

## MINIATURE PC BOARD RELAY

### FEATURES

- Contacts rated at 3, 5, 10 or 16 Amps
- DC coils to 48 V
- Extremely low cost
- Life expectancy to 10 million operations
- Epoxy sealed
- UL, CUR file E44211; VDE 10056
- Class F available 



### CONTACTS

|                         |                                                                                                                                                                                                                                                                                                    |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Arrangement</b>      | SPDT (1 Form C)<br>Form A available upon request                                                                                                                                                                                                                                                   |
| <b>Ratings</b>          | Resistive load                                                                                                                                                                                                                                                                                     |
| <b>Light Duty</b>       | Max. switched power: 90 W or 750 VA<br>Max. switched current: 3 A<br>Max. switched voltage: 150* VDC or 300 VAC<br><b>UL Rating:</b> 3 A at 30 VDC or 250 VAC                                                                                                                                      |
| <b>Medium Duty</b>      | Max. switched power: 150 W or 1250 VA<br>Max. switched current: 5 A<br>Max. switched voltage: 150* VDC or 300 VAC<br><b>UL Rating:</b> 5 A at 30 VDC or 125 VAC<br>1/10 HP @ 125 VAC                                                                                                               |
| <b>Heavy Duty</b>       | Max. switched power: 300 W or 2500 VA<br>Max. switched current: 12 A<br>Max. switched voltage: 150* VDC or 300 VAC<br><b>UL Rating:</b> 5 A at 30 VDC<br>12 A at 125 VAC<br>1/4 HP @ 125 VAC<br>1/2 HP @ 250 VAC                                                                                   |
| <b>Extra Heavy Duty</b> | Max. switched power: 300 W or 4000 VA<br>Max. switched current: 16 A<br>Max. switched voltage: 150* VDC or 300 VAC<br><b>UL Rating:</b> 16 A at 125 VAC<br>10 A at 30 VDC<br><br>*Note: If switching voltage is greater than 30VDC, special precautions must be taken. Please contact the factory. |
| <b>Material</b>         | Silver cadmium oxide                                                                                                                                                                                                                                                                               |
| <b>Resistance</b>       | < 100 milliohms initially                                                                                                                                                                                                                                                                          |

### COIL

|                                    |                                                                                |
|------------------------------------|--------------------------------------------------------------------------------|
| <b>Power</b>                       |                                                                                |
| <b>At Pickup Voltage (typical)</b> | 230 mW                                                                         |
| <b>Max Continuous Dissipation</b>  | 1.1 W 20°C (68°F) ambient<br>.86 W 40°C (104°F) ambient                        |
| <b>Temperature Rise</b>            | 27°C (49°F) nominal coil voltage                                               |
| <b>Temperature</b>                 | Max. 105°C (221°F)<br>Max. 130°C (266°F) Class B<br>Max. 155°C (311°F) Class F |

### GENERAL DATA

|                                                                  |                                                                                                                                                     |
|------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Life Expectancy</b><br><b>Mechanical</b><br><b>Electrical</b> | Minimum operations<br>1x10 <sup>7</sup><br>1 x 10 <sup>5</sup> at 12 A 120 VAC Res.                                                                 |
| <b>Operate Time (typical)</b>                                    | 6 ms at nominal coil voltage                                                                                                                        |
| <b>Release Time (typical)</b>                                    | 2 ms at nominal coil voltage<br>(with no coil suppression)                                                                                          |
| <b>Dielectric Strength (at sea level for 1 min.)</b>             | 1500 Vrms contact to coil<br>750 Vrms contact to contact<br>Meets FCC part 68.302 1500 V lightning surge<br>Meets FCC part 68.304 1000 V dielectric |
| <b>Insulation Resistance</b>                                     | 100 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> | At nominal coil voltage<br>-40°C (-40°F) to 70°C (158°F)<br>-40°C (-40°F) to 105°C (221°F)                                                          |
| <b>Vibration</b>                                                 | 0.062" (1.5 mm) DA at 10–55Hz                                                                                                                       |
| <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>                                                    | 13 grams                                                                                                                                            |

### NOTES

|                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ol style="list-style-type: none"> <li>1. All values at 20°C (68°F).</li> <li>2. Relay may pull in with less than "Must Operate" value.</li> <li>3. Unsealed relays should not be dip cleaned.</li> <li>4. Specifications subject to change without notice.</li> </ol> <p> Only AZ941-1CT unsealed version is VDE approved at 5A, 250 VAC.</p> |
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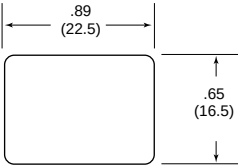
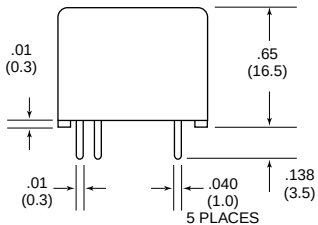
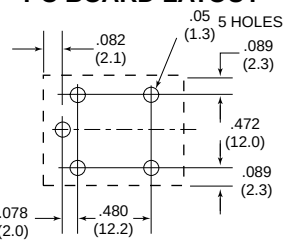
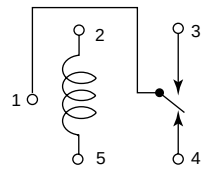
# AZ941

