

Cell Balancing of 16S1P :

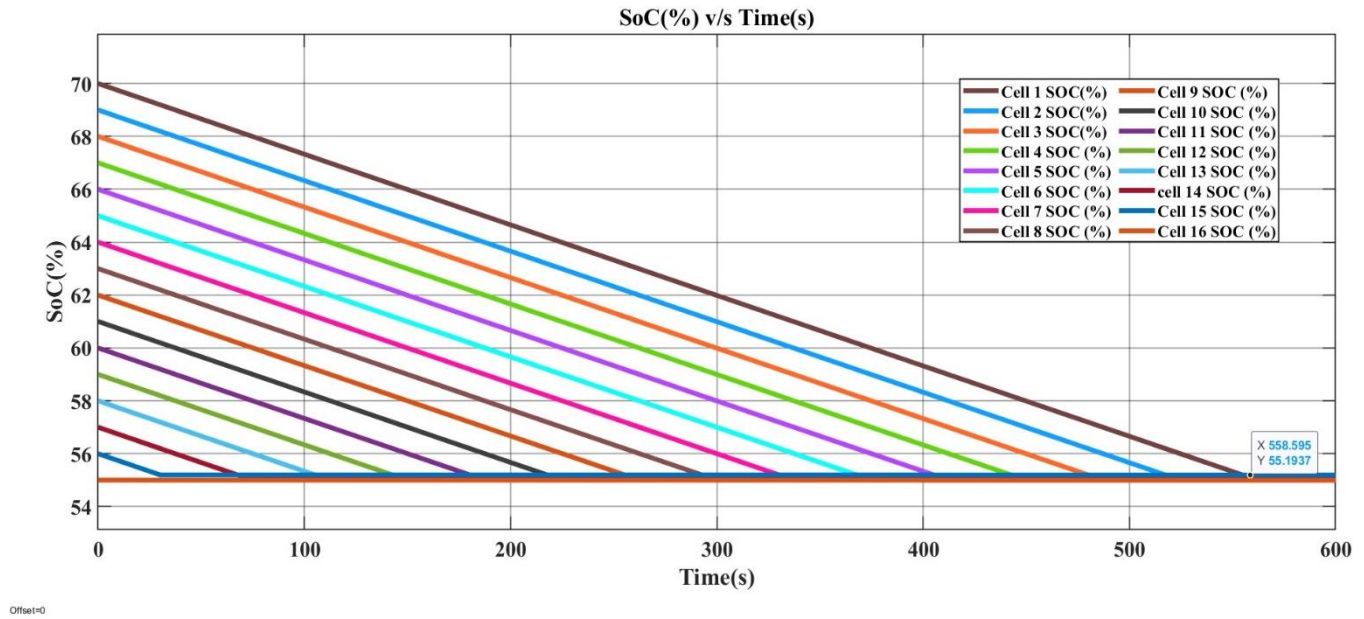


Fig 1 : Cell Balancing of 16S1P configuration

In **Fig 1** it has represented that all the 16 cells are balanced at 558 seconds at min SoC 55% of the pack. To balance the cells in the circuit the Min balance set point strategy is used.

Discharging of 16S1P After Balancing @1C rate :

SoC Results :

