

# AZ167

## MINIATURE POWER RELAY

### FEATURES

- Bottom panel mount
- SPDT through 4PDT arrangement
- High switching capacity
- AC and DC coils
- CE marked
- UL, CUR file E43203
- TÜV pending



### CONTACTS

|              |                                                                          |                                                                         |
|--------------|--------------------------------------------------------------------------|-------------------------------------------------------------------------|
| Arrangement  | SPDT (1 Form C)<br>DPDT (2 Form C)<br>3PDT (3 Form C)<br>4PDT (4 Form C) |                                                                         |
| Ratings      | See chart on page 2                                                      |                                                                         |
| UL, CUR      | See chart on page 2                                                      |                                                                         |
| Minimum Load | 5 VDC, 0.1 A                                                             |                                                                         |
| Material     | -1CT contact<br>-2C and 2CT contact<br>-3C contact<br>-4C contact        | Silver cadmium oxide<br>Silver cerium<br>Silver cerium<br>Silver cerium |
| Resistance   | < 50 milliohms initially<br>(24 V, 1 A voltage drop method)              |                                                                         |

### COIL

|                             |                                                                       |
|-----------------------------|-----------------------------------------------------------------------|
| Power                       |                                                                       |
| At Pickup Voltage (typical) | DC: 576 mW, 6 to 48 VDC<br>704 mW, 110 VDC<br>AC: .768 VA             |
| Max. Continuous Dissipation | DC: 1.2 W (110 V : 1.5 W) at 20°C (68°F)<br>AC: 1.7 VA at 20°C (68°F) |
| Temperature                 | 105°C (221°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

|                                                  |                                                                                             |
|--------------------------------------------------|---------------------------------------------------------------------------------------------|
| Life Expectancy<br>Mechanical<br>Electrical      | Minimum operations<br>2 x 10 <sup>7</sup> operations<br>See UL/CUR ratings on page 2        |
| Operate Time                                     | 25 msec max. at nominal coil voltage                                                        |
| Release Time                                     | 25 msec at nominal coil voltage<br>(without suppression)                                    |
| Dielectric Strength<br>(at sea level for 1 min.) | 1500 Vrms coil to contact<br>1000 Vrms contact to contact<br>1000 Vrms between contact sets |
| Insulation Resistance                            | 100 megohms min. at 20°C, 500 VDC,<br>50% RH                                                |
| Dropout                                          | DC: > 10% of nominal coil voltage<br>AC: > 30% of nominal coil voltage                      |
| Ambient Temperature<br>Operating<br>Storage      | -55°C (-67°F) to 70°C (158°F)<br>-55°C (-67°F) to 105°C (221°F)                             |
| Vibration                                        | 0.062" DA at 10–55 Hz                                                                       |
| Shock                                            | 20g                                                                                         |
| Enclosure                                        | Polycarbonate                                                                               |
| Terminals                                        | Plug-in                                                                                     |
| Max. Solder Temp.                                | 250°C (482°F)                                                                               |
| Max. Solder Time                                 | 5 seconds                                                                                   |
| Weight                                           | 37 grams                                                                                    |



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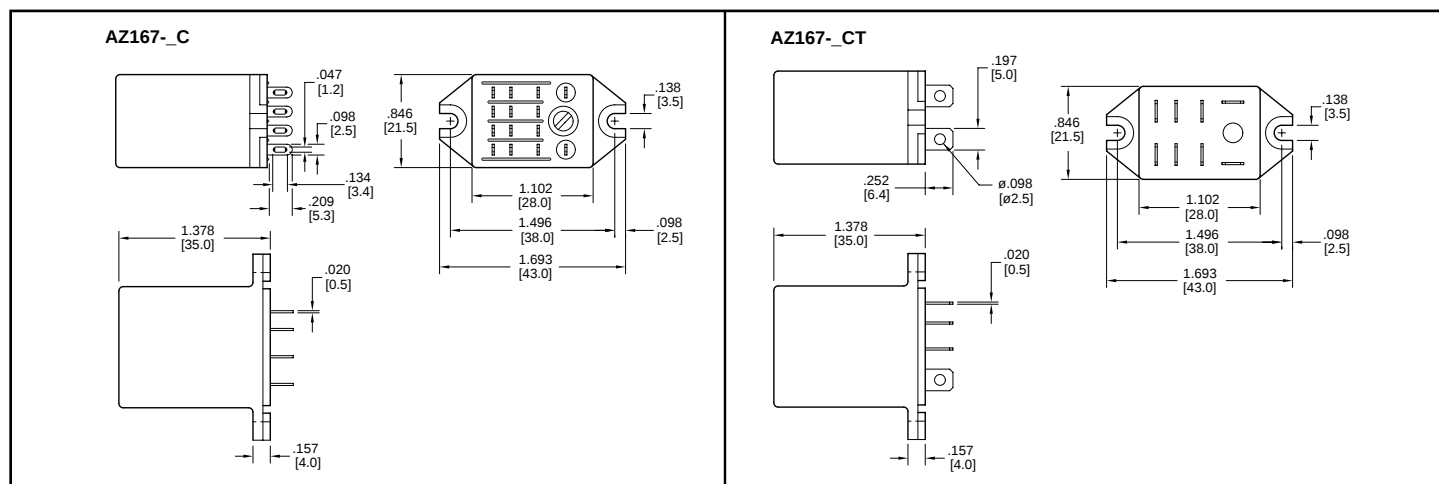
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## CONTACT RATINGS

