

Title (en)

Method for forming a field emission cold cathode

Title (de)

Herstellungsverfahren einer Feldemissionskaltkathode

Title (fr)

Procédé de fabrication d'une cathode froide à émission de champ

Publication

**EP 0726590 A2 19960814 (EN)**

Application

**EP 96102013 A 19960212**

Priority

JP 2358295 A 19950213

Abstract (en)

The present invention provides a method for reshaping up a cone-like electrode (3) which is made of a refractory metal containing silicon. The method comprises the following steps. A surface of the cone-like electrode (3) is subjected to an oxidation of silicon which is contained in the refractory metal. The oxidation is generated at rates which increase toward a top portion of the cone-like electrode. As a result, a silicon oxide film (9) is formed, which coats the cone-like electrode (3). The silicon oxide film (9) has thickness which gradually increase toward a bottom portion of the cone-like electrode (3). An interface between the silicon oxide film (9) and the cone-like electrode (3) has sloped angles which increase toward the top portion. The silicon oxide film (9) is removed to thereby expose a reshaped cone electrode (3) which has a sharply pointed top. The reshaped cone electrode (3) has a surface having sloped angles which increase toward the sharply pointed top. <IMAGE>

IPC 1-7

**H01J 9/02**

IPC 8 full level

**H01J 1/30** (2006.01); **H01J 1/304** (2006.01); **H01J 9/02** (2006.01)

CPC (source: EP KR)

**H01J 1/304** (2013.01 - KR); **H01J 9/02** (2013.01 - KR); **H01J 9/025** (2013.01 - EP); **H01J 2209/0226** (2013.01 - EP)

Designated contracting state (EPC)

DE FR GB

DOCDB simple family (publication)

**EP 0726590 A2 19960814**; **EP 0726590 A3 19961211**; **EP 0726590 B1 19990407**; DE 69601961 D1 19990512; DE 69601961 T2 19991014; JP H08222126 A 19960830; KR 0181326 B1 19990320; KR 960032553 A 19960917

DOCDB simple family (application)

**EP 96102013 A 19960212**; DE 69601961 T 19960212; JP 2358295 A 19950213; KR 19960003445 A 19960213