

Switch IC 原理

Reported: 台北工程 部

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- 什麼是 Switch IC ?
- Load Switch 基本架構
- 使用 Switch IC 的好處
- 如何挑選 Switch IC ?
- Ricoh Switch IC Introduce .
- 基本公式



什麼是 Switch IC ?

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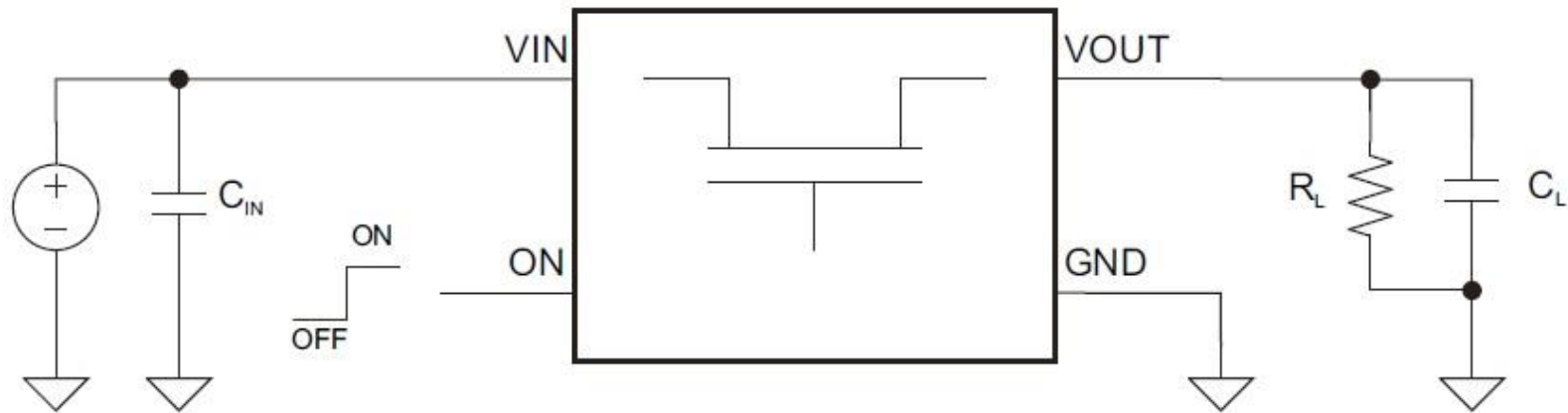


