

Title (en)

PROCESS AND CIRCUITRY FOR GENERATING CURRENT PULSES FOR ELECTROLYTIC METAL DEPOSITION

Title (de)

VERFAHREN UND SCHALTUNGSANORDNUNG ZUR ERZEUGUNG VON STROMPULSEN ZUR ELEKTROLYTISCHEN METALLABSCHIEDUNG

Title (fr)

PROCEDE ET CIRCUIT POUR LA GENERATION D'IMPULSIONS DE COURANTS SERVANT AU DEPOT DE METAUX PAR ELECTROLYSE

Publication

EP 0868545 B1 19991027 (DE)

Application

EP 96934478 A 19960927

Priority

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Abstract (en)

[origin: US6132584A] PCT No. PCT/EP96/04232 Sec. 371 Date Jun. 4, 1998 Sec. 102(e) Date Jun. 4, 1998 PCT Filed Sep. 27, 1996 PCT Pub. No. WO97/23665 PCT Pub. Date Jul. 3, 1997The invention relates to a method of generating short, cyclically repeating, unipolar or bipolar pulse currents IG, IE for electroplating, and to a circuit arrangement for electroplating with which pulse currents IG, IE can be generated. Electroplating methods of this type are referred to as pulse-plating methods. According to the invention, the secondary winding 6 of 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 which is contained in an electroplating cell and which is represented by resistor RB. The primary winding 7 of the transformer has a larger 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 current. This compensation can be a multiple of the electroplating current, such that deplating pulses with high amplitude are produced. The capacitor 10 guides the compensating current through charging and discharging. Through the invention, the necessity of using in pulse-plating the known electronic high current switches, which work uneconomically because of the great current conduction losses, is avoided.

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C25D 5/18; H03K 5/003

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