## RELAY ORDERING DATA

| STANDARD RELAYS: Light Duty Type (3 Amp Contact)        |                     |                            |                  |                |                 |
|---------------------------------------------------------|---------------------|----------------------------|------------------|----------------|-----------------|
| COIL SPECIFICATIONS                                     |                     |                            |                  | ORDER NUMBER   |                 |
| Nominal Coil VDC                                        | Max. Continuous VDC | Coil Resistance $\pm 10\%$ | Must Operate VDC | Unsealed       | Sealed          |
| 5                                                       | 8.9                 | 70                         | 4.0              | AZ941-1C-5D    | AZ941-1C-5DE    |
| 6                                                       | 10.6                | 100                        | 4.8              | AZ941-1C-6D    | AZ941-1C-6DE    |
| 12                                                      | 21.2                | 400                        | 9.6              | AZ941-1C-12D   | AZ941-1C-12DE   |
| 24                                                      | 42.5                | 1,600                      | 19.2             | AZ941-1C-24D   | AZ941-1C-24DE   |
| 48                                                      | 85.0                | 6,400                      | 38.4             | AZ941-1C-48D   | AZ941-1C-48DE   |
| STANDARD RELAYS: Medium Duty Type (5 Amp Contact)       |                     |                            |                  |                |                 |
| COIL SPECIFICATIONS                                     |                     |                            |                  | ORDER NUMBER   |                 |
| Nominal Coil VDC                                        | Max. Continuous VDC | Coil Resistance $\pm 10\%$ | Must Operate VDC | Unsealed       | Sealed          |
| 5                                                       | 8.9                 | 70                         | 4.0              | AZ941-1CH-5D   | AZ941-1CH-5DE   |
| 6                                                       | 10.6                | 100                        | 4.8              | AZ941-1CH-6D   | AZ941-1CH-6DE   |
| 12                                                      | 21.2                | 400                        | 9.6              | AZ941-1CH-12D  | AZ941-1CH-12DE  |
| 24                                                      | 42.5                | 1,600                      | 19.2             | AZ941-1CH-24D  | AZ941-1CH-24DE  |
| 48                                                      | 85.0                | 6,400                      | 38.4             | AZ941-1CH-48D  | AZ941-1CH-48DE  |
| STANDARD RELAYS: Heavy Duty Type (12 Amp Contact)       |                     |                            |                  |                |                 |
| COIL SPECIFICATIONS                                     |                     |                            |                  | ORDER NUMBER   |                 |
| Nominal Coil VDC                                        | Max. Continuous VDC | Coil Resistance $\pm 10\%$ | Must Operate VDC | Unsealed       | Sealed          |
| 5                                                       | 8.9                 | 70                         | 4.0              | AZ941-1CT-5D   | AZ941-1CT-5DE   |
| 6                                                       | 10.6                | 100                        | 4.8              | AZ941-1CT-6D   | AZ941-1CT-6DE   |
| 12                                                      | 21.2                | 400                        | 9.6              | AZ941-1CT-12D  | AZ941-1CT-12DE  |
| 24                                                      | 42.5                | 1,600                      | 19.2             | AZ941-1CT-24D  | AZ941-1CT-24DE  |
| 48                                                      | 85.0                | 6,400                      | 38.4             | AZ941-1CT-48D  | AZ941-1CT-48DE  |
| STANDARD RELAYS: Extra Heavy Duty Type (16 Amp Contact) |                     |                            |                  |                |                 |
| COIL SPECIFICATIONS                                     |                     |                            |                  | ORDER NUMBER*  |                 |
| Nominal Coil VDC                                        | Max. Continuous VDC | Coil Resistance $\pm 10\%$ | Must Operate VDC | Unsealed       | Sealed          |
| 5                                                       | 8.9                 | 70                         | 4.0              | AZ941-1CW-5DB  | AZ941-1CW-5DEB  |
| 6                                                       | 10.6                | 100                        | 4.8              | AZ941-1CW-6DB  | AZ941-1CW-6DEB  |
| 12                                                      | 21.2                | 400                        | 9.6              | AZ941-1CW-12DB | AZ941-1CW-12DEB |
| 24                                                      | 42.5                | 1,600                      | 19.2             | AZ941-1CW-24DB | AZ941-1CW-24DEB |
| 48                                                      | 85.0                | 6,400                      | 38.4             | AZ941-1CW-48DB | AZ941-1CW-48DEB |

\* Add suffix "F" in place of "B" to indicate class F.

## MECHANICAL DATA

|                                                                                     |                                                                                     |                                                                                                                    |                                                                                                                    |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
|  |  | <p><b>PC BOARD LAYOUT</b></p>  | <p><b>WIRING DIAGRAM</b></p>  |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|

Dimensions in inches with metric equivalents in parentheses. Tolerance:  $\pm 0.010$ "

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