

HIGH CURRENT WELDING POWER SUPPLY**Abstract**

In a welding power supply for creating welding current in a succession of current pulses with a maximum current level and a trailing off state which current pulses passing through a series circuit including an inductor and electrode in welding relationship with a workpiece wherein the power supply has (a) an inverter stage with an input to be connected to a power source, a first terminal at a first electrical polarity when the inverter is on, a second terminal at a second electrical polarity when the inverter is on, and a control to generate an off signal to turn the inverter off and remove current from the terminals to shift said current pulse toward an off state; and, (b) a power switching stage including a transistor based switch having a conduction condition passing current from the first terminal upon creation of a first logic signal and a non-conduction condition blocking current upon creation of a second logic signal, the improvement comprising: a sensor for measuring the instantaneous value of the welding current, a comparator for producing a low current signal when the instantaneous current is at a selected value substantially below the maximum current level and a circuit or program for creating the second logic signal upon production of a low current signal after generation of an off signal whereby the transistor based switch is switched from the conduction condition to the non-conduction condition when the welding current is generally at the selected value.

Figure 1



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