Figure 1. General Load Switch Circuit Diagram

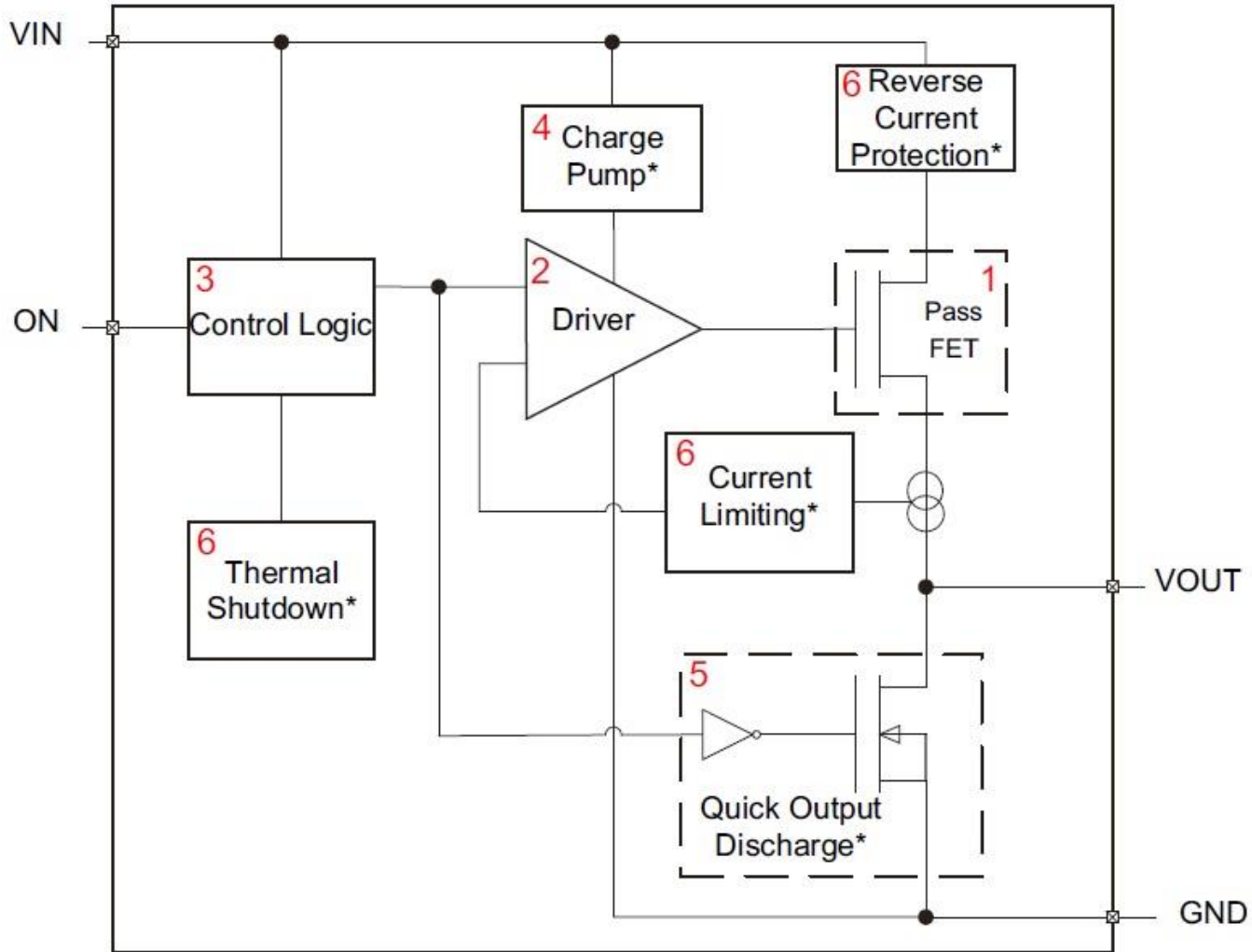
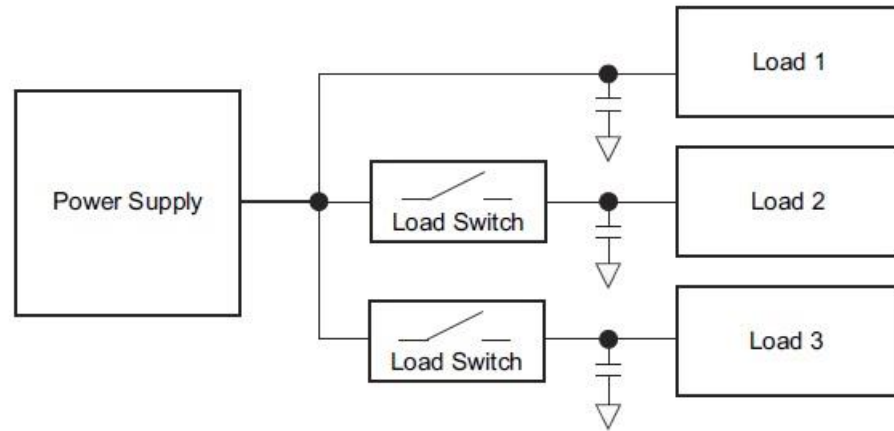
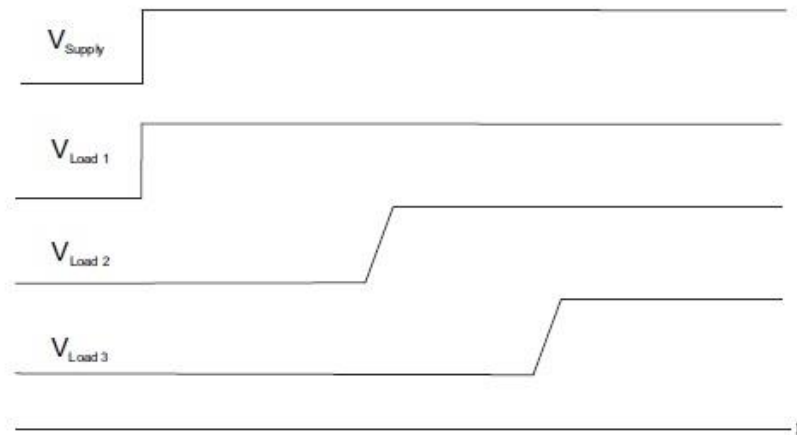