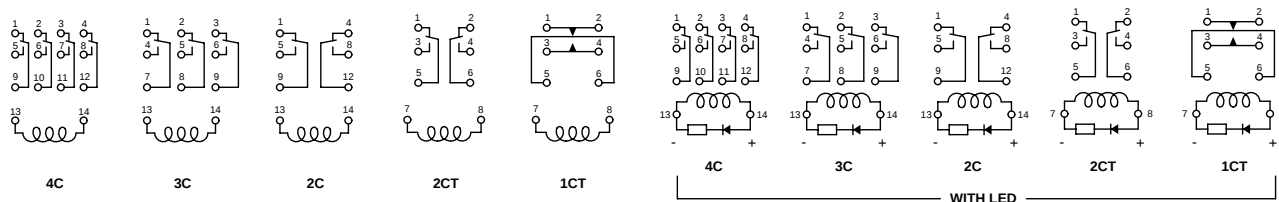
|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Maximum Ratings</b> | <b>SPDT Heavy duty, resistive load:</b><br>Max. Switched Power: 450 W, 3750 VA<br>Max. Switched Current: 15 A<br>Max. Switched Voltage: 30 VDC, 250 VAC<br><b>DPDT Heavy duty, resistive load:</b><br>Max. Switched Power: 300 W, 2500 VA<br>Max. Switched Current: 10 A<br>Max. Switched Voltage: 30 VDC, 250 VAC<br><b>DPDT Standard duty, resistive load:</b><br>Max. Switched Power: 210 W, 1750 VA<br>Max. Switched Current: 7 A<br>Max. Switched Voltage: 30 VDC, 250 VAC<br><b>3PDT, 4PDT, Standard duty, resistive load:</b><br>Max. Switched Power: 150 W, 1250 VA<br>Max. Switched Current: 5 A<br>Max. Switched Voltage: 30 VDC, 250 VAC | <b>UL/CUR Ratings</b> | <b>SPDT Heavy duty:</b><br>15 A, 250 VAC 100k, Resistive<br>15 A, 30 VDC, 100k N.O., 30k N.C., Resistive<br><b>DPDT Heavy duty:</b><br>10 A, 250 VAC, 100k, General use<br>10 A, 30 VDC, 100k, Resistive<br>1/3 HP, 120/240 VAC, 100k Motor load<br><b>DPDT, Standard duty:</b><br>7A, 250 VAC, 100k Resistive<br>7A, 30 VDC, 100k, Resistive<br>3A, 240 VAC/30 VDC, 100k, General use<br><b>3PDT, 4PDT, Standard duty:</b><br>5A, 250 VAC, 100k, Resistive<br>5A, 30 VDC, 100k, Resistive<br>3A, 240 VAC/30 VDC, 100k, General use |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## MECHANICAL DATA



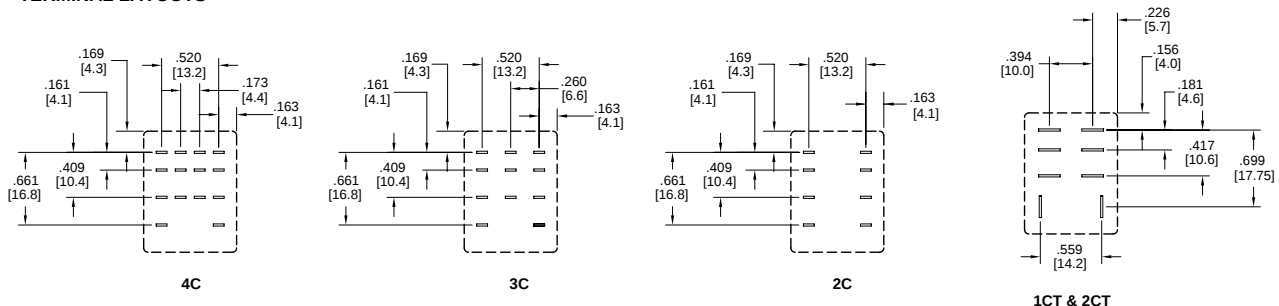
## WIRING DIAGRAM

Viewed Towards Terminal



## TERMINAL LAYOUTS

Viewed Towards Terminal



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## RELAY ORDERING DATA

| STANDARD RELAYS: DC Coil |                  |                     |                               |                   |               |
|--------------------------|------------------|---------------------|-------------------------------|-------------------|---------------|
| COIL SPECIFICATIONS      |                  |                     |                               |                   | ORDER NUMBER* |
| Nominal Coil VDC         | Must Operate VDC | Max. Continuous VDC | Nominal Current mA $\pm 10\%$ | Coil Resistance   |               |
| 5                        | 4.0              | 5.5                 | 181.0                         | 27.5 $\pm 10\%$   | AZ167-2C-5D   |
| 6                        | 4.8              | 6.6                 | 150.0                         | 40.0 $\pm 10\%$   | AZ167-2C-6D   |
| 12                       | 9.6              | 13.2                | 75.0                          | 160 $\pm 10\%$    | AZ167-2C-12D  |
| 24                       | 19.2             | 26.4                | 36.9                          | 650 $\pm 10\%$    | AZ167-2C-24D  |
| 48                       | 38.4             | 52.8                | 18.5                          | 2600 $\pm 15\%$   | AZ167-2C-48D  |
| 110                      | 88.0             | 121.0               | 10.0                          | 11,000 $\pm 15\%$ | AZ167-2C-110D |