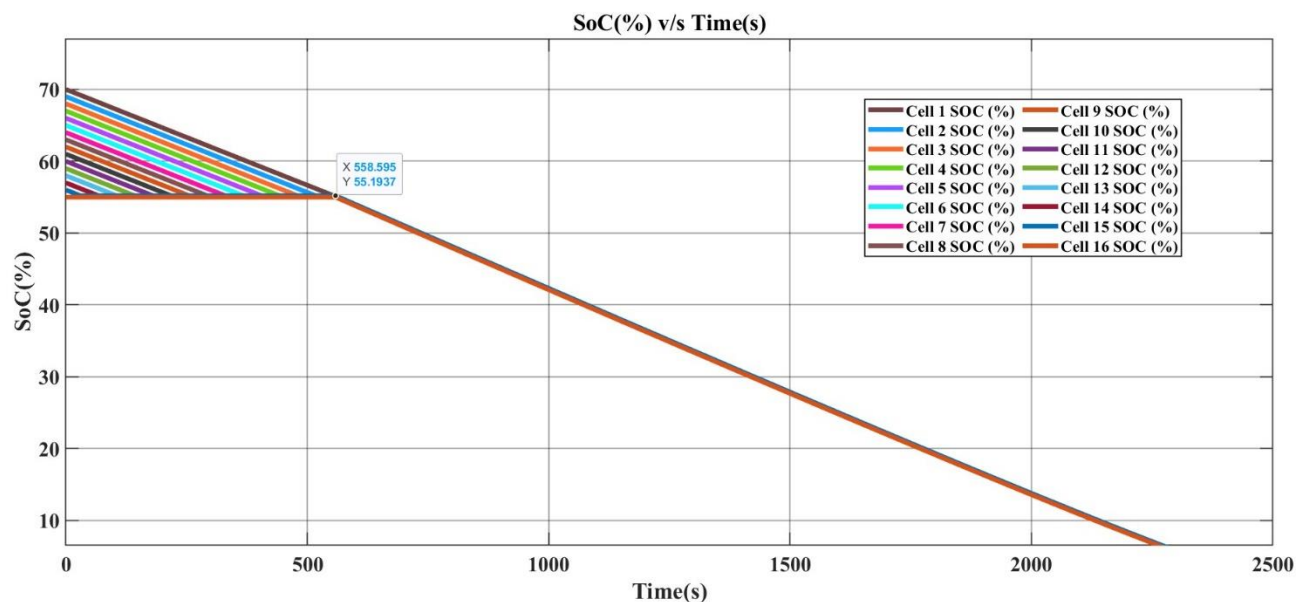


Fig 2 : Balancing and Discharging by Min SoC BSP Strategy

In **Fig 2** it has shown that after balancing of all 16 cells, all the cells started discharging at decided rate of 1C. All the cells fully discharged at around 2300 seconds.

Current Results :