Figure 2. Block Diagram of General Load Switch

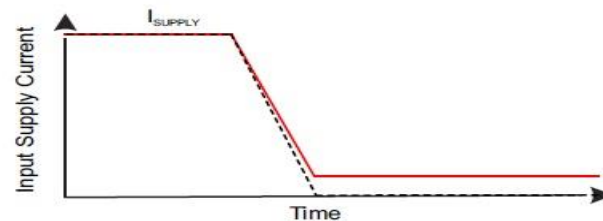
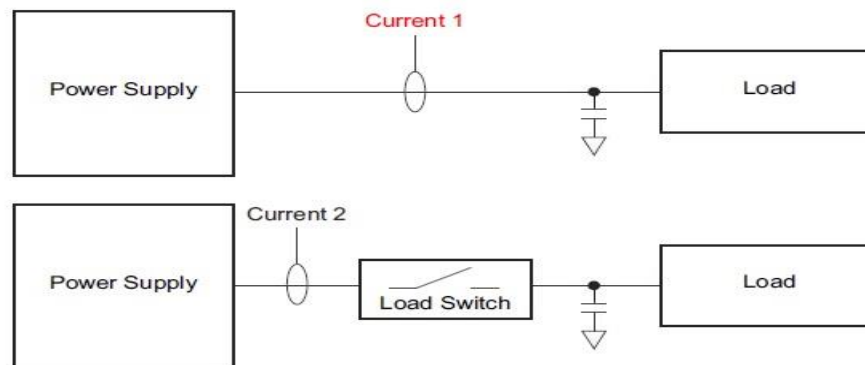
1. 電源路徑分配:



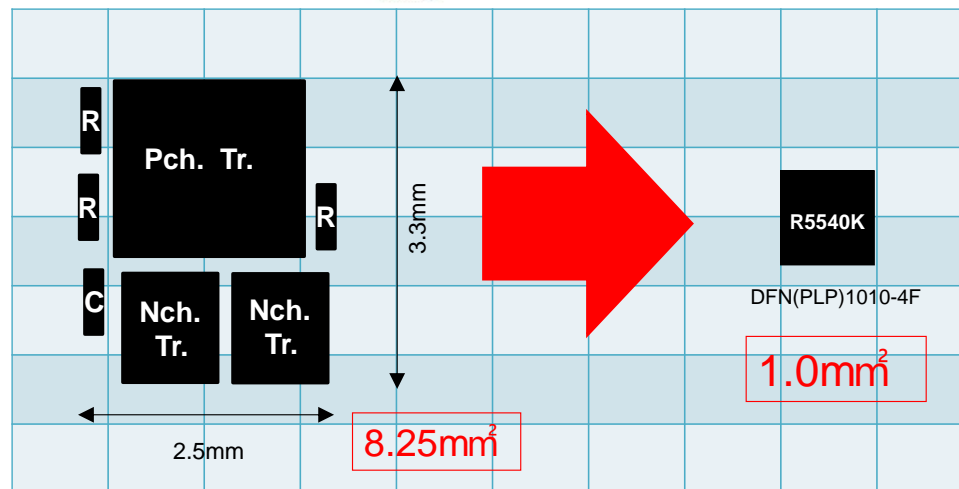
2. 電源啓動順序控制:



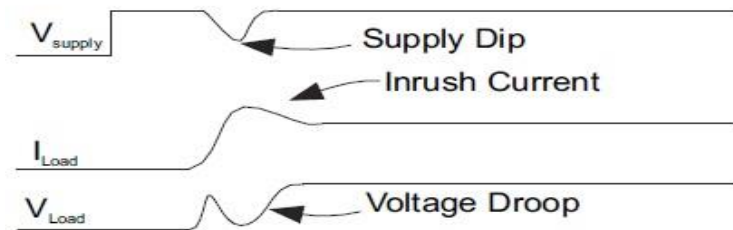
3. 減少漏電電流:



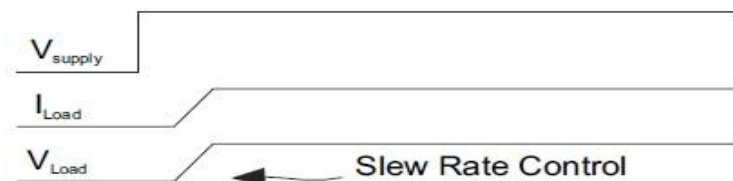
4. 縮小零件佈局:



5. Inrush current 抑制:



Inrush Current Causing Power Supply Dip



Slew Rate Control with Load Switch

6. 內建保護:

