

Unit Name: Power Electronics 2 Simulation 3

Title

Battery protection circuit.

Details

The protection circuits are contained in what is commonly referred to as the Protection Circuit Module (PCM). While there are many off the shelf PCMs that you can buy, each individual application requires unique parameters are maintained so it is not recommended that these off the shelf modules are used for anything other than lab prototypes.

The PCM is a part of the battery management system (BMS) which manages the electronics of a rechargeable battery pack by monitoring its state, reporting that data, balancing the cells along with protecting the battery, and controlling its environment.

Battery protection circuits for the most demanding applications are operated mostly by Integrated Circuits (ICs) typically using MOSFETs to switch lithium cells in and out of circuit. The over-current protection is normally provided when the IC detects the upper current limit of the battery being reached and then interrupts the circuit.