

Commande embarquée de moteurs

2 Commande des transistors
Transistor Mos de puissance

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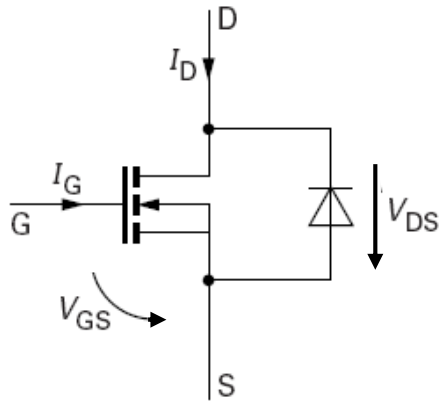
Objectifs du cours

Fonctionnement d'un Mosfet de puissance

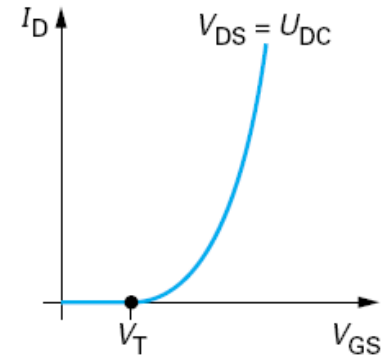
Références:

Vrej Barkhordarian, *Power MOSFET Basics*,
International Rectifier, El Segundo, Ca.

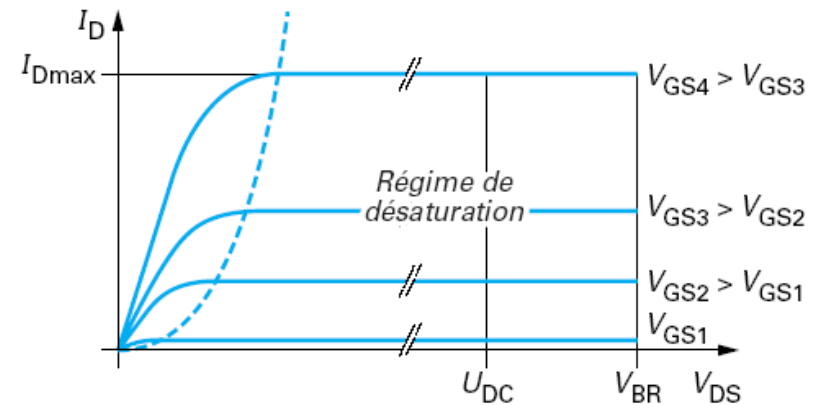
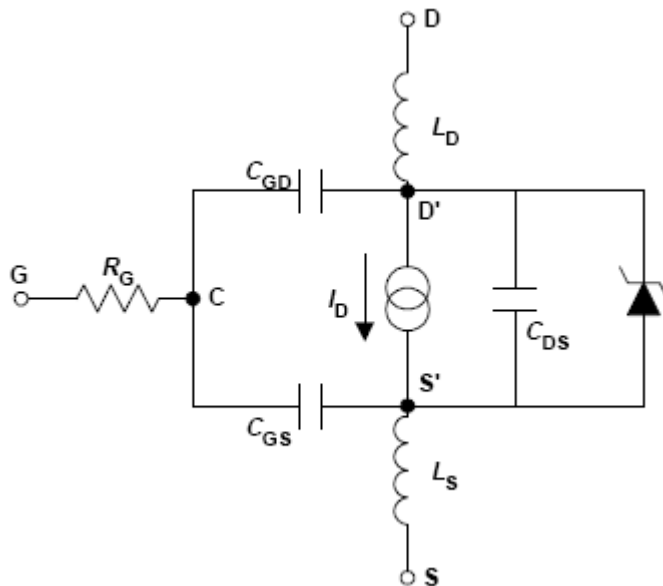
Principe



