

PC9XA - Variable Voltage Pulse Circuit

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frequency pulses are applied to the base of the driver component. A 100Ω/10W resistor provides a small resistance, as the required base current for the driver BJT is larger than a Darlington pair for example.

Majority of the current limiting is provided by optocoupler waveforms. Using N-Channel MOSFETs would provide additional isolation given the nature of their capacitance coupling. Greater signal clarity would also be afforded by using MOSFETs. Two interesting observations present themselves in regards to the above schematic. One, a smoothing capacitance is not explicitly shown. However, in order to produce specific waveforms for VIC operation, this would be a necessity. Second, the power BJT is an NPN type, which typically are used in low-side switching applications. The schematic illustrates a high-side switching mode.

Stan's Original Literature