Discharge : Auto-discharge Function

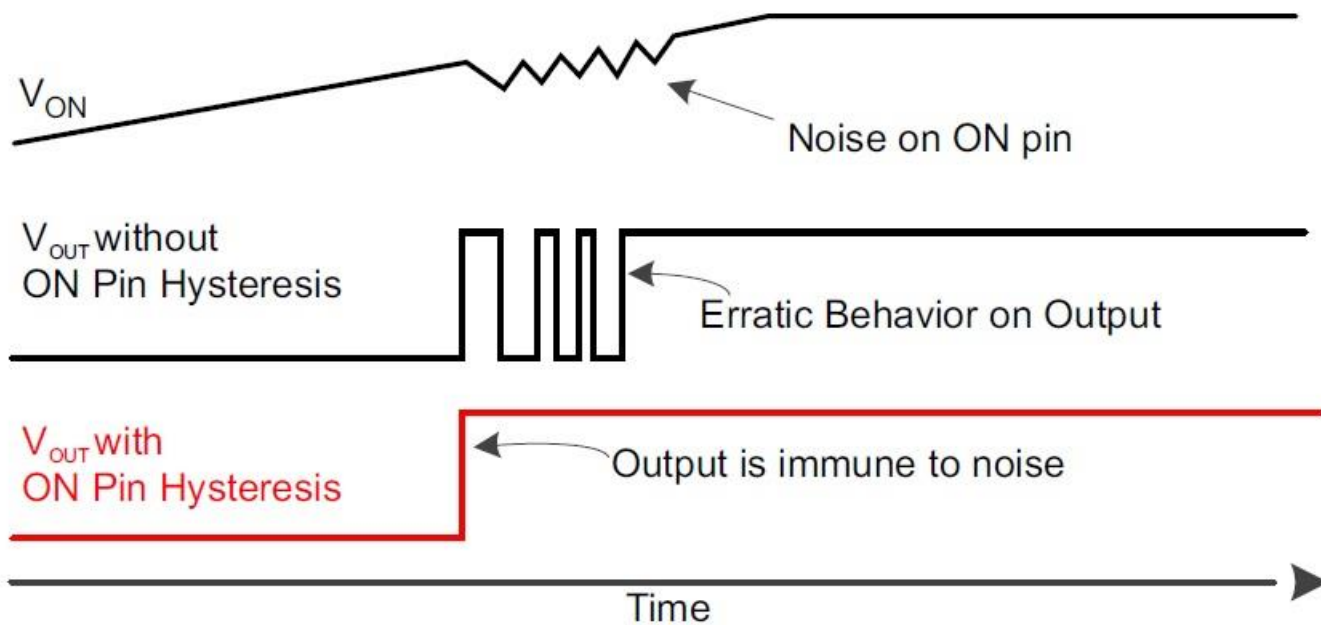
Reverse : Reverse Current Protection Circuit

Soft-Start : Soft-start Circuit

Thermal : Thermal Shutdown Circuit

UVLO : Undervoltage Lockout Circuit

7. 預防輸出不穩定:

