

ABSTRACT

Power Supply Circuit

A power supply circuit of a switching inverter type includes a switching circuit (2) including two switching elements capable of being alternately on-off controlled for converting an input from a dc power source into ac by switching of the switching elements and outputting it, a dc output circuit (3) for full-wave rectifying and smoothing a supplied ac input to provide a dc output, a series resonance circuit (4) provided in series to current flowing from the output terminal of the switching circuit, a parallel resonance circuit (5) provided in parallel to voltage produced at the output terminal of the switching circuit, and a switching control circuit (6) for intermittently turning on the switching elements of the switching circuit. A dc output is taken out of resonance current of the series resonance circuit by the dc output circuit and potential at the output terminal of the switching circuit is converted from one potential to another by using parallel resonance voltage of the parallel resonance circuit, whereby all switching operations of the switching elements are performed substantially at a voltage zero state or substantially at a current zero state and harmonic contents in operation voltage and operation current in the circuit are reduced.

(FIG. 1)

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