

Power Electronics Projects

DC-DC Converters

1. A Non-Isolated High Step-Up DC-DC Converter Using Voltage Lift Technique: Analysis, Design, and Implementation.
2. Input Current Ripple Reduction in a Step-Up DC–DC Switched-Capacitor Switched-Inductor Converter.
3. A Cuk-Based Modular DC–DC Converter for Medium Voltage Direct Current (MVDC) Applications.
4. MMC Based Hybrid Switched Capacitor.
5. High Voltage Gain Switched-Z-Source Bidirectional DC-DC Converter.
6. Ring-Connected Dual Active Bridge Multiport Converter for Fast EV Charging.
7. Step-Up Switching Converter with Single Switch and Multiple Outputs Based on Luo Topology.
8. High Gain Z-Quasi Resonant DC/DC Converter for Off-Board EV Charging.
9. Single-Switch High-Step-Up Converter Employing Coupled Inductor and Voltage Multiplier.
10. Multiphase Interleaved Cascaded Non-Inverting Buck-Boost Converter.
11. Resonant Soft-Switching Ultra-High Gain DC-DC Converter with Continuous Input Current.
12. Transformerless Quadruple High Step-Up DC/DC Converter Using Coupled Inductors.
13. Multi-Output DC-DC Converter for Electric Vehicles.
14. High Step-Up PWM Non-Isolated Converter with Soft Switching.
15. Cascade PI Controller-Based Model Reference Adaptive Control for DC-DC Boost Converter.
16. Interleaved High Step-Up Converter with Coupled Inductor and Built-in-Transformer.
17. High Gain DC-DC Converters for Microgrid Applications.
18. Extended Design of Two Inductor Based High Gain DC-DC Converters.
19. Bidirectional DC-DC Converter for Hybrid Energy Integration.
20. AC/DC Converter fed Parallel Interleaved DC-DC Converters for Fast Charging.
21. SEPIC PFC Fed LLC Resonant Converter for EV Chargers.
22. Single-Phase Integrated Battery Charger Simulation Comparing On-board PFC and PSFB Converters.
23. Dimmable PFC LED Driver with Digital Controller for Isolated SEPIC Converter.
24. Flicker-Free LED Driver Using Tapped Inductor Boost-Flyback PFC Converter.
25. Multifunctional Isolated DC-DC Converter for Electric Vehicles.
26. Interlinking Unipolar and Bipolar DC Microgrids Using a Bidirectional DC-DC Converter With Voltage Balancer Support.
27. A Novel Non-Isolated DC-DC Converter for Marine Water Pumping Applications using Solar PV System.
28. On the Control of DC-DC Converters in the SS-Compensated Wireless Power Transfer System.
29. A Low-stress High-gain Interleaved DC-DC Converter with Self-balancing Capacitor Voltage.

Inverters

1. Three-phase Three Level NPC Inverter.
2. Hybrid Multilevel Inverter for Harmonic Mitigation.
3. Comparison of 2-Level and 3-Level Si IGBT Inverters.
4. 9-Level Inverter for Standalone Applications with Reduced Devices.
5. Direct Torque Control Based Three-phase S3 Inverter.
6. Common Grounded Five-Level Boost PV Inverter.
7. Improved H6-Type Single-Phase PV Inverter with Reduced Leakage.
8. Novel Multilevel Inverter with Minimum Switching Components.
9. Advanced Multilevel Inverter for Industrial Applications.
10. Interleaved Flyback Micro Inverter with H5 Topology for PV.
11. Reduced Switching Frequency Operation of Parallel Connected Two-level Inverters with Isolated DC-links for STATCOM Application.
12. Intelligent Controller Design for Fault Current Mitigation in Dstatcom Applications Using Three Phase NPC Inverter.
13. A Supercapacitor Assisted Technique for Reducing Losses in the Input Loop of an Inverter System for Solar PV Applications.
14. Implementation of Seven-Level Asymmetrical Multilevel Inverter for Solar PV Application.
15. MPC-Based Harmonic Injection Techniques for Reconfigurable Single/Three-Phase Inverters with Grid Neutral Point Connection.
16. Deadbeat Control Method for T-type Three-Phase Four-leg Three-level Inverters.
17. A Full-ANN Control Scheme of Single-Phase Grid-Connected Inverter.
18. Switching Loss Reduction in Dual Inverter Topology Using Optimized Modulation Strategy.

Electric Vehicles

1. PFC Based EV Battery Charger Using Cuk-SEPIC Converter.
2. Converter Circuit for Multiple Output EV Battery Charger.
3. Bridge-less PFC Converter for EV Charger Development.
4. Three Phase Bi-directional EV Battery Charger with G2V & V2G.
5. Single Phase Bi-directional EV Battery Charger with G2V, V2G & V2L.
6. Ring-Connected Dual Active Bridge Converter for EV Fast-Charging.
7. High Gain Dual Input Single Output Z-Quasi Resonant Converter for EV Charging.
8. Multi-Output DC-DC Converter for Electric Vehicles.
9. Modeling and Analysis of Hybrid Photovoltaic based DC Bus System for EV Applications.
10. IoT Incorporated Prepaid Charging System for Electric Vehicles: A Design with RESs.
11. Intelligent Charging system for Electric Vehicle Batteries.
12. Interleaved Boost PFC with Half Bridge LLC Resonant Converter based EV Battery Charger.
13. PV fed Off-board E-bike Battery Charger using LLC Resonant Converter.
14. Performance of Single-Stage and Dual-Stage EV Battery Chargers for G2V and V2G Operation.

15. A Single-Phase Integrated Onboard Charger with a Wide Voltage Range for Plug-In Electric Vehicles.
16. EV's Battery Charger Integrated with High Power Density and Efficiency.
17. A Proposed Cuk Converter based Dual Input Hybrid Converter Topology as EV Charging Station.