

Introduction

- Why high frequency?
 - Power Density
 - Control Bandwidth

- Techniques

- Devices
- Control
- Topologies
- Passives



8 w Dimmable LED Driver

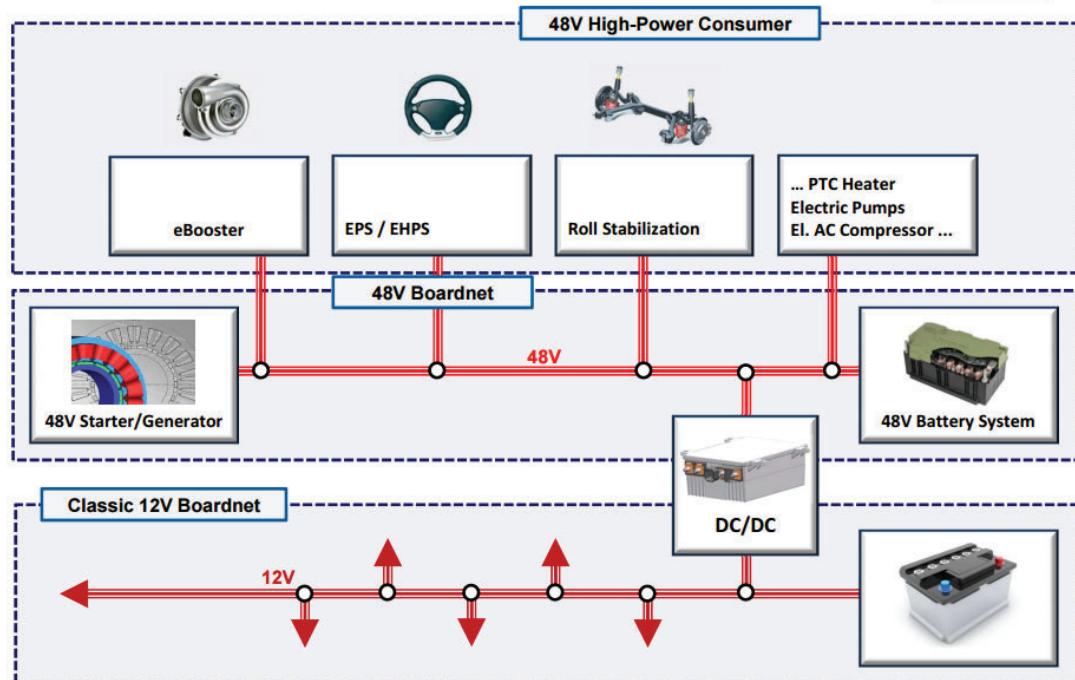