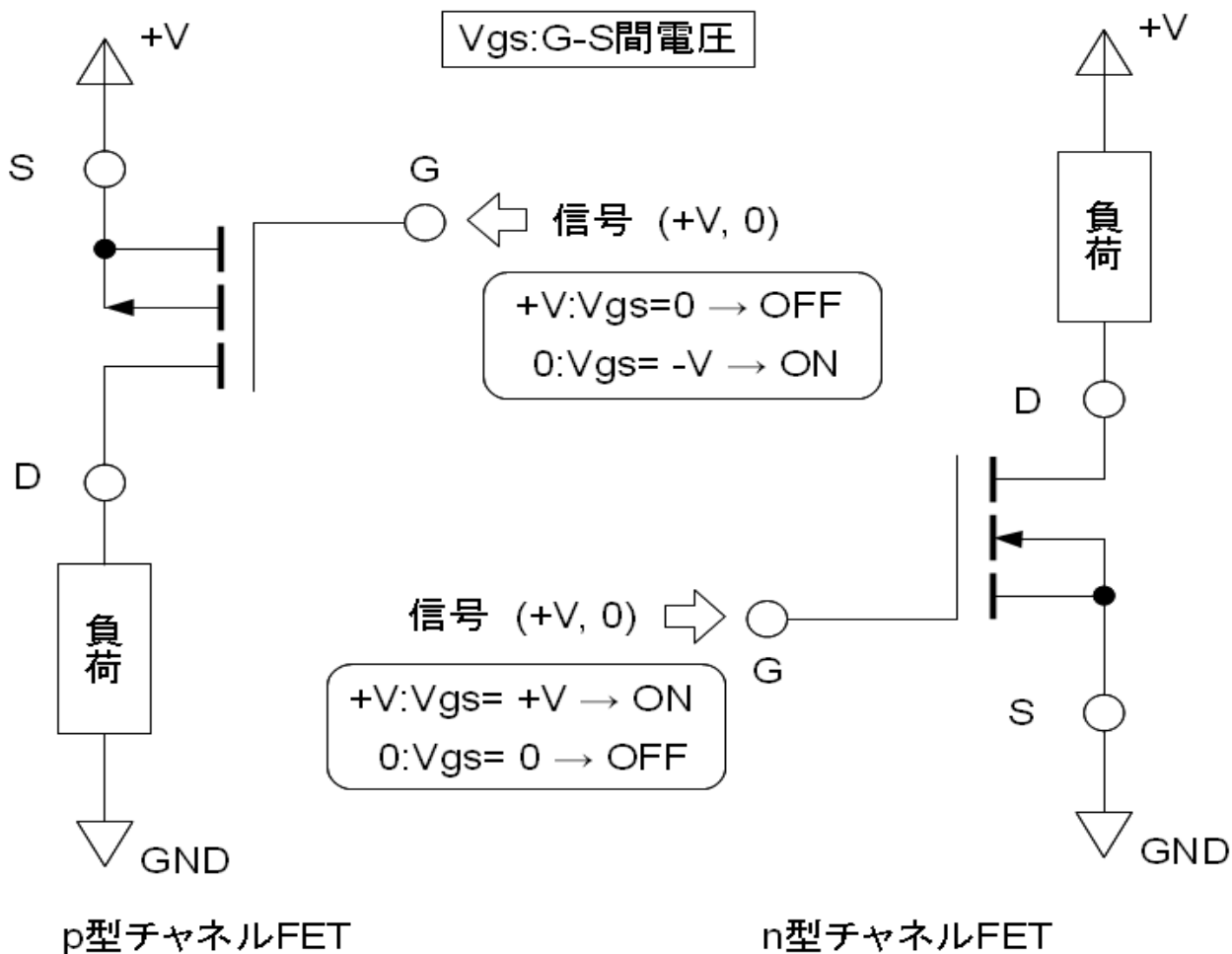




如何挑選Switch IC ?

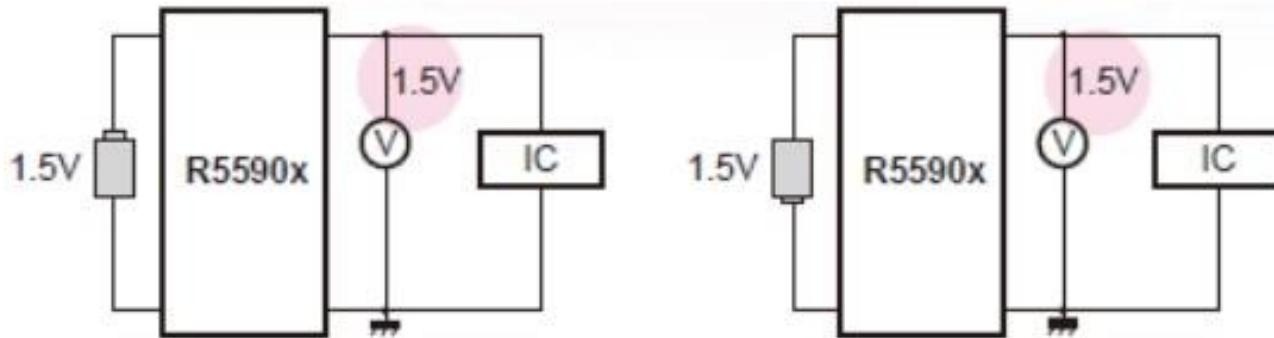
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1. PMOS vs NMOS:

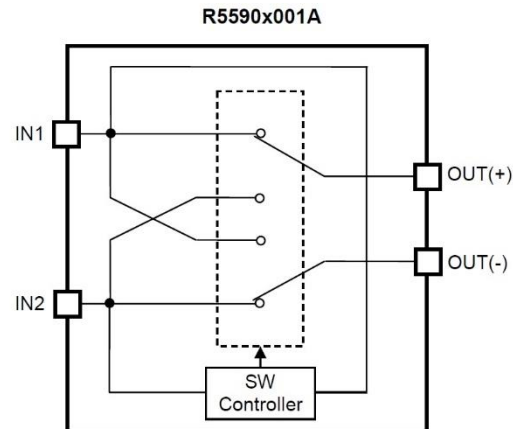




R5590x Typical Application



The R5590x allows batteries to be placed in any direction without regard to positive or negative polarity.





欲知詳情請洽...

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F&E team

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Ricoh SW IC官網資訊:

<http://www.e-devices.ricoh.co.jp/en/products/power/sw/>



Thank You

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