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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? (YES)
2. Do electronic devices contain systems of power electronics? (YES)
3. Is switching mode less efficient as a non-switching mode? (NO)
4. Does efficiency of electrical energy converter depend on switching mode? (YES)
5. Are electrical converters designed by ecodesign guidelines? (YES)
6. Does AC-DC converter change one-way voltage into an alternating voltage? (NO)
7. Is bipolar transistor more efficient switching element than MOSFET transistor? (NO)
8. Is IGBT element used for low-power transfers? (NO)
9. Can DC-DC converter step down be executed without the switching element? (YES)
10. Is DA-AC converter intended for one-way loads? (NO)



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.

