

Smoothing of Output Voltage

A rectifier is an electrical circuit that converts alternating current to direct current, e.g., a half wave rectifier removes lower valleys of the AC voltage wave. If a capacitor is placed in parallel with a half wave rectifier, the transition from voltage peak to peak is smoothed to closer resemble constant DC voltage.

A Smoothing capacitor is a capacitor that acts to smooth or even out fluctuations in a signal. The most common and used application for smoothing capacitors is after a power supply voltage or a rectifier. Power supply voltage can sometimes supply erratic and unsmooth voltages that fluctuate greatly. When a steady DC signal is needed and is necessary, a smoothing capacitor is the right component needed in order to smooth out the fluctuating signal to make it steadier.

Polarized electrolytic capacitors use for smoothing.



See the diagram given below. Observe the current passing through the load resistor. The capacitor and the load resistor are parallelly connected.