(a) symbole et diode de structure

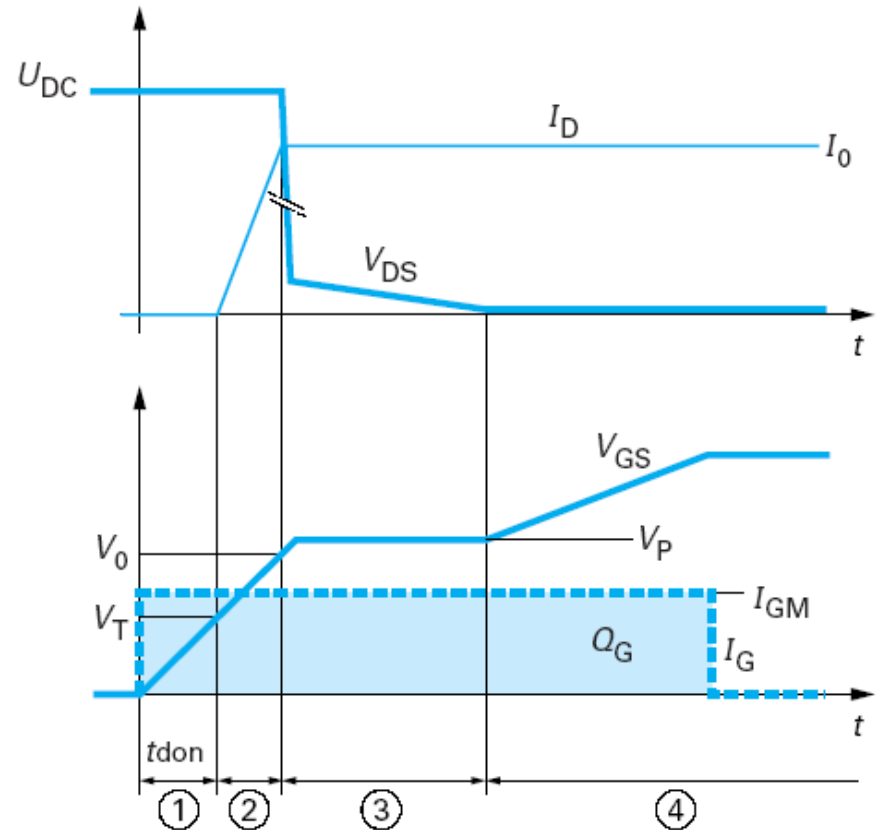
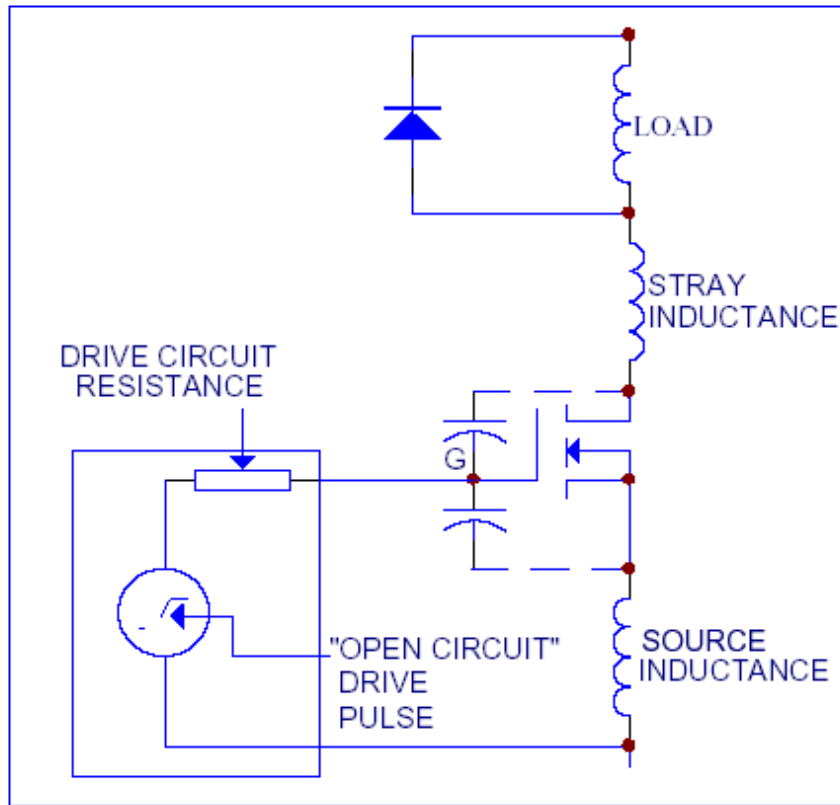


