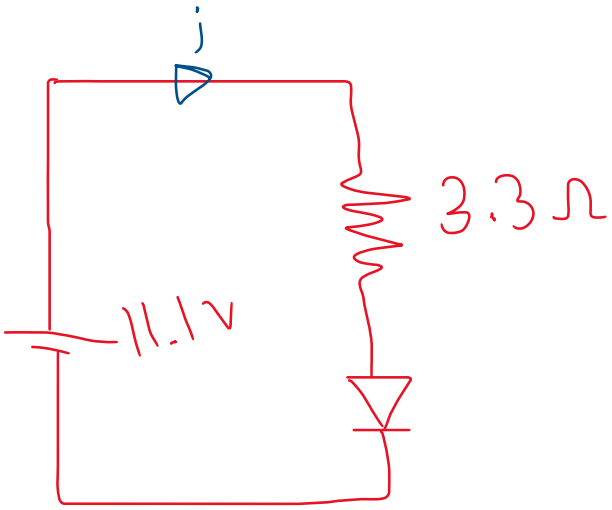
Assumptions:

-Nominal voltage = 11.1v

-battery has charge = .8 * 5200 = 4160mAh



i = 11.1/3.3 = 3.36 A

needed charge = 3.36 * 10e3 * 5 = 16800mAh

So, #of batteries = 16800/4160 = 4.038 ≈ 5

Number of batteries ≥ 5

BMS

CLASSSIFIED *BY FUNCTION*

1.Constant current/constant voltage (CCCV) chargers

2.Regulators

3.Meters

4.Monitors

5.Balancers

6.Protectors

CLASSSIFIED BY TOPOLOGY

1. Centralized BMS

2. Modular BMS

3.Master-slave BMS

4.Distributed BMS

The importance of battery management systems:

Functional safety is of the highest importance in a BMS. It is critical during charging and discharging operation, to prevent the voltage, current, and temperature of any cell or module under supervisory control from exceeding defined SOA limits. If limits are exceeded for a length of time, not only is a potentially expensive battery pack compromised, but dangerous thermal runaway conditions could ensue.