

# AZ987

## 30 AMP MICRO AUTOMOTIVE RELAY

### FEATURES

- Up to 30 Amp switching capability in a compact size
- Form A and Form C contacts available
- Single and Dual (Twin) relay versions
- Designed for high in-rush applications
- Epoxy sealed
- ISO/TS 16949, ISO 9001, ISO 14000
- Tested in accordance with J2544



### CONTACTS

|                    |  |
|--------------------|--|
| <b>Arrangement</b> | SPST (1 Form A) DPST (2 Form A)<br>SPDT (1 Form C) DPDT (2 Form C)   |
| <b>Ratings</b>     | Resistive load:<br><br>Max. switched power: 480 W<br>Max. switched current: 30 A / 25 A (N.O. / N.C.)<br>Max. switched voltage: 16 VDC<br><br>Rated load: 30 A at 16 VDC |
| <b>Material</b>    | Silver tin oxide   |
| <b>Resistance</b>  | < 50 milliohms initially<br>(6 V, 1 A voltage drop method)   |

### COIL

|                                    |                                     |
|------------------------------------|-------------------------------------|
| <b>Power</b>                       |                                     |
| <b>At Pickup Voltage (typical)</b> | 187 mW                              |
| <b>Max. Continuous Dissipation</b> | 2.6 W at 20°C (68°F) ambient        |
| <b>Temperature Rise</b>            | 34°C (61°F) at nominal coil voltage |
| <b>Max Temperature</b>             | 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

|  |   |
|--|---|
| <b>Life Expectancy</b><br><b>Mechanical</b><br><b>Electrical</b> | Minimum operations<br>1 x 10 <sup>6</sup><br>3 x 10 <sup>5</sup> at 20 A 14 VDC Res.        |
| <b>Operate Time</b>  | 3 ms typical at nominal coil voltage  |
| <b>Release Time</b>  | 1.5 ms typical at nominal coil voltage<br>(with no coil suppression)                        |
| <b>Dielectric Strength (at sea level for 1 min.)</b>             | 500 Vrms coil to contact<br>500 Vrms between open contacts                                  |
| <b>Insulation Resistance</b>                                     | 100 megohms min. at 20°C, 500 VDC<br>50% RH   |
| <b>Dropout</b>   | Greater than 12.5% of nominal coil voltage  |
| <b>Ambient Temperature</b><br><b>Operating</b><br><b>Storage</b> | At nominal coil voltage<br>-40°C (-40°F) to 105°C (221°F)<br>-40°C (-40°F) to 105°C (221°F) |
| <b>Vibration</b>   | 6 g at 10-500 Hz  |
| <b>Shock</b>   | 30 g, 6 ms  |
| <b>Enclosure</b>   | P.B.T. polyester  |
| <b>Terminals</b>   | Tinned copper alloy, P.C.   |
| <b>Weight</b>  | 4 / 8 grams (Single / Twin)   |
| <b>Max. Solder Temp.</b>   | 260°C (500°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>Packing unit in pcs</b><br><b>Single</b><br><b>Twin</b>       | 25 per plastic tube / 2000 per carton box<br>10 per plastic tube / 1000 per carton box      |

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This product specification to be used only together with the application notes  
which can be downloaded from <http://www.ZETTLERelectronics.com/pdfs/relais/ApplicationNotes.pdf>

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# AZ987

## RELAY ORDERING DATA

| COIL SPECIFICATIONS |                  |                     |                                |               |               |
|---------------------|------------------|---------------------|--------------------------------|---------------|---------------|
| Nominal Coil VDC    | Must Operate VDC | Max. Continuous VDC | Coil Resistance Ohm $\pm 10\%$ | ORDER NUMBER* |               |
|                     |                  |                     |                                | Form A (DPST) | Form C (DPDT) |
| 6                   | 3.5              | 13.2                | 63                             | AZ987-1A-6DT  | AZ987-1C-6DT  |
| 10                  | 5.7              | 22.0                | 181                            | AZ987-1A-10DT | AZ987-1C-10DT |
| 12                  | 6.9              | 26.0                | 254                            | AZ987-1A-12DT | AZ987-1C-12DT |

\* Substitute "1A" or "1C" with "2A" or "2C" to indicate Twin relay.  
Substitute "DT" with "DET" for epoxy sealed version.

## MECHANICAL DATA

### SINGLE RELAY

Top view dimensions: 12.3 max., 2.50, 0.60, 7.65  $\pm 0.3$ , 10.20 max., 0.40, 5.80, 2.80  $\pm 0.2$ .

Side view dimensions: 13.22 max., 0.95.

Bottom view dimensions: 10.20  $\pm 0.1$ , 3.60  $\pm 0.1$ , 3.00  $\pm 0.1$ , 1.36  $\pm 0.1$ , 2 x 1.20 x 0.60, 2 x  $\varnothing 0.50$ , 1.00 x 1.00, 0.5  $\pm 0.1$ , 7.5  $\pm 0.1$ , 1.75  $\pm 0.1$ , 8.5  $\pm 0.1$ .

### PC BOARD LAYOUTS

#### SINGLE RELAY

Dimensions: 0.50  $\pm 0.1$ , 2 x  $\varnothing 1.10$ , 3.60  $\pm 0.1$ , 10.20  $\pm 0.1$ , 3.00  $\pm 0.1$ , 3 x  $\varnothing 1.8$ , 7.00  $\pm 0.1$ , 8.00  $\pm 0.1$ .

\* not used on 1 Form A version

#### TWIN RELAY

Dimensions: 4 x  $\varnothing 1.10$ , 0.50  $\pm 0.1$ , 8.00  $\pm 0.1$ , 7.00  $\pm 0.1$ , 0.60  $\pm 0.05$ , 7.20  $\pm 0.1$ , 3.00  $\pm 0.05$ , 6 x  $\varnothing 1.8$ , 7.00  $\pm 0.1$ , 8.00  $\pm 0.1$ , 19.20  $\pm 0.2$ , 0.50  $\pm 0.1$ .

\* not used on 2 Form A version

Viewed toward component side

### TWIN RELAY

Top view dimensions: 24.0 max., 2.50, 0.60, 7.65  $\pm 0.3$ , 10.20 max., 0.40, 2.80  $\pm 0.2$ .

Side view dimensions: 13.22 max., 0.95.

Bottom view dimensions: 2 x 1.00 x 1.00, 4 x 1.20 x 0.60, 4 x  $\varnothing 0.50$ .

### WIRING DIAGRAMS

#### SINGLE RELAY

\* not used on 1 Form A version

#### TWIN RELAY

\* not used on 2 Form A version

Viewed toward terminals

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