Voltage Regulation Module

THE UNIVERSITY OF
TENNESSEE
KNOXVILLE 

Motivating Example

12V/48V Electrical Architecture

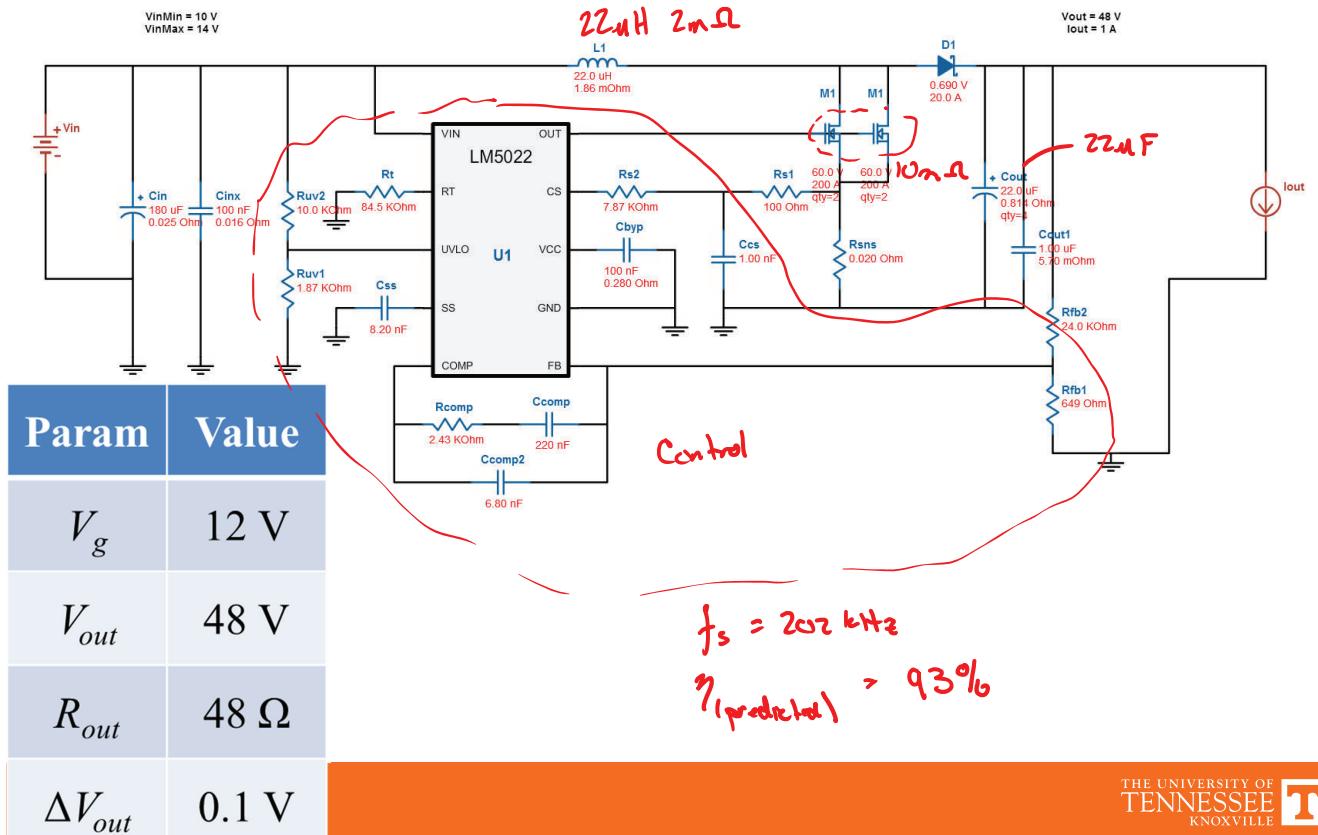


AVL UK Expo 2014 / Ulf Stenzel

