THIS SHEET HAS BEEN REPLACED

STRUCTURE AND FABRICATION OF POWER MOSFETS, INCLUDING TERMINATION STRUCTURES

ABSTRACT OF THE DISCLOSURE

A power MOSFET is created from a semiconductor body (2000 and 2001) having a main active area and a peripheral termination area. A first insulating layer (2002) of substantially uniform thickness lies over the active and termination areas. A main polycrystalline portion (2003A/2003B) lies over the first insulating layer largely above the active area. First and second peripheral polycrystalline segments (2003C1 and 2003C2) lie over the first insulating layer above the termination area.

A gate electrode (2016) contacts the main polycrystalline portion. A source electrode (2015A/2015B) contacts the active area, the termination area, and the first polycrystalline segment. An optional additional metal portion (2019) contacts the second polycrystalline segment.

The MOSFET is typically created by a five-mask process. A defreckle etch is performed subsequent to metal deposition and patterning to define the two peripheral polycrystalline segments.

This Sheet Has Been Replaced