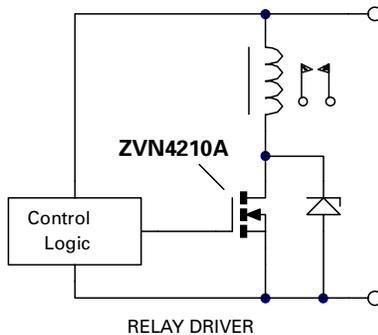


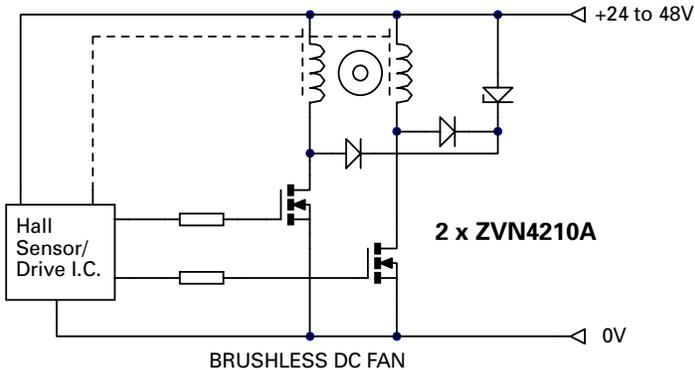
## Features and Applications of the ZVN4210A



The ZVN4210A is one of the latest E-Line packaged developments available from Zetex. It is a cellular design, N-Channel Enhancement mode MOSFET that features a 100V drain-source voltage rating, an on-resistance of 1.5 $\Omega$  maximum (1.1 $\Omega$  typical) at 1.5A, a current rating of 0.45A continuous and up to 6A under pulsed conditions. These attributes, in addition to the usual MOSFET advantages of fast switching, ease of drive requirements, and freedom from secondary breakdown, make the ZVN4210A an excellent choice as a logic to power interface. This enables reliable minimum part count designs to be realised at low cost.

The low switching losses produced by the fast switching speeds, ( $T_{on}=8ns$ ;  $T_{off}=28ns$  typical, for a drain current of 1.5A and a  $V_{gs}$  of 10v), ensure cool and efficient operation in switching circuits.

The ZVN4210A should prove to be of interest to the Automotive Electronics sector, where it's inherent ruggedness, non-critical drive requirements, and low losses provide an attractive alternative to the TO220 packaged Darlington's often employed as relay drivers. Of particular concern to designers are the requirements for surviving fault conditions. The ZVN4210A greatly simplifies the problem as no bias current/gain considerations are necessary, due to it being a voltage driven device.



Brushless DC fans benefit from logic driven, load insensitive drivers, and the ZVN4210A is capable of driving 24-48V fans with powers in excess of 15W (input), and higher in circuits employing locked rotor protection.

As the primary switching element in DC-DC converters, Zetex MOSFETS allow greater power density designs to be realised. Switching frequencies extending into Mega-Hertz are possible, lowering inductance and smoothing

requirements, and thereby the size of the finished products.

The simple circuit shown features bootstrapped gatedrive, to enable this 48V to 5V converter to operate reliably at output currents exceeding 1.7A.

Other typical applications include lamp, solenoid, and motor drivers, and analog applications such as audio driver stages and high power analog switching networks.

