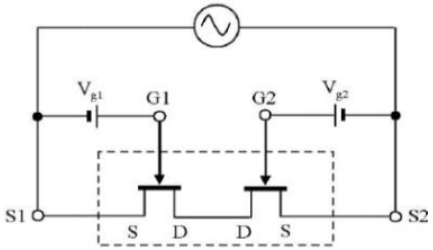
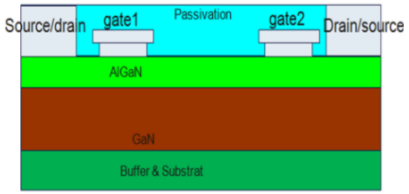
600V GaN Dual Gate Bidirectional Switch

Project Title: 600V GaN dual gate bidirectional switch
Objectives: Develop a low cost 600V Bidirectional 70mOhm switch (BDS) based on Infineon CoolGaNTM HEMT's technology.
Major Milestones:

- *Month 5:* demonstrating bidirectional working modes and validate design.
- *Month 10:* basic reliability proven
- *Month 11:* applications advantage of GaN BDS demonstrated

Deliverables:
Month 5: wafer probe report
Month 10: HTRB reliability report
Month 12: Application report of BDS
Month 12: Device samples for PowerAmerica device bank





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WBG Technology Impact

1. Validate the dual gate concept
2. Validate Solution for substrate voltage stabilization
3. Validate and prove advantage of GaN switch bi-directionality

Additional impacts

1. Use of the very unique nature of GaN HEMT: bidirectionality
2. Cost vs Silicon incumbent solution: Eliminates the need to use 2 series silicon device of half the Rdson and as such provides an economically attractive solution vs. Silicon incumbent already today
3. Enabling new topologies to gain application advantage (like use in a Vienna rectifier)