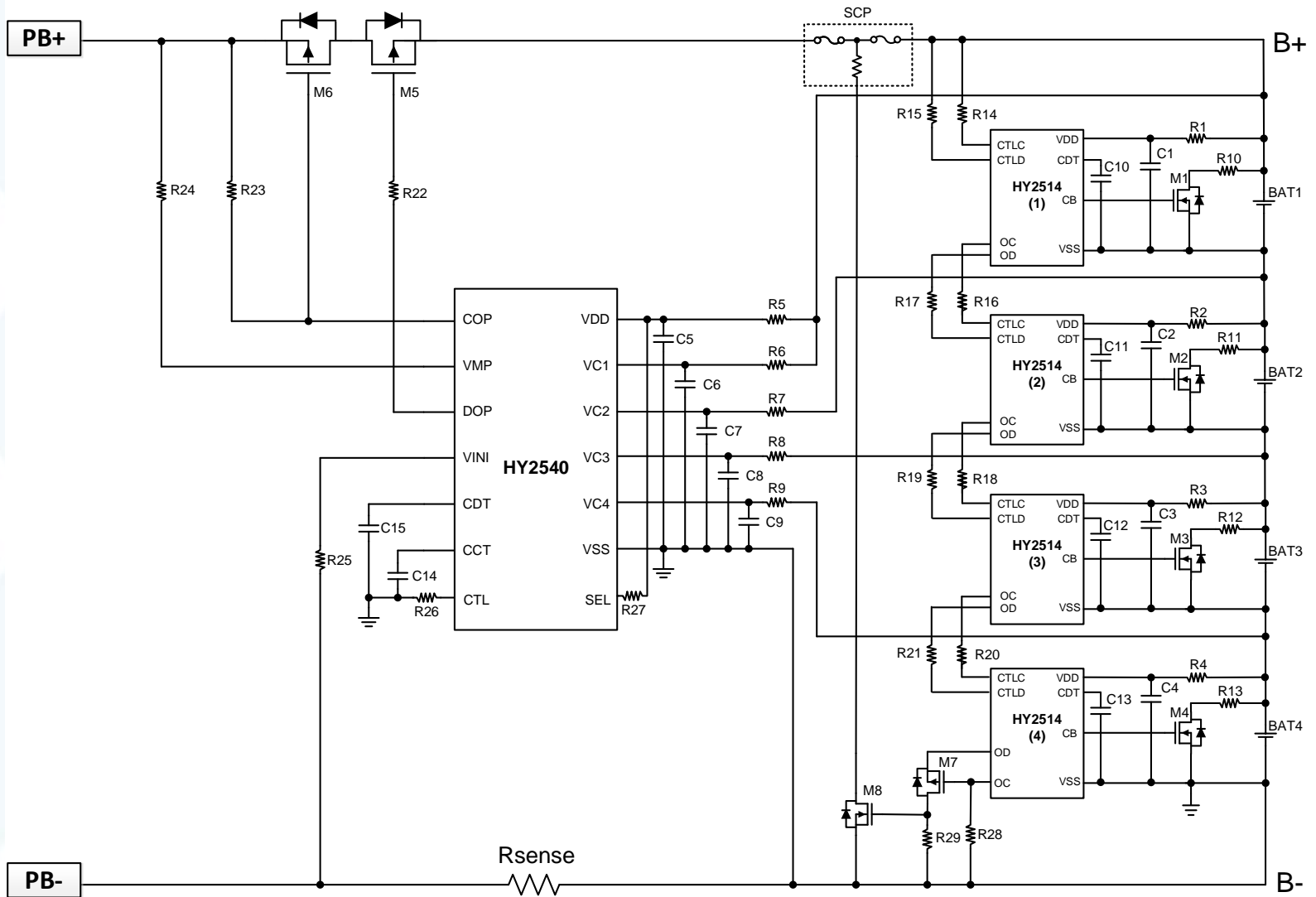


**Battery Protection IC**  
**HY2540+HY2514**

# Function

- ◆ Protection IC HY2540
  - ◆ Overcharge Protection
  - ◆ Overdischarge Protection
  - ◆ Charge Overcurrent Protection
  - ◆ DischargeOvercurrent Protection
  - ◆ Short Circuit Protection
- ◆ Protection IC HY2514
  - ◆ Overcharge Protection
  - ◆ Cell balance
  - ◆ Overdischarge Protection(Not used in this application)

# Application Circuit



# Constant for External Components

Symbol	Device Name	Purpose	Min.	Typ.	Max.
R1~R9	Resistor	Limit current and strengthen ESD protection.	330Ω	330Ω	1KΩ
R10~R13	Resistor	Charge balance load.	-	-	-
R14~R21	Resistor	Make CTL pin's transmission stable.	-	1kΩ	10kΩ
R22	Resistor	Strengthen ESD protection.	2kΩ	5.1kΩ	10kΩ
R23	Resistor	Strengthen ESD protection.	0.1MΩ	1MΩ	10MΩ
R24	Resistor	Strengthen ESD protection.	1kΩ	5.1kΩ	10kΩ
R25~R27	Resistor	Strengthen ESD protection.	1kΩ	1kΩ	100kΩ
R28	Resistor	Pull down resistance.	-	1MΩ	-
R29	Resistor	Pull down resistance.	-	1MΩ	-
Rsense	Resistor	Charge and discharge current sensing.	-	-	-
C1~C9	Capacitor	Stabilize VDD and VC1~VC4.	0.01μF	0.1μF	1.0μF
C10~C13	Capacitor	Delay time control of HY2514.	-	-	-
C14~C15	Capacitor	Delay time control of HY2540.	-	-	-
SCP	SCP	Self Control Protector.	-	-	-
M1~M4	N-MOSFET	Charge balance control.	-	-	-
M5	P-MOSFET	Discharge control.	-	-	-
M6	P-MOSFET	Charge control.	-	-	-
M7	P-MOSFET	Invert the OC control signal of HY2514.	-	-	-
M8	N-MOSFET	Invert the OC control signal of HY2514.	-	-	-

**Q & A**  
**Thank You**