

Title (en)

Single crystal field emission device.

Title (de)

Einkristalline Feldemissionsvorrichtung.

Title (fr)

Dispositif d'emission de champ mono cristal.

Publication

EP 0578512 A1 19940112 (EN)

Application

EP 93305424 A 19930709

Priority

US 91095792 A 19920709

Abstract (en)

A field emission device (100) uses single crystals in order to eliminate grain boundaries within some or all of the electrodes (103, 104, and 205). The elimination of grain boundaries reduces susceptibility to damage, improves stability of the device (100), and improves uniformity and reproducibility among devices. In a preferred embodiment, the emitter and gate electrodes (103 and 104 respectively) are formed from a single crystal thin film (302). In other embodiments, other structures are employed wherein one or more of the electrodes (103, 104, and 205) are formed from single crystals. <IMAGE>

IPC 1-7

H01J 1/30; **H01J 9/02**

IPC 8 full level

H01L 29/80 (2006.01); **H01J 1/304** (2006.01)

CPC (source: EP)

H01J 1/3042 (2013.01)

Citation (search report)

- [X] WO 9204732 A1 19920319 - MOTOROLA INC [US]
- [A] EP 0444670 A2 19910904 - MATSUSHITA ELECTRIC IND CO LTD [JP]
- [XP] US 5214347 A 19930525 - GRAY HENRY F [US]

Cited by

EP0739022A3

Designated contracting state (EPC)

DE FR GB NL

DOCDB simple family (publication)

EP 0578512 A1 19940112; **EP 0578512 B1 19981111**; DE 69322005 D1 19981217; DE 69322005 T2 19990401; JP H0697458 A 19940408

DOCDB simple family (application)

EP 93305424 A 19930709; DE 69322005 T 19930709; JP 19299193 A 19930709