

# AZ973

## 40 AMP AUTOMOTIVE RELAY

### FEATURES

- 40 Amp contact rating
- High momentary carry current (60A)
- High operating temperature (85°C)
- SPST (1 Form A), SPDT (1 Form C)
- Quick connect terminals
- Metal or plastic mounting bracket available
- Resistor or diode parallel to coil available



### CONTACTS

|                    |   |
|--------------------|---|
| <b>Arrangement</b> | SPST (1 Form A)<br>SPDT (1 Form C)  |
| <b>Ratings</b>     | Resistive load:<br>Max. switched power: 560 W (SPST)<br>560 W (N.O.)<br>420 W (N.C.)<br>Max. switched current: 40 A (SPST)<br>40 A (N.O.)<br>30 A (N.C.)<br>Max. switched voltage: 75 VDC |
| <b>Material</b>    | Silver tin oxide  |
| <b>Resistance</b>  | < 100 milliohms initially<br>(6 V, 1 A voltage drop method)   |

### COIL

|                                    |                                     |
|------------------------------------|-------------------------------------|
| <b>Power</b>                       |                                     |
| <b>At Pickup Voltage (typical)</b> | 0.68 W                              |
| <b>Max. Continuous Dissipation</b> | 5.1 W at 20°C (68°F)                |
| <b>Temperature Rise</b>            | 52°C (94°F) at nominal coil voltage |
| <b>Temperature</b>                 | Max. 155°C (311°F)                  |

### 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 40 A 14 VDC Res.  |
| <b>Operate Time (max.)</b>                                       | 7 ms at nominal coil voltage  |
| <b>Release Time (max.)</b>                                       | 5 ms at nominal coil voltage  |
| <b>Dielectric Strength (at sea level for 1 min.)</b>             | 500 Vrms coil to contact<br>500 Vrms contact to contact   |
| <b>Insulation Resistance</b>                                     | 100 megohms min. at 500 VDC, 20°C<br>50% RH   |
| <b>Dropout</b>   | Greater than 10% of nominal coil voltage  |
| <b>Ambient Temperature</b><br><b>Operating</b><br><b>Storage</b> | -55°C (-67°F) to 85°C (185°F)<br>-55°C (-67°F) to 105°C (221°F)   |
| <b>Vibration</b>   | 0.062" (1.5 mm) DA at 10-40 Hz  |
| <b>Shock</b>   | 100 m/s <sup>2</sup>  |
| <b>Enclosure</b>   | P.B.T. polyester  |
| <b>Terminals</b>   | Tinned copper alloy<br>0.25 Quick Connect<br>Note: Allow suitable slack on leads when wiring<br>and do not subject the terminals to excessive<br>force. |
| <b>Weight</b>  | 31 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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## RELAY ORDERING DATA

| COIL SPECIFICATIONS |                  |                     |                               |
|---------------------|------------------|---------------------|-------------------------------|
| Nominal Coil VDC    | Must Operate VDC | Max. Continuous VDC | Coil Resistance Ohm $\pm$ 10% |
| 6                   | 3.9              | 10.6                | 22                            |
| 12                  | 7.8              | 21.0                | 85                            |
| 24                  | 15.6             | 42.2                | 350                           |

## RELAY ORDERING DATA

### AZ973-1C-12DC2R1

- Blank - Standard no diode, no resistor
- R1 - 680 Ohm, ½ W resistor in parallel with 12 V coil  
2700 Ohm ½ W resistor in parallel with 24 V coil
- R2 - 820 Ohm, ½ W resistor in parallel with 12 V coil  
3200 Ohm ½ W resistor in parallel with 24 V coil
- D1 - 1N4007 diode in parallel with coil, anode on #86 terminal
- D2 - 1N4007 diode in parallel with coil, cathode on #86 terminal
- D3 - 1N4004 diode in parallel with coil, anode on #86 terminal
- D4 - 1N4004 diode in parallel with coil, cathode on #86 terminal
- C1 - Plastic dust cover with steel mounting bracket
- C2 - Plastic dust cover with plastic mounting bracket
- C3 - Plastic dust cover
- C4 - Plastic dust cover, shrouded, sealed
- 24D - 24 volt coil
- 12D - 12 volt coil
- 6D - 6 volt coil
- 1A - SPNO Single pole normally open
- 1C - SPDT Single pole double throw
- Basic series designation - AZ973

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## MECHANICAL DATA



Dimensions in inches with metric equivalents in parentheses. Tolerance:  $\pm .010$ "

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2003-06-24

# AZ973

## Sockets & Hardware for AZ973



Note: Recommended receptical connector Amp Part numbers are 5-160558-9 or 5-1605-26-9

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