| STANDARD RELAYS: AC Coil (50/60 Hz) |                  |                     |                               |                   |               |
|-------------------------------------|------------------|---------------------|-------------------------------|-------------------|---------------|
| COIL SPECIFICATIONS                 |                  |                     |                               |                   | ORDER NUMBER* |
| Nominal Coil VAC                    | Must Operate VAC | Max. Continuous VAC | Nominal Current mA $\pm 10\%$ | Coil Resistance   |               |
| 6                                   | 4.8              | 7.1                 | 200.0                         | 11.5 $\pm 10\%$   | AZ167-2C-6A   |
| 12                                  | 9.6              | 14.3                | 100.0                         | 46.0 $\pm 10\%$   | AZ167-2C-12A  |
| 24                                  | 19.2             | 28.6                | 50.0                          | 184 $\pm 10\%$    | AZ167-2C-24A  |
| 48                                  | 38.4             | 57.1                | 25.0                          | 735 $\pm 10\%$    | AZ167-2C-48A  |
| 120                                 | 96.0             | 143.0               | 10.0                          | 4,550 $\pm 10\%$  | AZ167-2C-120A |
| 220                                 | 176.0            | 261.0               | 5.5                           | 14,400 $\pm 15\%$ | AZ167-2C-220A |
| 240                                 | 192.0            | 288.0               | 5.0                           | 22,000 $\pm 15\%$ | AZ167-2C-240A |

\* For 3PDT or 4PDT substitute "-3C" or "-4C" for "-2C". For LED add "1" to the end of p/n.

## RELAY ORDERING DATA

| HEAVY DUTY RELAYS: DC Coil |                  |                     |                               |                   |                |
|----------------------------|------------------|---------------------|-------------------------------|-------------------|----------------|
| COIL SPECIFICATIONS        |                  |                     |                               |                   | ORDER NUMBER*  |
| Nominal Coil VDC           | Must Operate VDC | Max. Continuous VDC | Nominal Current mA $\pm 10\%$ | Coil Resistance   |                |
| 5                          | 4.0              | 5.5                 | 181.0                         | 27.5 $\pm 10\%$   | AZ167-1CT-5D   |
| 6                          | 4.8              | 6.6                 | 150.0                         | 40.0 $\pm 10\%$   | AZ167-1CT-6D   |
| 12                         | 9.6              | 13.2                | 75.0                          | 160 $\pm 10\%$    | AZ167-1CT-12D  |
| 24                         | 19.2             | 26.4                | 36.9                          | 650 $\pm 10\%$    | AZ167-1CT-24D  |
| 48                         | 38.4             | 52.8                | 18.5                          | 2600 $\pm 15\%$   | AZ167-1CT-48D  |
| 110                        | 88.0             | 121.0               | 10.0                          | 11,000 $\pm 15\%$ | AZ167-1CT-110D |

| HEAVY DUTY RELAYS: AC Coil (50/60 Hz) |                  |                     |                               |                   |                |
|---------------------------------------|------------------|---------------------|-------------------------------|-------------------|----------------|
| COIL SPECIFICATIONS                   |                  |                     |                               |                   | ORDER NUMBER*  |
| Nominal Coil VAC                      | Must Operate VAC | Max. Continuous VAC | Nominal Current mA $\pm 10\%$ | Coil Resistance   |                |
| 6                                     | 4.8              | 7.1                 | 200.0                         | 11.5 $\pm 10\%$   | AZ167-1CT-6A   |
| 12                                    | 9.6              | 14.3                | 100.0                         | 46.0 $\pm 10\%$   | AZ167-1CT-12A  |
| 24                                    | 19.2             | 28.6                | 50.0                          | 184 $\pm 10\%$    | AZ167-1CT-24A  |
| 48                                    | 38.4             | 57.1                | 25.0                          | 735 $\pm 10\%$    | AZ167-1CT-48A  |
| 120                                   | 96.0             | 143.0               | 10.0                          | 4,550 $\pm 10\%$  | AZ167-1CT-120A |
| 220                                   | 176.0            | 261.0               | 5.5                           | 14,400 $\pm 15\%$ | AZ167-1CT-220A |
| 240                                   | 192.0            | 288.0               | 5.0                           | 22,000 $\pm 15\%$ | AZ167-1CT-240A |

\* For DPDT substitute "-2CT" for "-1CT". For LED add "1" to the end of p/n.



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