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## Ecodesign of electronic devices

## UNIT 10: Electrical power engineering

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## 1.1 Quiz

- PLEASE, CHOOSE THE CORRECT ANSWER:
  - 1. Is power electronics responsible for transfer and conversion of electrical energy into mechanical and vice versa?
  - 2. Do electronic devices contain systems of power electronics?
  - 3. Is switching mode less efficient as a non-switching mode?
  - 4. Does efficiency of electrical energy converter depend on switching mode?
  - 5. Are electrical converters designed by ecodesign guidelines?
  - 6. Does AC-DC converter change one-way voltage into an alternating voltage?
  - 7. Is bipolar transistor more efficient switching element than MOSFET transistor?
  - 8. Is IGBT element used for low-power transfers?
  - 9. Can DC-DC converter step down be executed without the switching element?
  - 10. Is DA-AC converter intended for one-way loads?



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## 1.2 Assignment

Precisely describe difference between analog and switching DC-DC converter step down. Which converter is more reliable and consumes less energy? Find a chip of DC-DC converter and describe its specification. You can choose between different manufacturers, such as Texas Instrument, STelectronics, Maxim Integrated, etc.



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