

Title (en)
DEVICES FORMABLE BY LOW TEMPERATURE DIRECT BONDING

Title (de)
DURCH DIREKTES NIEDERTEMPERATURBONDEN HERGESTELLTE ANORDNUNGEN

Title (fr)
DISPOSITIFS POUVANT ETRE FORMES PAR PROCEDE DE LIAISON DIRECTE A BASSE TEMPERATURE

Publication
EP 1062692 A1 20001227 (EN)

Application
EP 99912328 A 19990309

Priority

- US 9905066 W 19990309
- US 3683898 A 19980309
- US 3772398 A 19980309
- US 3681598 A 19980309

Abstract (en)
[origin: WO9946809A1] A semiconductor device includes a laterally extending semiconductor base (82, 96), a buffer (83) adjacent the base and having a first conductivity type dopant, and a laterally extending emitter (85) adjacent the buffer and opposite the base and having a second conductivity type dopant. The buffer (83) is thin and has a first conductivity type dopant concentration greater than a second conductivity type dopant concentration in adjacent emitter portions to provide a negative temperature coefficient for current gain and a positive temperature coefficient for forward voltage for the device. The buffer may be silicon or germanium. A low temperature bonded interface (103) may be between the emitter and the buffer or the buffer and the base. Another embodiment of a device may include a laterally extending localized lifetime killing portion (92, 102) between oppositely doped first and second laterally extending portions. The localized lifetime killing portion may comprise a plurality of laterally confined and laterally space apart lifetime killing regions. Another device may include one or more PN junctions.

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IPC 8 full level
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Citation (search report)
See references of WO 9946809A1

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