

ABSTRACT

ENERGY EFFICIENT METHOD AND APPARATUS FOR SHAPING INPUT WAVEFORM

A passive component circuit comprising a bridge rectifier and is coupled in parallel to three capacitors; each of the first two capacitors is clamped in series by at least one diode and there in between is disposed another diode and a resistor for shaping the input current waveform such that it falls outside the Class D envelope of the limits on harmonic currents emissions. As such, power supplies incorporating such a passive circuit qualify automatically as Class A devices without further regards to power factor conversion and EMI filtering. Therefore, an economic strategy for complying with harmonic currents emissions limits is realised for low to medium power supplies.

Figure 5.