

Optical Gate Control of Power Transistors



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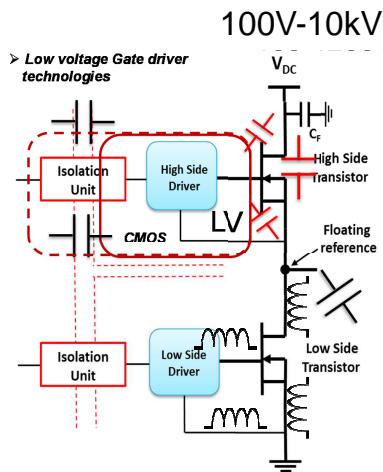
Outline

- Challenges with Wide BandGap power transistors
- Integration approach for optical transfer: monolithic + hybrid
- Gate driver supply by light
- Gate signal(s) transferred by light
- Next developments?
- Conclusion

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Challenges with WBG devices



dV/dt immunity @ Device

Simulation + FET design
Gate driver design

Power Loop reduction

Wirebond-free packaging
3D packaging

Gate driver Loop reduction

Bring driver closer =>
High TEMPERATURE
CMOS Si SOI or CMOS SiC or monolithic GaN?

Improving gate driver CMTI

Optical coupling

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#CARAPACE



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#MEGaN



#WiCiSiTUDe



Design



#GreenDiamond

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