>500 VDC 50% RH |
| **Dropout** | Greater than 10% of nominal coil voltage |
| **Ambient Temperature**<br>**Operating**<br>**Storage** | At nominal coil voltage<br>-30°C (-22°F) to 85°C (185°F),<br>-30°C (-22°F) to 105°C (221°F), |
| **Vibration** | 0.062" DA at 10–55 Hz |
| **Shock** | 10 g operating, 100 g damage |
| **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** | 9 grams |

### 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.


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1/9/2015

# AZ7705

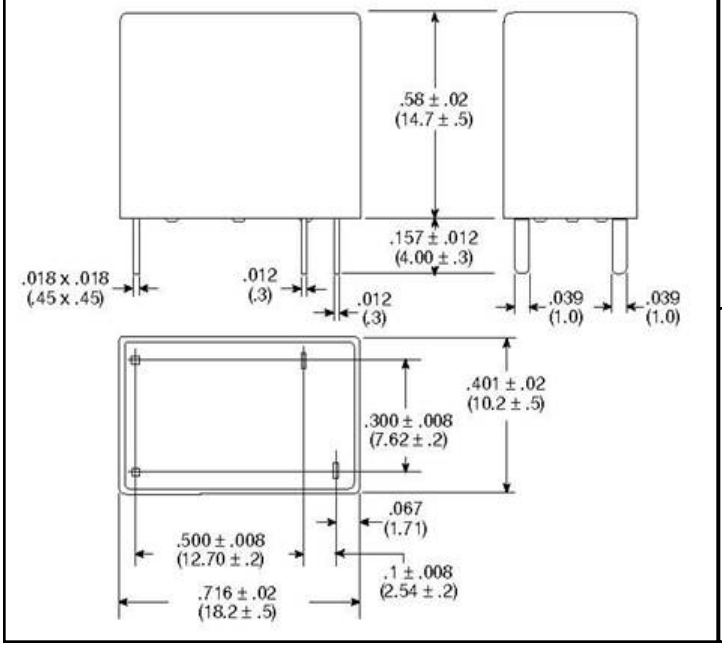
## RELAY ORDERING DATA

| STANDARD RELAYS | | | | |
|---|---|---|---|---|
| COIL SPECIFICATIONS | | | | ORDER NUMBER* |
| Nominal Coil VDC | Must Operate VDC | Max. Continuous VDC | Coil Resistance | Form A (SPST) |
| 3 | 2.10 | 3.9 | 20 ± 10% | AZ7705–1A–3DF |
| 5 | 3.50 | 6.5 | 55 ± 10% | AZ7705–1A–5DF |
| 6 | 4.20 | 7.8 | 80 ± 10% | AZ7705–1A–6DF |
| 9 | 6.30 | 11.7 | 180 ± 10% | AZ7705–1A–9DF |
| 12 | 8.40 | 15.6 | 320 ± 10% | AZ7705–1A–12DF |
| 18 | 12.60 | 23.4 | 720 ± 10% | AZ7705–1A–18DF |
| 24 | 16.80 | 31.2 | 1280 ± 10% | AZ7705–1A–24DF |
| 48 | 33.60 | 62.4 | 5120 ± 15% | AZ7705–1A–48DF |

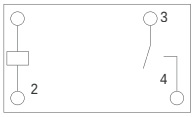
| SENSITIVE RELAYS | | | | |
|---|---|---|---|---|
| COIL SPECIFICATIONS | | | | ORDER NUMBER* |
| Nominal Coil VDC | Must Operate VDC | Max. Continuous VDC | Coil Resistance | Form A (SPST) |
| 3 | 2.25 | 3.9 | 45 ± 10% | AZ7705–1A–3DSF |
| 5 | 3.75 | 6.5 | 125 ± 10% | AZ7705–1A–5DSF |
| 6 | 4.5 | 7.8 | 180 ± 10% | AZ7705–1A–6DSF |
| 9 | 6.75 | 11.7 | 400 ± 10% | AZ7705–1A–9DSF |
| 12 | 9.0 | 15.6 | 720 ± 10% | AZ7705–1A–12DSF |
| 18 | 13.5 | 23.4 | 1620 ± 10% | AZ7705–1A–18DSF |
| 24 | 18.0 | 31.2 | 2800 ± 10% | AZ7705–1A–24DSF |

*Add “T” after AZ7705 for (AgCdO) high current version. Add suffix “E” after ‘D’ or ‘DS’ for epoxy sealed version.

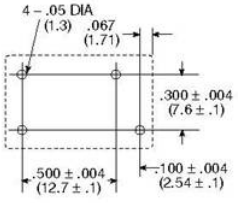
## MECHANICAL DATA




**Wiring Diagram**




**PCB Layout**




**Viewed Toward Terminals**

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