DESIGN OF 24 / 320 VOLTS BOOST-UP CHOPPER WITH MICROCONTROLLER BASED PI CONTROLLER

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Abstract	This paper presents prototype of microcontroller based 24 V to 320 V DC Boost-up chopper with Proportional-Integral (PI) and Pulse Width Modulation (PWM) Controller. A Microcontroller is applied to generate PWM signals controlling duty cycle for switching Insulated Gate Bipolar Transistor (IGBT). PI control method is used to regulate the output voltage of the boost-up chopper to be more stable. Based on the simulation and prototype test results in the laboratory show that the prototype worked properly and able to produce a stable output voltage with a margin of error of 2.18% compared to target output voltage of 320 VDC.
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