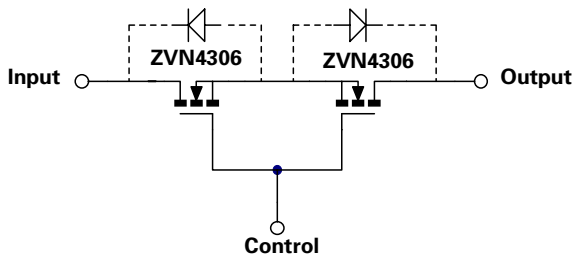


High Current High Voltage Analog Switches



Commercial analog switch ICs are in the main designed for low power signal applications, and often cannot be used due to:

- a) not possessing a wide enough swing in signal voltage;
- b) size problems;
- c) current limitations due to their on-state resistance.

Single MOSFET devices cannot be used as alternatives because their body diode (shown dotted in the diagram) will conduct part of any AC signal even when the device is turned off. However two low resistance ZVN4306A TO92 style MOSFETs in the simple arrangement

shown here, will give a compact high performance 0.45Ω , 1A analog switch without this restriction. With the control input driven 2V more positive than the peak of the analog signal to turn the switch on, and as negative to turn the switch off, the circuit above will accommodate signals up to 18V peak to peak. Substituting Zetex 2N7000 MOSFETs in the circuit allows signals up to 38V ptp and still handles currents up to 200mA. Higher voltage signals may be switched using isolated drive circuits.

For applications where size is critical, high performance Zetex SOTFETs can be used. The SOT23 ZVN4106F will produce an analog switch possessing an on-resistance of only 4Ω .