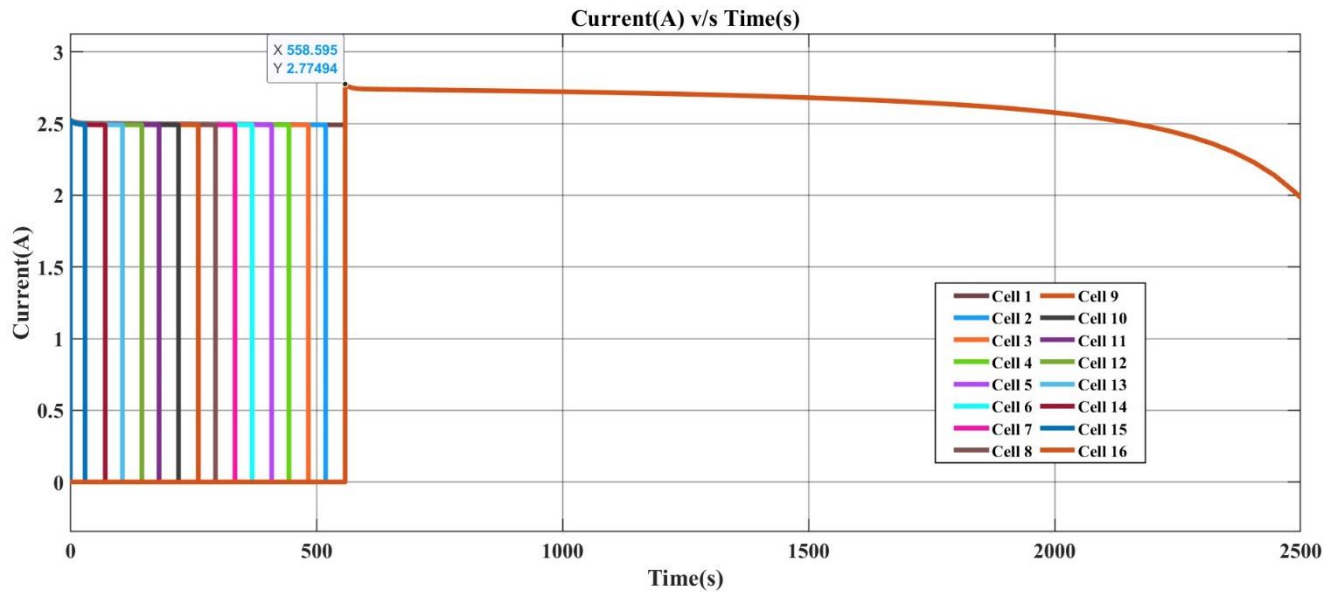


Fig 3 : Current Results of Balancing and Discharging by Min SoC BSP Strategy

In **Fig 3** all the cells dropped by 2.5A of current to 0 A, when they get balanced one after the other. When all the cells get balanced at instant the discharging switch gets ON, then all the cells started discharging and the value of current was 2.7 A at the time of balancing at then it started decreasing till 2 A at 2500 sec.

Voltage Results :

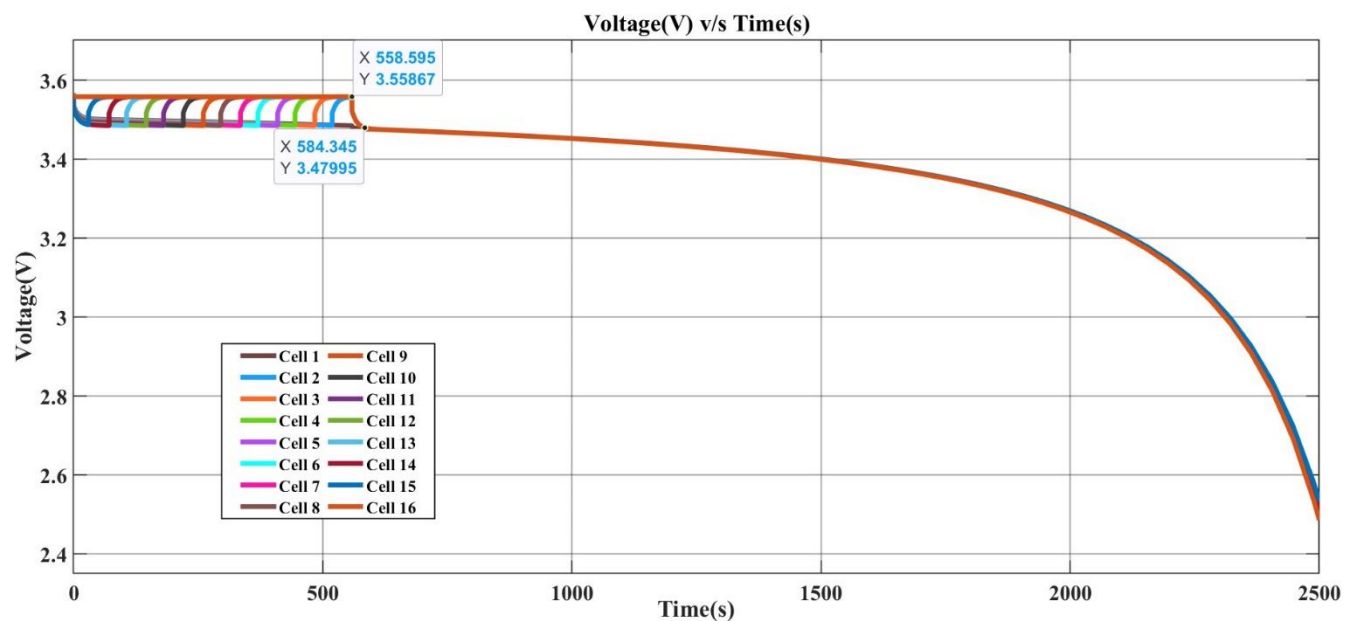


Fig 4 : Voltage Results of Balancing and Discharging by Min SoC BSP Strategy

In **Fig 4** at the initial all cell had the voltage around 3.55 V, which was dropped to 3.47 V when they were balancing one after other. After balancing when the all cells started discharging their voltage levels also started decreasing and after 2500 sec, all cells have the voltage around 2.5 V.

