



Product Brief

OptiMOS™ Driver: PX3517 and PX3519

High Speed Driver for Dual Power MOSFET

The new OptiMOS™ Driver products PX3517 and PX3519 are high speed drivers, designed to drive a wide range of dual high side and low side n-channel power MOSFETs in applications such as Computing and Telecom Point of Load.

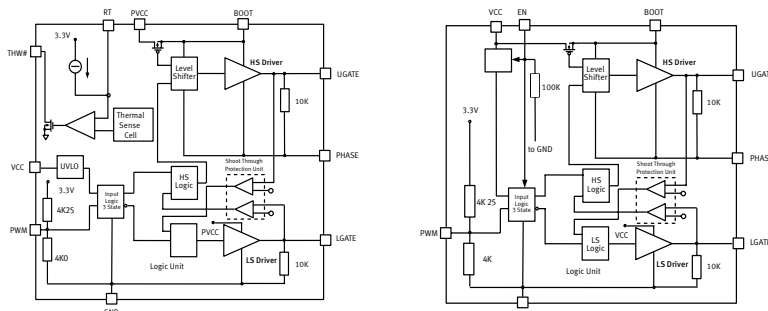
Combining the new devices with Primarion family of Digital Multi-phase Controller ICs or Digital Point of Load Controller ICs and Infineon n-channel MOSFET products, the new devices form a complete core-voltage regulator solution for advanced micro and graphic processors as well as point-of-load applications.

To tailor the efficiency of the system based on the customer conditions and needs, the OptiMOS™ Driver devices provide the capability of driving the high-side gate and low-side gate with a variable gate driving voltage ranging from 4.5V up to 8V.

Product Identification

Part Number	Temperature Range	Package	Marking
PX3517	-25 to 125°C	3x3 10-leads	3517
PX3519	-25 to 125°C	3x3 8-leads	3519

Simplified Block Diagram of PX3517 and PX3519



www.infineon.com/optimosdriver

General Features

- High frequency operation up to 1.2MHz
- Wide VCC input voltage range: 4.5V – 8V
- Low power dissipation
- Includes bootstrap diode
- Adaptive shoot through protection
- Compatible with standard + 3.3V PWM controller ICs
- Tri-state PWM input functionality
- RoHS compliant

PX3517

- Capability to drive MOSFET at 50A continuous current per phase
- Adjustable thermal warning
- Thermal warning report function
- Small package: 3mm x 3mm 10-pin

PX3519

- Capability to drive MOSFET for 50A per phase
- Wide input voltage range: up to 16V
- Gate disable pin for low power consumption
- Small package: 3mm x 3mm 8-pin

Benefits

- Powerful driver capability enables fast switching
- Low ohmic pull down resistance for low side MOSFET (prevents induced turn on)
- Short dead time for minimizing diode losses
- Adjustable thermal protection (PX3517)
- Fast ENABLE (EN) pin for switching off the Low Side MOSFET for Diode Emulation Mode (DEM) (PX3519)

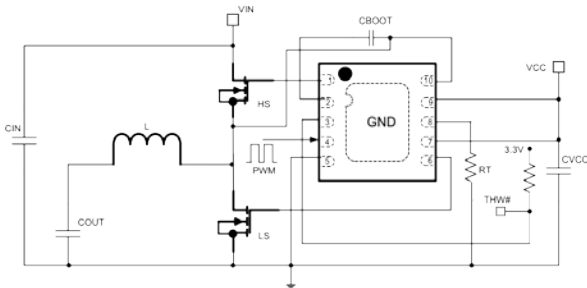
Applications

- Computing
- Telecom Point of Load (PoL)

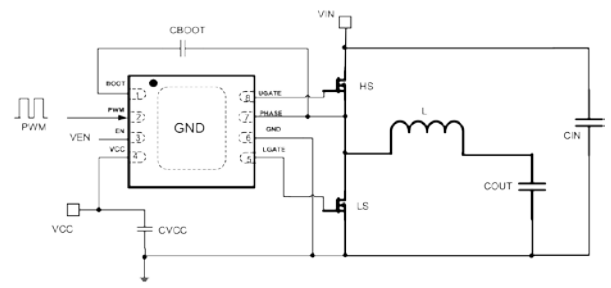


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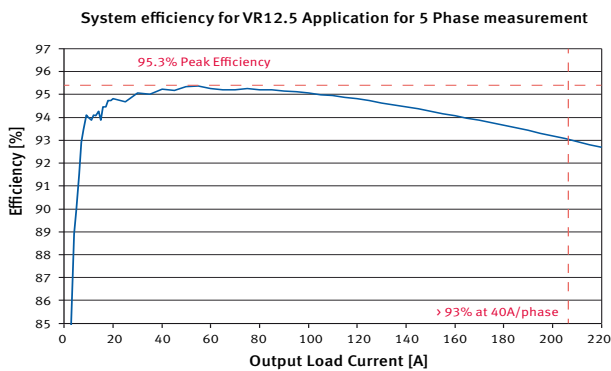
High Speed Driver for Dual Power MOSFET



PX3517



PX3519



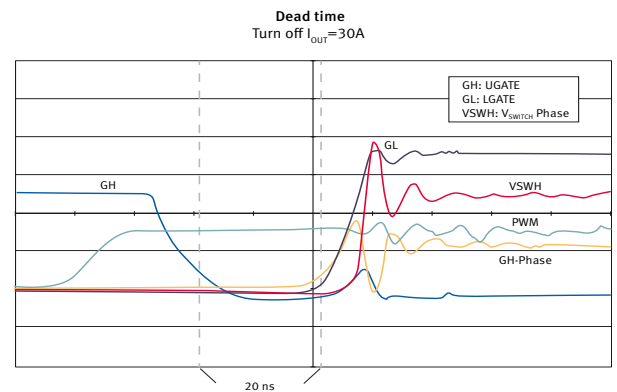
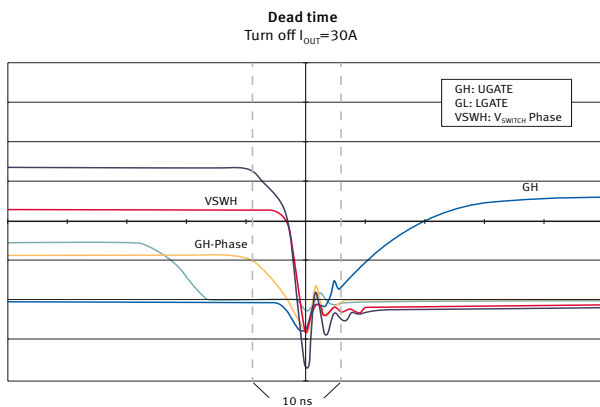
Together with the new OptiMOS™ MOSFETs, PX3517 and PX3519 achieve superior efficiency in DC/DC voltage regulation.

Measurement Conditions

$V_{in}=12V$, $V_{out}=1.82V$, $LL=0m\Omega$, $L_{out}=150\text{ nH}$,
 $f_{switch}=429\text{kHz}$, $T_{amb}=25^{\circ}\text{C}$, CanPAK™

Included Losses

Controller, power stage, inductor



Both transition, from ON to OFF and from OFF to ON show short duration achieving low diode losses and enabling higher switching frequency without any overlap between the gate signals (UGATE and LGATE).

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