## 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 for automatic wave soldering
- UL file E44211; CSA file 73566; VDE 10056 /5
- Class B and F available


## CONTACTS

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

## COIL

| Power <br> At Pickup Voltage <br> (typical) | 230 mW |
| :--- | :--- |
| Max Continuous | $1.1 \mathrm{~W} 20^{\circ} \mathrm{C}\left(68^{\circ} \mathrm{F}\right)$ ambient |
| Dissipation |  |
| Temperature Rise | $.86 \mathrm{~W} 40^{\circ} \mathrm{C}\left(104^{\circ} \mathrm{F}\right)$ ambient |
| $27^{\circ} \mathrm{C}\left(49^{\circ} \mathrm{F}\right)$ nominal coil voltage |  |
| Temperature | Max. $105^{\circ} \mathrm{C}\left(221^{\circ} \mathrm{F}\right)$ |
|  | Max. $130^{\circ} \mathrm{C}\left(266^{\circ} \mathrm{F}\right)$ Class B |
|  | Max. $155^{\circ} \mathrm{C}\left(311^{\circ} \mathrm{F}\right)$ Class F |

## GENERAL DATA

| Life Expectancy Mechanical Electrical | Minimum operations $1 \times 10^{7}$ <br> $1 \times 10^{5}$ at rated load |
| :---: | :---: |
| Operate Time (typical) | 6 ms at nominal coil voltage |
| Release Time (typical) | 2 ms at nominal coil voltage (with no coil suppression) |
| Dielectric Strength (at sea level for 1 min .) | 1500 Vrms contact to coil 750 Vrms contact to contact Meets FCC part 68.3021500 V lightning surge Meets FCC part 68.3041000 V dielectric |
| Insulation Resistance | 100 megohms min. at $20^{\circ} \mathrm{C}, 500 \mathrm{VDC}$, $50 \% \mathrm{RH}$ |
| Dropout | Greater than 10\% of nominal coil voltage |
| Ambient Temperature Operating (Standard) Operating (Class B) Storage (Standard) Storage (Class B) | At nominal coil voltage $-25^{\circ} \mathrm{C}\left(-13^{\circ} \mathrm{F}\right)$ to $70^{\circ} \mathrm{C}\left(158^{\circ} \mathrm{F}\right)$ $-25^{\circ} \mathrm{C}\left(-13^{\circ} \mathrm{F}\right)$ to $95^{\circ} \mathrm{C}\left(203^{\circ} \mathrm{F}\right)$ $-25^{\circ} \mathrm{C}\left(-13^{\circ} \mathrm{F}\right)$ to $105^{\circ} \mathrm{C}\left(221^{\circ} \mathrm{F}\right)$ $-25^{\circ} \mathrm{C}\left(-13^{\circ} \mathrm{F}\right)$ to $130^{\circ} \mathrm{C}\left(266^{\circ} \mathrm{F}\right)$ |
| Vibration | 0.062" DA at 10-55Hz |
| Shock | 10 g |
| Enclosure | P.B.T. polyester |
| Terminals | Tinned copper alloy, P.C. |
| Max. Solder Temp. | $270^{\circ} \mathrm{C}\left(518^{\circ} \mathrm{F}\right)$ |
| Max. Solder Time | 5 seconds |
| Max. Solvent Temp. | $80^{\circ} \mathrm{C}\left(176{ }^{\circ} \mathrm{F}\right)$ |
| Max. Immersion Time | 30 seconds |
| Weight | 13 grams |

## NOTES

1. All values at $20^{\circ} \mathrm{C}\left(68^{\circ} \mathrm{F}\right)$.
2. Relay may pull in with less than "Must Operate" value.
3. Unsealed relays should not be dip cleaned.
4. Specifications subject to change without notice.

5 Only AZ941-1CT unsealed version is VDE approved at 5A, 250 VAC.

## RELAY ORDERING DATA

STANDARD RELAYS: Light Duty Type (3 Amp Contact)

COIL SPECIFICATIONS

| COIL SPECIFATIONS |  |  |  |  |  |  |  | ORDER NUMBER |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Nominal Coil <br> VDC | Max. Continuous <br> VDC | Coil Resistance <br> $\pm 10 \%$ | Must Operate <br> 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

| Nominal Coil <br> VDC | Max. Continuous <br> VDC | Coil Resistance <br> $\mathbf{\pm 1 0 \%}$ | Must Operate <br> 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 | $\begin{gathered} \hline \text { Coil Resistance } \\ \pm 10 \% \end{gathered}$ | 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 | $\begin{gathered} \hline \text { Coil Resistance } \\ \pm 10 \% \end{gathered}$ | $\begin{aligned} & \text { Must Operate } \\ & \text { VDC } \end{aligned}$ | 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

|  |  | PC BOARD LAYOUT | WIRING DIAGRAM <br> Viewed toward terminals |
| :---: | :---: | :---: | :---: |

Dimensions in inches with metric equivalents in parentheses. Tolerance: $\pm 0.010^{\prime \prime}$

