

Title (en)

THYRISTOR PROVIDED WITH INTEGRATED CIRCUIT-COMMUTATED RECOVERY TIME PROTECTION AND PRODUCTION METHOD THEREFOR

Title (de)

THYRISTOR MIT INTEGRIERTEM FREIWERDEZEITSCHUTZ UND HERSTELLUNGSVERFAHREN DAFÜR

Title (fr)

THYRISTOR A PROTECTION DU TEMPS DE RECOUVREMENT INTEGREE ET PROCEDE PERMETTANT DE LE PRODUIRE

Publication

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Application

**EP 00945534 A 20000519**

Priority

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- DE 19926104 A 19990608

Abstract (en)

[origin: WO0075963A2] The invention relates to a thyristor comprised of a semiconductor body (1) provided with an anode-side base region (2) of a first mode of conductivity, and provided with a cathode-side base region (3) of a second opposite mode of conductivity, as well as cathode-side and anode-side emitter regions (4, 5). The aim of the invention is to provide a thyristor that, within the circuit-commutated recovery time, can already be charged again with a surge without destroying the current filamentation occurring in the surface of the cathode. To this end, an anode-side defect region (10) which has a reduced service life of the free charge carriers as well as a predetermined thickness of at least 20  $\mu\text{m}$  is provided inside the anode-side base region (2). The defect region (10) can be produced by effecting an anode-side irradiation of predetermined regions of the semiconductor body (1) with charged particles and by tempering the semiconductor body (1) in order to stabilize the defect region (10).

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