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(54) **OVERCURRENT PROTECTION BY  
DEPLETION MODE MOSFET OR JFET AND  
BI-METALLIC TEMPERATURE SENSING  
SWITCH IN MINI CIRCUIT BREAKER**

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**ABSTRACT**

A miniature circuit breaker for providing short circuit and overload protection is disclosed herein. The miniature circuit breaker features a field effect transistor (FET), which may be a depletion mode metal oxide semiconductor FET (D MOSFET), a junction field-effect transistor (JFET), or a silicon carbide JFET, the FET being connected to a bi-metallic switch, where the bi-metallic switch acts as a temperature sensing circuit breaker. In combination, the D MOSFET and bi-metallic switch are able to limit current to downstream circuit components, thus protecting the components from damage.

