

# Introduction – What is an Isolated Gate Driver?

Multiple Choice Quiz

TI Precision Labs – Isolation

# Quiz: What is an Isolated Gate Driver?

1. **Gate drivers can be found in these electrical systems**
  - a. Commercial
  - b. Automotive
  - c. Industrial
  - d. All of the above
  
2. **Gate drivers are used in switching power supplies because \_\_\_\_\_**
  - a. They orchestrate the carefully timed switching of an array of high-power transistors.
  - b. They can drive power transistors at hundreds of megahertz
  - c. They amplify a low-voltage or low-current signal from a microcontroller
  - d. They are not used, because they are prohibitively slow and inefficient
  
3. **Could a typical power MOSFET reasonably function in a switching converter at 200MHz?**
  - a. Yes, because of the reduced voltage and capacitance
  - b. Yes, given a large enough heatsink
  - c. Yes, if I just try extra hard and believe in my high bandwidth power amplifier
  - d. Probably not...

# Quiz: What is an Isolated Gate Driver?

4. **Non-isolated gate drivers need to use a(n) \_\_\_\_\_ inside the IC to operate at high voltage**
- Bootstrap Supply
  - Level-Shifter
  - Degitch Filter
  - Isolated Gate Driver
5. **Which of these is NOT true about isolated gate drivers, compared to non-isolated?**
- Isolated gate drivers can be more flexible than non-isolated gate drivers; the output common is not wired to the control common
  - Isolated gate drivers can have significantly more leakage across the barrier than non-isolated gate drivers, when working properly
  - Isolated gate drivers can be used at much greater voltages than non-isolated drivers, up to the limits of the isolation technology
  - Isolated gate drivers can be faster and more robust than non-isolated gate drivers
6. **Which of these is NOT a reason to use isolated gate drivers?**
- Regulatory requirements may call for isolation
  - Some topologies are simplified by the presence of an isolation barrier
  - Isolated gate drivers may have better performance than non-isolated gate drivers in some cases
  - Isolated gate drivers are guaranteed to solve issues with surge, lightning strikes, etc



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