Energy Loss Results (By Shunt Resistors) :

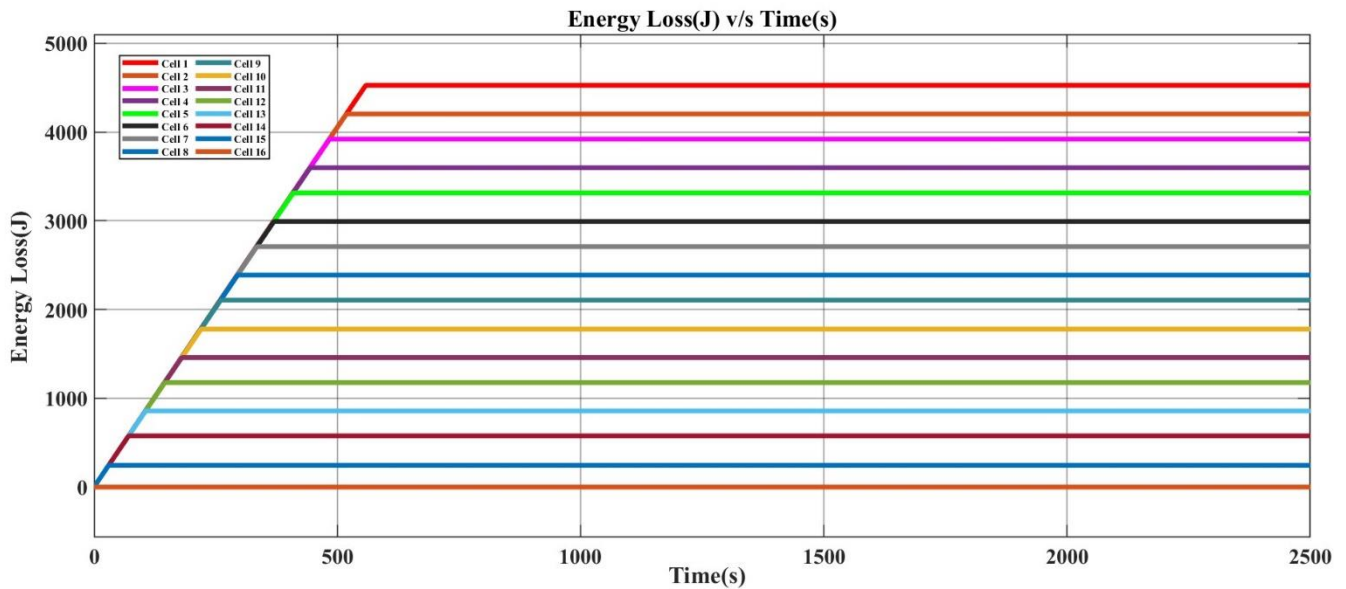


Fig 5 : *Energy Loss Results (By Shunt Resistors) of Balancing and Discharging by Min SoC BSP Strategy*

In **Fig 5** the energy loss by shunt resistors in the process of balancing and discharging of the 16S1P configuration of passive cell balancing by Min SoC BSP has shown.

Energy Loss Results (By Load Resistor) :