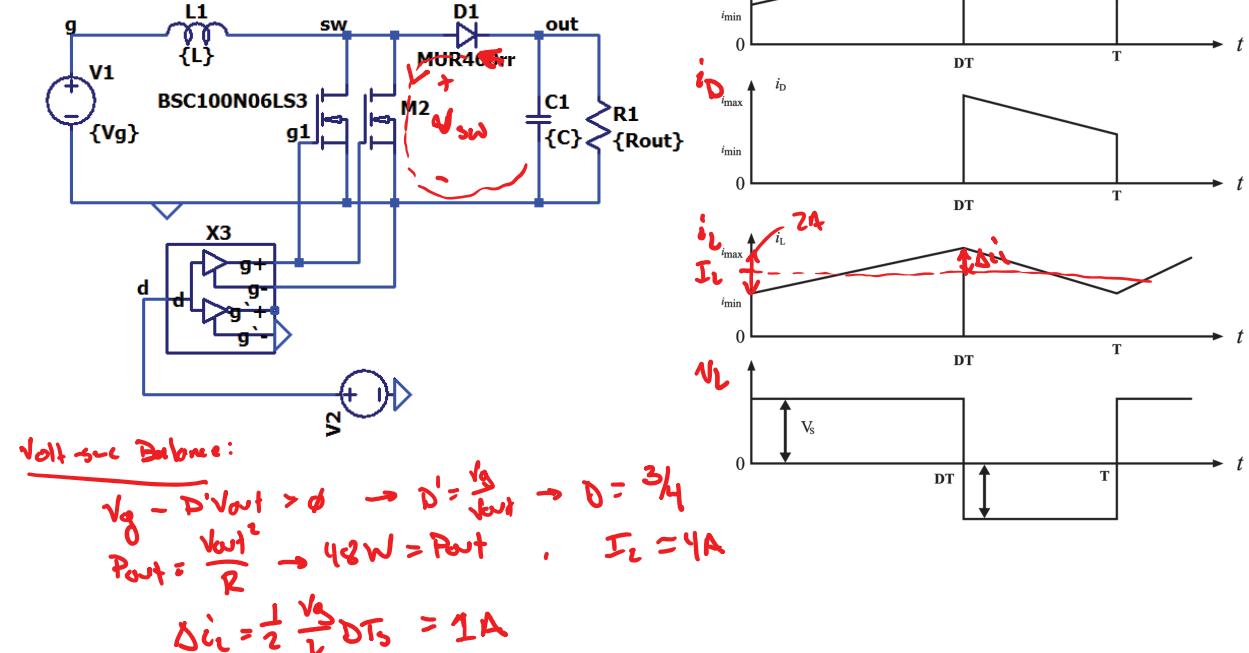
12

Baseline Design

- Use TI WebBench (webbench.ti.com) to get a baseline design

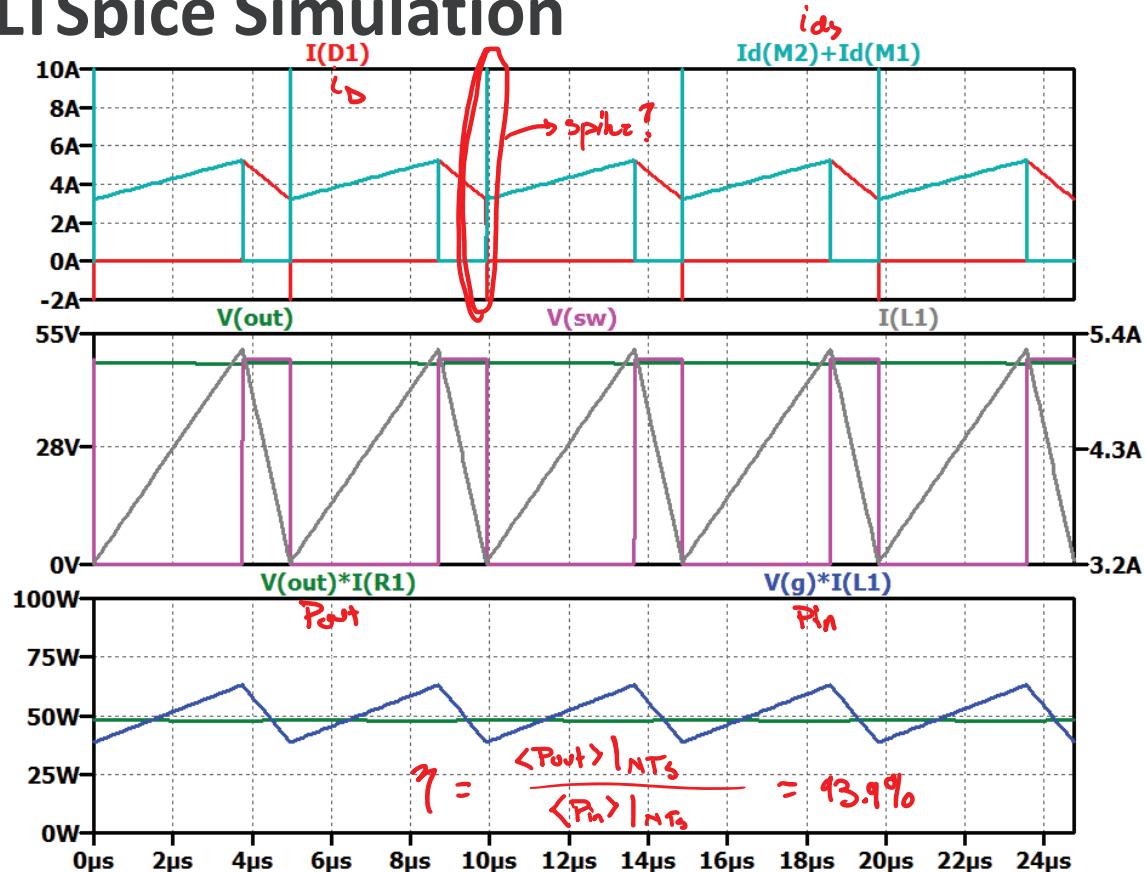


LTSpice Simulation



