

(21) Application No: 1520088.4

(22) Date of Filing: 06.05.2014

Date Lodged: 13.11.2015

(30) Priority Data:
(31) 13167468 (32) 13.05.2013 (33) EP

(86) International Application Data:
PCT/EP2014/059256 En 06.05.2014

(87) International Publication Data:
WO2014/184061 En 20.11.2014

(51) INT CL:
H01L 23/051 (2006.01)

(56) Documents Cited:
GB 1336790 A EP 1220314 A2
EP 0746021 A2 EP 0687014 A2
DE 019505387 A1 US 6423988 B1
US 3280389 A

(58) Field of Search:
INT CL H01L

(71) Applicant(s):
ABB Technology AG
(Incorporated in Switzerland)
Affolternstrasse 44, Zurich CH-8050, Switzerland

(72) Inventor(s):
Thomas Stiasny

(74) Agent and/or Address for Service:
Marks & Clerk LLP
90 Long Acre, LONDON, WC2E 9RA, United Kingdom

(54) Title of the Invention: **Spacer system for a semiconductor switching device**
Abstract Title: **Spacer system for a semiconductor switching device**

(57) The invention relates to the field of power electronics, in particular to a spacer system 1 for a semiconductor switching device 2. The spacer system 1 is formed as a spacer ring (7) and a plurality of insulating elements (3) and supporting elements (4) are arranged in an alternating manner around a circumference of the spacer ring (7). The insulating element 3 comprises a recess receiving a cathode gate connector element 5. The supporting element 4 comprises a projection receiving a spring system 6 for clamping while assembling the switching device 2. The present invention also relates to a semiconductor switching device 2 comprising the spacer system 1. The switching device 2 comprises further a substrate 21, a cathode pole piece 22, an anode pole piece 23, strain buffer plates 13, 14 and a gate ring 11. Further connector elements 5, 25 are electrically connecting the cathode pole piece 22 and the gate ring 11 of the semiconductor switching device 2 to an external circuit unit. The space between the connector elements (5, 25) is minimised in order to reduce the gate circuit impedance, thus enabling an increased maximum turn-off current and further allowing for the use of larger semiconductor switching devices for high power applications.

Fig. 2