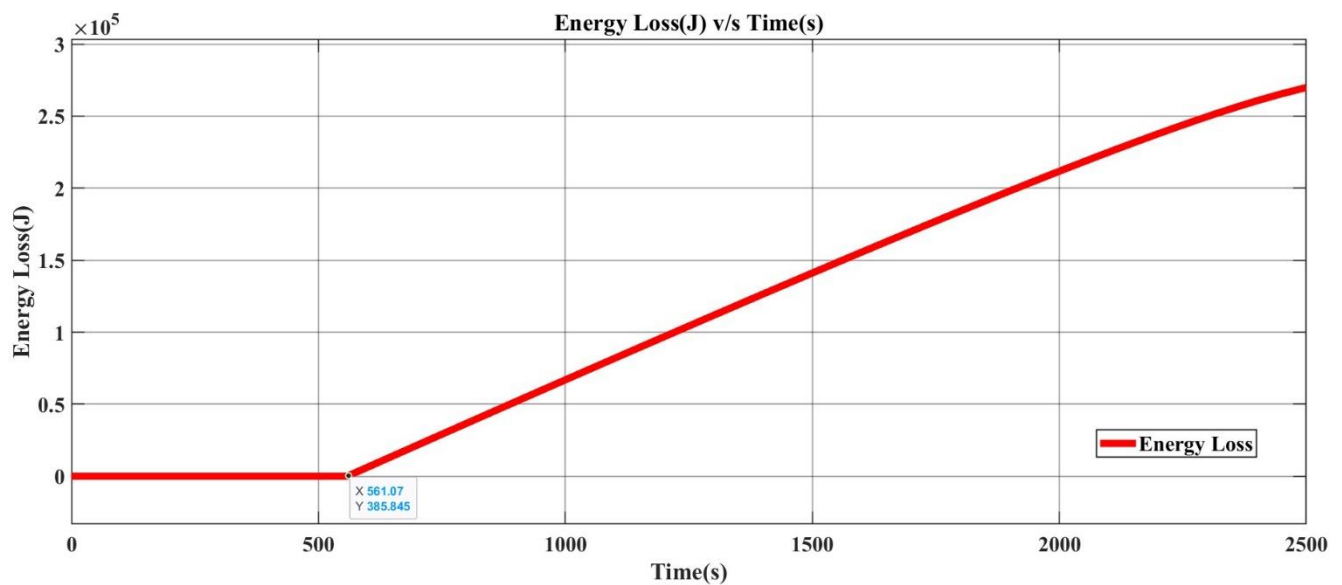


Fig 6 : *Energy Loss Results (By Load Resistors) of Balancing and Discharging by Min SoC BSP Strategy*

In **Fig 6** the energy loss by load resistors in the process of balancing and discharging of the 16S1P configuration of passive cell balancing by Min SoC BSP has shown.

Power Loss Results (By Shunt Resistors) :

