

# AZ733

## DPDT MINIATURE POWER RELAY

### FEATURES

- Dielectric strength 5000 Vrms
- Low cost
- Epoxy sealed version available
- 12 Amp switching — double pole contacts
- Isolation spacing greater than 8mm
- UL, CUR file E44211
- TÜV certificate R50129285



### CONTACTS

|                      |  |
|----------------------|--|
| <b>Arrangement</b>   | DPST (2 Form A)<br>DPDT (2 Form C)   |
| <b>Ratings</b>       | Resistive load:<br><br>Max. switched power: 300 W or 3324 VA<br>Max. switched current: 12 A<br>Max. switched voltage: 250 VDC* or 400 VAC<br><br>* Note: If switching voltage is greater than 30 VDC, special precautions must be taken. Please contact the factory.   |
| <b>Rated Load UL</b> | 10 A at 250 VAC, 85°C, 100k cycles [1]<br>8 A at 30 VDC, 85°C, 100k cycles [1]<br>1/4 HP at 240 VAC, 85°C [1]<br>1/8 HP at 120 VAC, 85°C [1]<br>TV-3 at 125 VAC, 85°C, 25k cycles [1]<br><br>2 Form A<br>10 A at 30 VDC, 85°C, 100k cycles [1]<br>3/4 HP at 250 VAC [3]<br><br>2 Form C<br>10 A at 250 VAC, 85°C, 100k cycles [1][2][3]<br>10 A at 30 VDC, 85°C, 50k cycles [1]<br>10 A at 30 VDC, 85°C, 30k cycles [2]<br>1/3 HP at 125 VAC [2][3]<br><br>2 Form C - normally open contacts<br>12 A at 277 VAC resistive, 70°C, 80K cycles [2][3]<br>10 A at 30 VDC, 85°C, 25k cycles [3]<br><br>2 Form C - normally closed contacts<br>12 A at 277 VAC resistive, 70°C, 10K cycles [2][3]<br>10 A at 30 VDC, 85°C, 100k cycles [3] |
| <b>TÜV</b>           | 10 A at 250 VAC resistive, 70°C, 30k cycles [1][2]<br>10 A at 30 VDC, 70°C, 20k cycles [1][2]<br><br>2 Form A<br>12 A at 250 VAC resistive, 70°C, 10k cycles [2][3]<br>10 A at 250 VAC resistive, 70°C, 50k cycles [3]   |
| <b>Material</b>      | Silver cadmium oxide [1], silver nickel [2], silver tin oxide [3]  |
| <b>Resistance</b>    | < 50 milliohms initially   |

### GENERAL DATA

|  |  |
|--|--|
| <b>Life Expectancy</b><br><b>Mechanical</b><br><b>Electrical</b> | Minimum operations<br>1 x 10 <sup>7</sup><br>1 x 10 <sup>5</sup> at 10 A 250 VAC Res.          |
| <b>Operate Time (typical)</b>                                    | 8 ms at nominal coil voltage   |
| <b>Release Time (typical)</b>                                    | 5 ms at nominal coil voltage<br>(with no coil suppression)                                     |
| <b>Dielectric Strength (at sea level for 1 min.)</b>             | 5000 Vrms coil to contact<br>1000 Vrms between open contacts<br>3000 Vrms between contact sets |
| <b>Insulation Resistance</b>                                     | 1000 megohms min. at 20°C, 500 VDC, 50% RH   |
| <b>Dropout</b>   | Greater than 10% of nominal coil voltage   |
| <b>Ambient Temperature</b><br><b>Operating</b><br><b>Storage</b> | -40°C (-40°F) to 85°C (185°F)<br>-40°C (-40°F) to 105°C (266°F)                                |
| <b>Vibration</b>   | 0.062" (1.5 mm) DA at 10–55 Hz   |
| <b>Shock</b>   | 10 g   |
| <b>Enclosure</b>   | P.B.T. polyester   |
| <b>Terminals</b>   | Tinned copper alloy, P.C.  |
| <b>Max. Solder Temp.</b>   | 270°C (518°F)  |
| <b>Max. Solder Time</b>  | 5 seconds  |
| <b>Max. Solvent Temp.</b>  | 80°C (176°F)   |
| <b>Max. Immersion Time</b>                                       | 30 seconds   |
| <b>Weight</b>  | 18 grams   |
| <b>Packing unit in pcs</b>                                       | 50 per plastic tray / 500 per carton box   |

### COIL

|                                    |                                     |
|------------------------------------|-------------------------------------|
| <b>Power</b>                       |                                     |
| <b>At Pickup Voltage (typical)</b> | 257 mW                              |
| <b>Max. Continuous Dissipation</b> | 1.9 W at 20°C (68°F) ambient        |
| <b>Temperature Rise</b>            | 34°C (61°F) at nominal coil voltage |
| <b>Temperature</b>                 | Max. 130°C (266°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.

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## RELAY ORDERING DATA

| COIL SPECIFICATIONS |                  |                     |                     | ORDER NUMBER* |               |
|---------------------|------------------|---------------------|---------------------|---------------|---------------|
| Nominal Coil VDC    | Must Operate VDC | Max. Continuous VDC | Coil Resistance Ohm | Form A (DPST) | Form C (DPDT) |
| 3                   | 2.1              | 5.7                 | 17 ± 10%            | AZ733-2A-3D   | AZ733-2C-3D   |
| 5                   | 3.5              | 9.4                 | 47 ± 10%            | AZ733-2A-5D   | AZ733-2C-5D   |
| 6                   | 4.2              | 11.4                | 68 ± 10%            | AZ733-2A-6D   | AZ733-2C-6D   |
| 9                   | 6.3              | 17.4                | 160 ± 10%           | AZ733-2A-9D   | AZ733-2C-9D   |
| 12                  | 8.4              | 22.8                | 275 ± 10%           | AZ733-2A-12D  | AZ733-2C-12D  |
| 18                  | 12.6             | 27.9                | 650 ± 10%           | AZ733-2A-18D  | AZ733-2C-18D  |
| 24                  | 16.8             | 45.7                | 1,100 ± 15%         | AZ733-2A-24D  | AZ733-2C-24D  |
| 48                  | 33.6             | 89.0                | 4,170 ± 15%         | AZ733-2A-48D  | AZ733-2C-48D  |
| 60                  | 42.0             | 115.3               | 7,000 ± 15%         | AZ733-2A-60D  | AZ733-2C-60D  |
| 110                 | 79.3             | 170.5               | 22,900 ± 15%        | AZ733-2A-110D | AZ733-2C-110D |

\* Add suffix "B" to "2A" or "2C" for silver nickel contacts.  
 Add suffix "E" to "2A" or "2C" for silver tin oxide contacts.  
 Add suffix "E" for epoxy sealed version.

## MECHANICAL DATA

| Terminal No. | Dimensions Tol.: ± 0.005 (0.13) |
|--------------|---------------------------------|
| 1,2,4,5,7,8  | 0.018 (0.457) x 0.038 (0.965)   |
| 3,6          | 0.011 (0.279) x 0.038 (0.965)   |

### PC BOARD LAYOUT

Viewed toward terminals

### WIRING DIAGRAM

#### Form A

#### Form C

Viewed toward terminals

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