AZ2850

40 AMP MINIATURE POWER RELAY

FEATURES
• DPST-NO and DPDT configuration
• Meets 8mm creepage, 4kV dielectric
• Epoxy selead version available
• UL Class F (155°C) standard
• UL, CUR file E44211
• VDE certificate 40023442

CONTACTS

<table>
<thead>
<tr>
<th>Arrangement</th>
<th>DPST (2 Form A)</th>
<th>DPDT (2 Form C)</th>
</tr>
</thead>
</table>

Ratings

Resistive load:
Max. switched power: 560W or 8310VA
Max. switched current: 40A (N.O.), 3A (N.C.)
Max. switched voltage: 30VDC* or 600VAC

* Note: If switching voltage is greater than 30VDC, special precautions must be taken. Please contact the factory.

Rated Load

UL

Normally open contacts (N.O.)
40A at 277VAC, Resistive, 30k cycles [1][2]
30A at 277VAC, General Use, 100k cycles [1][2]
10A at 600VAC, General Use, 6k cycles [1]
1HP at 120VAC, 100k cycles [1][2]
2.5HP at 240VAC, 100k cycles [1][2]
8.5FLA / 26LRA at 277/480/600VAC, 30 cycles[1]

Normally open contacts (N.O.), DC coils only
25.3FLA / 110LRA at 240VAC, 30cycles[1][2]

Normally closed contacts (N.C.)
3A at 277VAC, General Use, 100k cycles [1][2]
2A at 480VAC, General Use, 6k cycles [1]
1A at 600VAC, General Use, 6k cycles [1]
3FLA / 3LRA at 240VAC, 30 cycles [1]
2FLA / 2LRA at 277/480VAC, 30 cycles [1]
1FLA / 1LRA at 600VAC, 30 cycles [1]

VDE

Normally open contacts (N.O.)
30A at 250VAC, Resistive, 50k cycles [2]

Normally closed contacts (N.C.)
3A at 250VAC, Resistive, 50k cycles [2]

Material

Silver cadmium [1], silver tin oxide [2].

Resistance

< 50 milliohms initially
(24V, 1A, voltage drop method)

COIL

Power

At Pickup Voltage (typical) 925mW, DC coil
2.6VA, AC coil

Max. Continuous Dissipation

5W at 20°C (68°F) ambient, DC coil
7VA at 20°C (68°F) ambient, AC coil

Temperature Rise

48°C (86°F) at nominal coil voltage, DC coil
68°C (122°F) at nominal coil voltage, AC coil

Temperature

Max. 155°C (311°F)

GENERAL DATA

| Life Expectancy | Minimum operations 5 x 10⁶
1 x 10⁵ at 30A, 277VAC Res. (N.O.) |
| Mechanical | Operate Time 15ms typical
25ms maximum with bounce |
| Electrical | Release Time 10ms typical
25ms maximum with bounce
(with no coil suppression) |

Dielectric Strength

(at sea level for 1 min.)
1500Vrms contact to contact
4000Vrms contact to coil
2000Vrms between contact sets

Insulation Resistance

10⁴ ohms minimum at 500 VDC

Dropout

DC: Greater than 10% of nominal coil voltage
AC: Greater than 20% of nominal coil voltage

Ambient Temperature

Operating
DC: -40°C (-40°F) to 85°C (185°F)
AC: -40°C (-40°F) to 65°C (149°F)

Storage
-40°C (-40°F) to 105°C (221°F)

Vibration

0.062" (1.65 mm) DA at 10–55Hz

Shock

Operational, 10g for 11ms 1/2 sine pulse
(no contact opening > 100usec)
Non-destructive, 100g for 11ms 1/2 sine pulse

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

86 grams

Packing unit in pcs

20 per plastic tray / 100 per carton box

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.
## RELAY ORDERING DATA

### COIL SPECIFICATIONS – DC Coil

<table>
<thead>
<tr>
<th>Nominal Coil VDC</th>
<th>Must Operate VDC</th>
<th>Max. Continuous VDC</th>
<th>Nominal Current mA ± 10%</th>
<th>Coil Resistance Ohm ± 10%</th>
<th>ORDER NUMBER*</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>3.8</td>
<td>8.0</td>
<td>326.7</td>
<td>15.3</td>
<td>AZ2850–2C–5D</td>
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<tr>
<td>6</td>
<td>4.5</td>
<td>10.5</td>
<td>272.0</td>
<td>22</td>
<td>AZ2850–2C–6D</td>
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<tr>
<td>12</td>
<td>9.0</td>
<td>20.7</td>
<td>140.0</td>
<td>86</td>
<td>AZ2850–2C–12D</td>
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<tr>
<td>24</td>
<td>18.0</td>
<td>41.8</td>
<td>68.5</td>
<td>350</td>
<td>AZ2850–2C–24D</td>
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<tr>
<td>48</td>
<td>36.0</td>
<td>83.4</td>
<td>34.5</td>
<td>1,390</td>
<td>AZ2850–2C–48D</td>
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<td>110</td>
<td>82.5</td>
<td>190.5</td>
<td>15.2</td>
<td>7,255</td>
<td>AZ2850–2C–110D</td>
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</tbody>
</table>

*Substitute “2A” in place of “2C” to indicate 2 Form A contacts.

“2A” or “2C” denote silver cadmium contacts.

Add suffix “E” to “2A” or “2C” for silver tin oxide contacts.

Add suffix “5” for 50Hz coil, AC coils only (Example: AZ2850-2C-24A5).

Add suffix “6” for 50/60Hz coil, AC coils only (Example: AZ2850-2C-24A6).

Add suffix “E” at the end of order number for sealed version.

### COIL SPECIFICATIONS – AC Coil

<table>
<thead>
<tr>
<th>Nominal VAC</th>
<th>Must Operate VAC</th>
<th>Max. Continuous VAC</th>
<th>Nominal Current mA ± 10%</th>
<th>50Hz Coil Resistance Ohm ± 10%</th>
<th>60Hz Coil Resistance Ohm ± 10%</th>
<th>ORDER NUMBER*</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>9.6</td>
<td>15.6</td>
<td>340.0</td>
<td>9.5</td>
<td>8</td>
<td>AZ2850–2C–12A</td>
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<tr>
<td>24</td>
<td>19.2</td>
<td>31.2</td>
<td>166.0</td>
<td>45</td>
<td>35.7</td>
<td>AZ2850–2C–24A</td>
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<tr>
<td>120</td>
<td>96.0</td>
<td>156.0</td>
<td>33.3</td>
<td>1125</td>
<td>830</td>
<td>AZ2850–2C–120A</td>
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<tr>
<td>220</td>
<td>176.0</td>
<td>286.0</td>
<td>18.2</td>
<td>3800</td>
<td>2870</td>
<td>AZ2850–2C–220A</td>
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<tr>
<td>240</td>
<td>192.0</td>
<td>312.0</td>
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<td>4500</td>
<td>3800</td>
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<td>277</td>
<td>221.6</td>
<td>360.1</td>
<td>14.4</td>
<td>5960</td>
<td>4700</td>
<td>AZ2850–2C–277A</td>
</tr>
</tbody>
</table>

### MECHANICAL DATA

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

### WIRING DIAGRAMS

**2 Form C**

**2 Form A**

Viewed toward terminals

**PC BOARD LAYOUT**

Viewed toward terminals