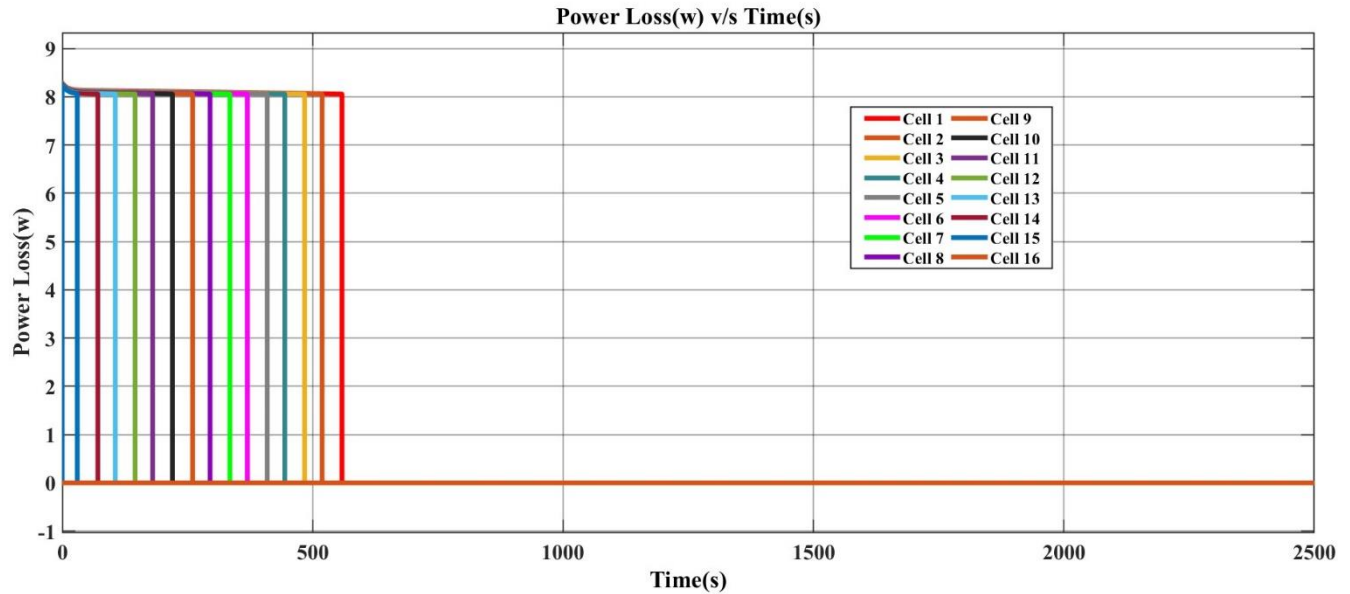


Fig 7 : Power Loss Results (By Shunt Resistors) of Balancing and Discharging by Min SoC BSP Strategy

In **Fig 7** the power loss by shunt resistors in the process of balancing and discharging of the 16S1P configuration of passive cell balancing by Min SoC BSP has shown.

Power Loss Results (By Load Resistor) :

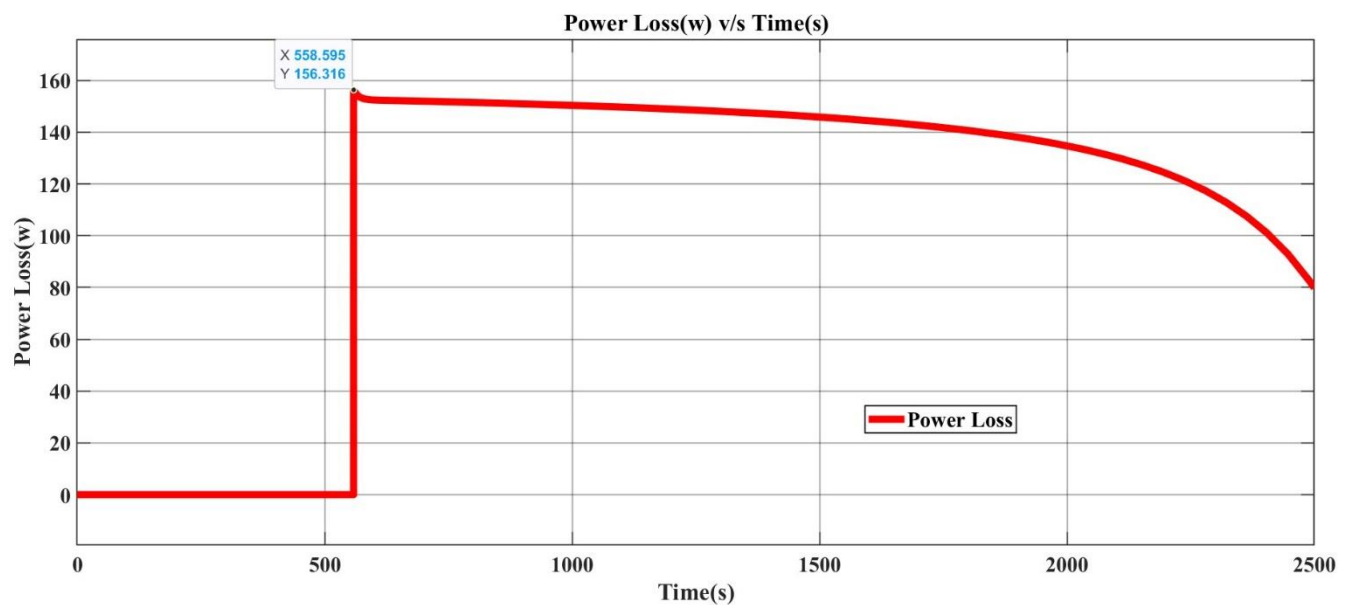


Fig 8 : Power Loss Results (By Load Resistors) of Balancing and Discharging by Min SoC BSP Strategy

In **Fig 8** the power loss by load resistors in the process of balancing and discharging of the 16S1P configuration of passive cell balancing by Min SoC BSP has shown.