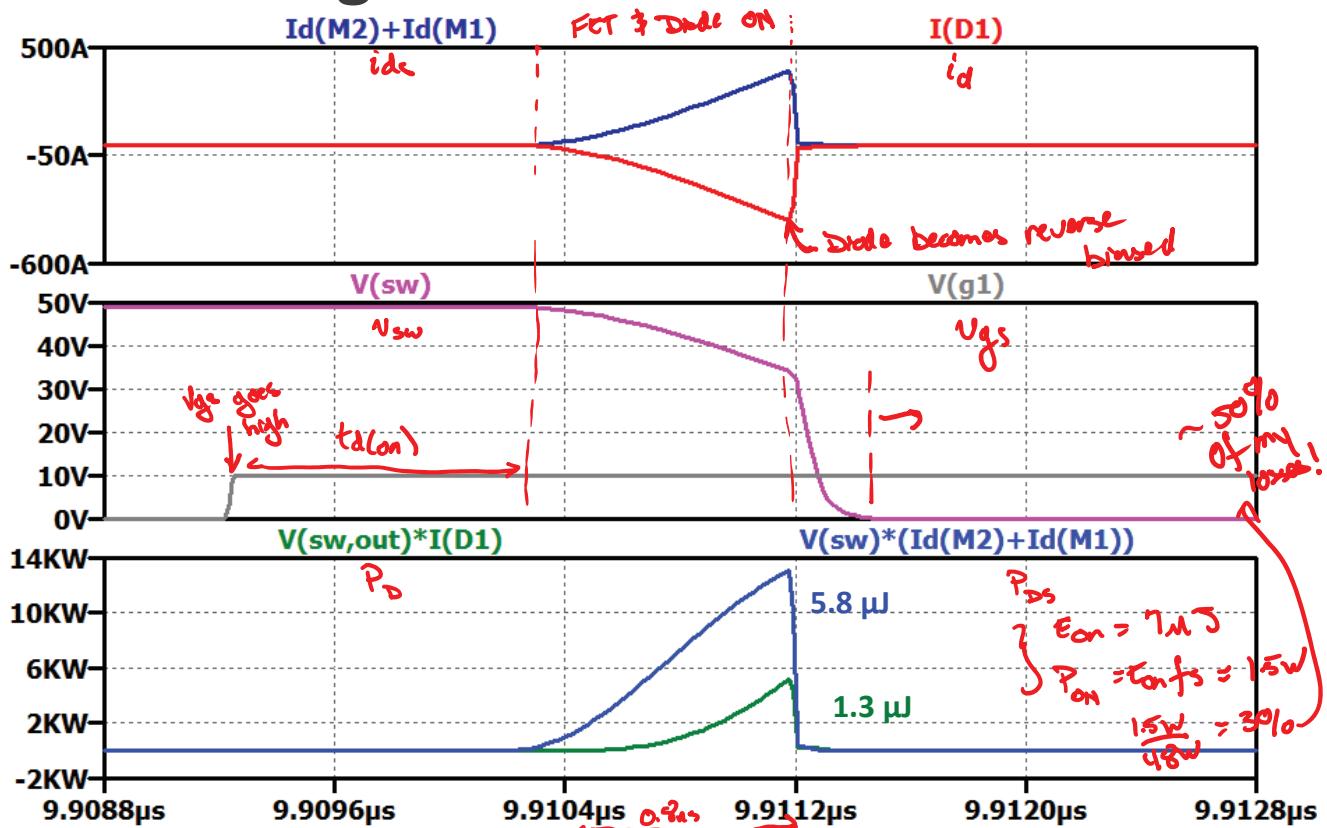
L	C_{out}	f_s	Diode	η (Sim)
22uH	22uF	202k	Si (FR)	93.9%

LTS spice Simulation



THE UNIVERSITY OF
TENNESSEE
KNOXVILLE

Switching Transition



THE UNIVERSITY OF
TENNESSEE
KNOXVILLE