

Power Solid State Relays

Optically Isolated MOSFET-Based Power Relays

IXYS Integrated Circuits Division Power Solid State Relays

Provided in a variety of innovative packages, these dependable solid state devices can be used to switch power reliably to high current loads under the control of milliamp-level DC signals. A wide selection of blocking voltages and current handling capabilities offer flexible design options. Optical architecture isolates the input circuitry from the output circuitry by up to 5000V_{rms} to provide safety for personnel and for added noise immunity.

AC/DC Power Relay Features:

- Load Current up to 15A_{DC} / 15A_{rms} @ T_C=25°C
- Blocking Voltages from 60V_P to 1000V_P
- Input-to-Output Isolation up to 5000V_{rms}
- Very Low On-Resistance
- Low Input Control Current: 10mA Max

Bidirectional Power Relays

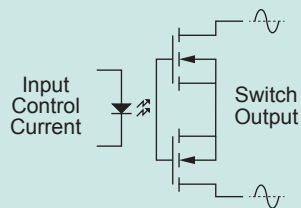
IXYS Integrated Circuits Division's bidirectional solid state power relays, also called AC/DC relays, are designed to switch high current loads in which current flows in both directions.

Unidirectional Power Relays

IXYS Integrated Circuits Division's unidirectional solid state power relays, also called DC-Only relays, are designed to switch high current loads in which current flows in only one direction.

DC-Only Power Relay Features:

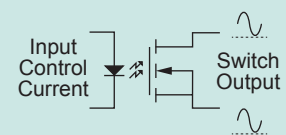
- Load Current up to 32A_{DC} @ T_C=25°C
- Blocking Voltages from 60V_P to 1000V_P
- Input-to-Output Isolation: 2500V_{rms}
- Very Low On-Resistance
- Low Input Control Current: 10mA Max



AC/DC Relay
Block Diagram

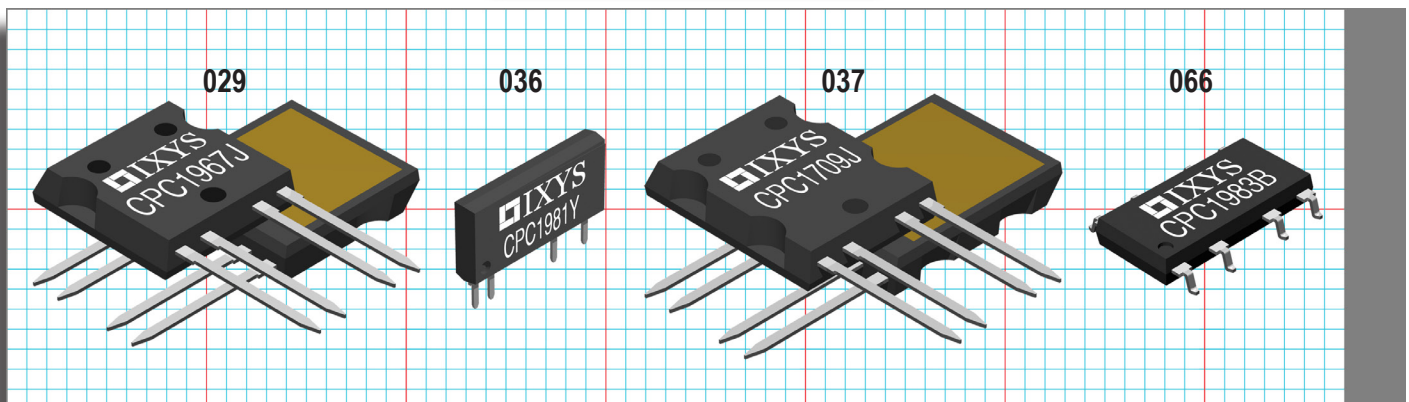
APPLICATIONS:

- Industrial Controls, Motor Controls
- Robotics
- Transportation Equipment
- Aerospace, Defense
- Instrumentation
- Meters (Watt/Hr, Water, Gas)



DC-Only Relay
Block Diagram

Power Relay Packages



MOSFET-Based Power Relays (AC/DC, Bidirectional)

