

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
EP 1218924 A2 20020703 (DE)

Application
EP 00945534 A 20000519

Priority
• DE 0001609 W 20000519
• 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 μm 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).

IPC 1-7
H01L 21/00

IPC 8 full level
H01L 29/10 (2006.01); **H01L 29/32** (2006.01); **H01L 29/74** (2006.01)

CPC (source: EP US)
H01L 21/263 (2013.01 - EP US); **H01L 29/1016** (2013.01 - EP US); **H01L 29/32** (2013.01 - EP US); **H01L 29/7428** (2013.01 - EP US)

Citation (search report)
See references of WO 0075963A2

Designated contracting state (EPC)
CH DE FR GB IE LI

DOCDB simple family (publication)
WO 0075963 A2 20001214; WO 0075963 A3 20020502; EP 1218924 A2 20020703; JP 2003501825 A 20030114; US 6723586 B1 20040420

DOCDB simple family (application)
DE 0001609 W 20000519; EP 00945534 A 20000519; JP 2001502143 A 20000519; US 1859202 A 20020401