Abstract

A compact High Voltage (HV) module for generating 100V DC output has been developed for biasing of PIN photodiode detector used in dosimetry applications. Two different approaches have been used in designing the HV circuit. In the first case, the circuit employs a low noise, constant frequency pulse width modulating (PWM) boost converter with an inductor operating in
discontinuous current mode. Charge pump converters are used to further increase the voltage levels. In the second case an autotransformer is used as the switching element with the PWM boost converter. The compact design, low noise and low current consumption are the stringent requirement of such supplies. The present modules have been developed using through-hole leaded components. The compactness and noise performance can the further improved if SMD components are used. The designed supply modules have good line and load regulation.

Reference

- Cooper P N; ISBN 0 521 26605 X (1986); Introduction to Nuclear Radiation Detectors; Cambridge University Press;

Index Terms

Computer Science  Information
Technology

Key words

HV Module
Tektronix Oscilloscope

IC MAX5026