

Title (en)

SEMICONDUCTOR PHOTOELECTRIC SURFACE

Title (de)

HALBLEITENDE PHOTOELEKTRISCHE OBERFLÄCHE

Title (fr)

SURFACE PHOTOELECTRIQUE DE SEMI-CONDUCTEUR

Publication

EP 1024513 A1 20000802 (EN)

Application

EP 98941849 A 19980911

Priority

- JP 9804119 W 19980911
- JP 25883797 A 19970924

Abstract (en)

In a photocathode 10 using a photocathode of the present invention as a photocathode 30, within a hermetic envelope 20 maintained under vacuum, the photocathode 30 and an anode 40 are disposed so as to oppose each other while voltages are applied thereto by way of lead pins 51, 52, respectively. In the photocathode 30, a sapphire substrate 32 on which a matching layer 33 made of a-AlN, an active layer 34 made of p-type GaN, and a surface layer 35 made of CsO are stacked is secured to a metal support plate 31. The dopant concentration of the active layer 34 increases from $1 \times 10^{16} \text{ cm}^{-3}$ in the surface to $5 \times 10^{17} \text{ cm}^{-3}$ at a depth of 100 nm, while being $1 \times 10^{18} \text{ cm}^{-3}$ only in the deepest portion of 10 nm. As a consequence, the crystallinity of the active layer 34 improves, and the diffusion length increases, whereby the quantum efficiency and the sharp-cuffing property improve. <IMAGE>

IPC 1-7

H01J 1/34; **H01J 40/06**

IPC 8 full level

H01J 1/34 (2006.01); **H01J 40/06** (2006.01)

CPC (source: EP)

H01J 1/34 (2013.01); **H01J 40/06** (2013.01); **H01J 2201/3423** (2013.01)

Cited by

CN102087937A; CN105428183A; WO2004097880A1

Designated contracting state (EPC)

DE FR GB

DOCDB simple family (publication)

WO 9916098 A1 19990401; AU 9002998 A 19990412; DE 69807103 D1 20020912; DE 69807103 T2 20030123; EP 1024513 A1 20000802; EP 1024513 A4 20000920; EP 1024513 B1 20020807; JP H1196896 A 19990409

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JP 9804119 W 19980911; AU 9002998 A 19980911; DE 69807103 T 19980911; EP 98941849 A 19980911; JP 25883797 A 19970924