| Part Number | Blocking Voltage | Load Current | | | On Resistance | Switching Times t_{on}/t_{off} | Input Control Current | Isolation Voltage | Package Type |
|-------------|------------------|------------------------|-----------------|------------------------|---------------|-------------------------------------|-----------------------|-------------------|--------------|
| | | Free Air | 5°C/W Heat Sink | $T_c=25^\circ\text{C}$ | | | | | |
| | (V_P) | (A_{DC} / A_{rms}) | | | (Ω) | (ms) | (mA_{DC}) | (V_{rms}) | |
| CPC1906 | 60 | 2 | - | - | 0.3 | 10 / 5 | 10 | 2500 | 036 |
| CPC1907B | 60 | 6 | - | - | 0.06 | 5 / 1 | 5 | 5000 | 066 |
| CPC1908 | 60 | 3.5 | 8.5 | 15 | 0.3 | 20 / 5 | 10 | 2500 | 029 |
| CPC1909 | 60 | 6.5 | 15 | 15 | 0.1 | 25 / 10 | 10 | 2500 | 037 |
| CPC1916 | 100 | 2.5 | - | - | 0.34 | 5 / 3 | 10 | 2500 | 036 |
| CPC1918 | 100 | 5.25 | 13 | 15 | 0.1 | 25 / 10 | 10 | 2500 | 037 |
| CPC1926 | 250 | 0.7 | - | - | 1.4 | 10 / 10 | 10 | 2500 | 036 |
| CPC1927 | 250 | 2.7 | 6.7 | 15 | 0.2 | 25 / 10 | 10 | 2500 | 037 |
| CPC1967 | 400 | 1.35 | 3.35 | 13.15 | 0.85 | 20 / 5 | 10 | 2500 | 029 |
| CPC1968 | 500 | 2 | 5 | 15 | 0.35 | 20 / 5 | 10 | 2500 | 037 |
| CPC1973 | 400 | 0.35 | - | - | 5 | 5 / 3 | 10 | 2500 | 036 |
| CPC1977 | 600 | 1.25 | 3.1 | 12.25 | 1 | 20 / 5 | 10 | 2500 | 029 |
| CPC1978 | 800 | 0.75 | 1.85 | 7.25 | 2.3 | 20 / 5 | 10 | 2500 | 029 |
| CPC1979 | 600 | 1.4 | 3.5 | 14.5 | 0.75 | 25 / 5 | 10 | 2500 | 037 |
| CPC1981 | 1000 | 0.18 | - | - | 18 | 10 / 5 | 10 | 2500 | 036 |
| CPC1983 | 600 | 0.5 | - | - | 6 | 5 / 2 | 5 | 2500 | 036 |
| CPC1983B | 600 | 0.5 | - | - | 6 | 5 / 2 | 5 | 5000 | 066 |
| CPC1983YE | 600 | 0.5 | - | - | 6 | 5 / 2 | 5 | 4000 | 036 |
| CPC1986 | 1000 | 0.65 | 1.6 | 6.5 | 3 | 20 / 5 | 10 | 2500 | 029 |
| CPC1988 | 1000 | 0.9 | 2.25 | 9.4 | 2.5 | 20 / 5 | 10 | 2500 | 037 |

MOSFET-Based Power Relays (DC-Only, Unidirectional)

| Part Number | Blocking Voltage | Load Current | | | On Resistance | Switching Times t_{on}/t_{off} | Input Control Current | Isolation Voltage | Package Type |
|-------------|------------------|--------------|-----------------|------------------------|---------------|-------------------------------------|-----------------------|-------------------|--------------|
| | | Free Air | 5°C/W Heat Sink | $T_c=25^\circ\text{C}$ | | | | | |
| | (V_P) | (A_{DC}) | | | (Ω) | (ms) | (mA_{DC}) | (V_{rms}) | |
| CPC1706 | 60 | 4 | - | - | 0.09 | 5 / 2 | 5 | 2500 | 036 |
| CPC1708 | 60 | 4 | 11.85 | 24 | 0.08 | 20 / 5 | 10 | 2500 | 037 |
| CPC1709 | 60 | 9 | 22.8 | 32 | 0.05 | 20 / 5 | 10 | 2500 | 037 |
| CPC1718 | 100 | 6.75 | 17.5 | 32 | 0.075 | 20 / 5 | 10 | 2500 | 036 |
| CPC1726 | 250 | 1 | - | - | 0.75 | 5 / 2 | 10 | 2500 | 036 |
| CPC1727 | 250 | 3.4 | 8.6 | 20 | 0.09 | 20 / 5 | 10 | 2500 | 036 |
| CPC1777 | 600 | 1.5 | 4.6 | 15 | 0.5 | 20 / 5 | 10 | 2500 | 029 |
| CPC1779 | 600 | 1.65 | 4.12 | 15 | 0.4 | 20 / 5 | 10 | 2500 | 036 |
| CPC1786 | 1000 | 0.65 | 1.75 | 6.9 | 2 | 20 / 5 | 10 | 2500 | 029 |
| CPC1788 | 1000 | 1 | 2.45 | 10.3 | 1.25 | 20 / 5 | 10 | 2500 | 037 |

For more information about IXYS Integrated Circuits Division's Power Solid State Relays, please visit:

<http://www.ixysic.com/Products/SSRPower.htm>

For additional information, contact your IXYS IC Division Representative:

<http://www.ixysic.com/home/pages.nsf/locate.rep>

Or visit IXYS IC Division's web site:

<http://www.ixysic.com>