(c) transconductance



(d) caractéristiques de sortie idéalisées

Enclenchement



(b) formes d'ondes idéalisées

Déclenchement

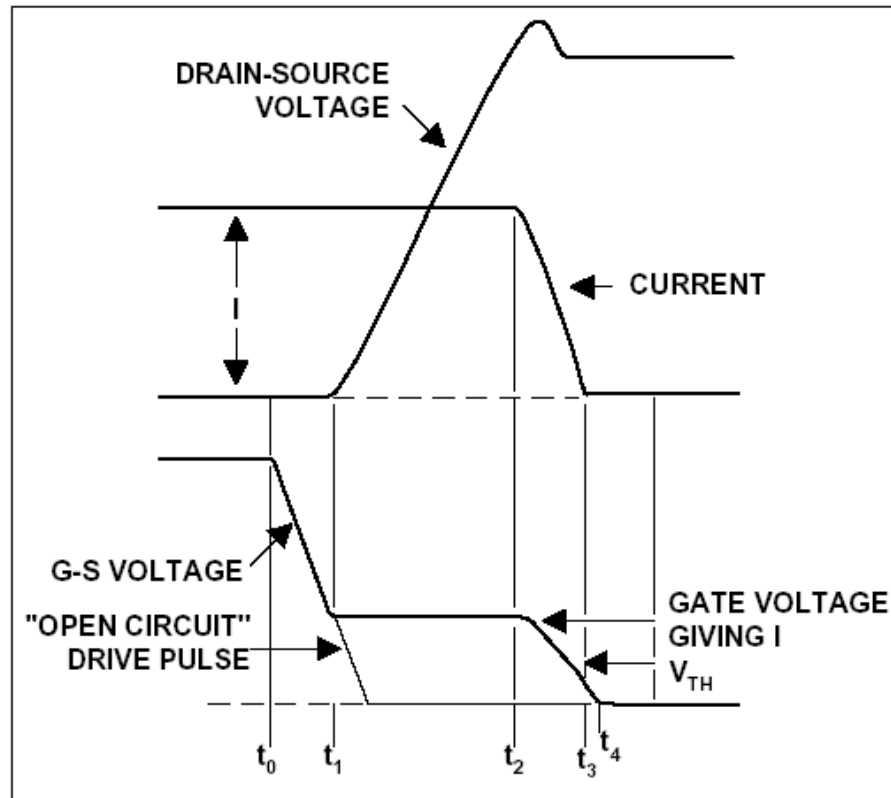


Figure 5. Waveforms at Turn-OFF

Calcul des pertes

- Pertes en conduction:

$$P_{cd} = R_{DS(on)} I^2 t_{ON}$$

- Pertes en commutation:

$$P_{com} = f \int u_{DS} i_{DS} dt$$

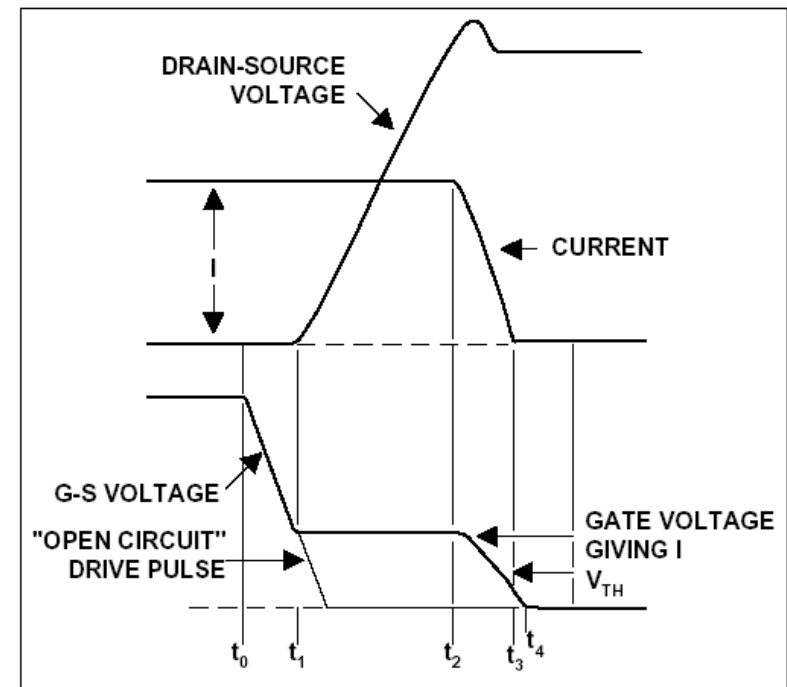


Figure 5. Waveforms at Turn-OFF