

5 **Method and Circuit Arrangement for generating Current
Pulses for Electrolytic Metal Deposition**

10 **Abstract**

The invention relates to a method of generating short,
cyclically repeating, unipolar or bipolar pulse
currents I_G, I_E for electroplating, and to a circuit
15 arrangement for electroplating with which pulse
currents I_G, I_E can be generated. Electroplating methods
of this type are referred to as pulse-plating methods.

According to the invention, the secondary winding 6 of
20 a current transformer 1 is connected in series into the
electroplating direct current circuit 5, consisting of
a bath direct current source 2 and a bath resistor R_b
which is formed by an electroplating cell 4. The
primary winding 7 of the transformer has a larger
25 number of turns than the secondary winding. The
primary winding is controlled with pulses of high
voltage and with relatively low current. The high
pulse current on the secondary side temporarily
compensates in pulses the electroplating direct
30 current. This compensation can be a multiple of the
electroplating current, such that deplating pulses with
high amplitude are produced. The capacitor 10 guides

5 the compensating current through charging and
discharging.

Through the invention, the necessity of using in pulse-
plating the known electronic high current switches,
10 which work uneconomically because of the great current
conduction losses, is avoided.

(Figure 2a)