

**MULTIPLE INDIVIDUAL KELVIN EMITTER CONNECTIONS
TO REDUCE CURRENT FLOW THROUGH PARASITIC DIODE**

ABSTRACT OF THE DISCLOSURE

In a motor controller circuit, an integrated circuit driver drives a plurality of switching transistors which are organized along a top rail and a bottom rail. To reduce the conduction of current through the parasitic diode D_{SI} of the integrated circuit, the switching transistors at the bottom rail are provided with individual Kelvin emitter connections, which reduce the parasitic internal inductances, which otherwise produce highly negative voltages when the top rail transistors are turned off. Further, individual traces are provided on the printed circuit board from the COM terminal to the Kelvin emitters. Finally, a small resistance is provided in series with each Kelvin emitter connection which increases the resistance in series with the parasitic diodes and hence reduces the current flowing in the parasitic diodes.

Fig. 2