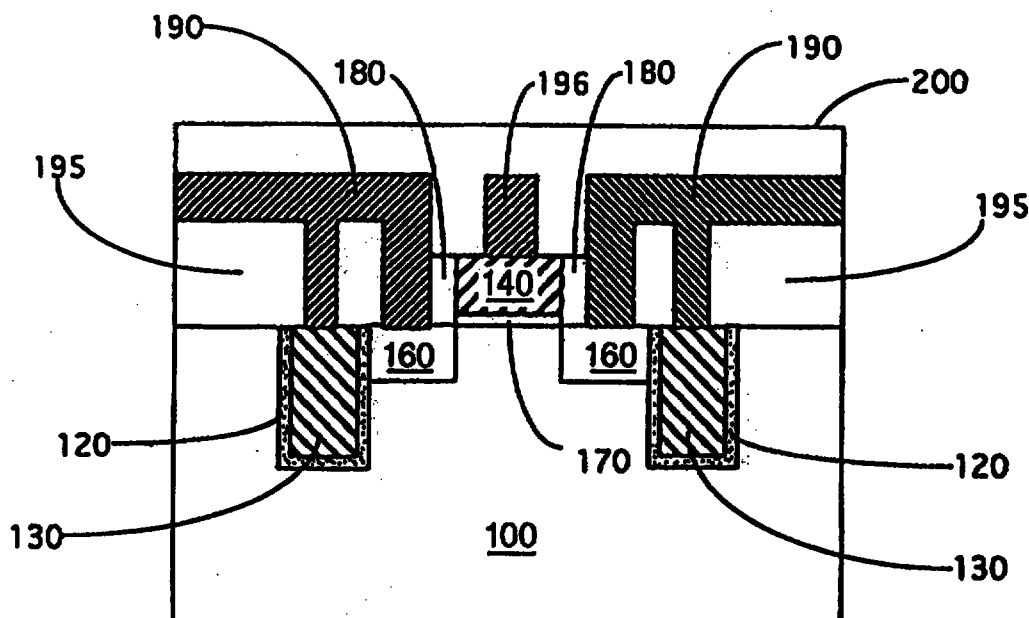




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(54) Title: A THERMAL CONDUCTING TRENCH IN A SEMICONDUCTOR STRUCTURE AND METHOD FOR FORMING THE SAME

**(57) Abstract**

The invention relates to a method of forming a trench (150) filled with a thermally conducting material (130) in a semiconductor substrate (100). In one embodiment, the method includes filling a portion of the trench with a thermally conducting material and patterning a contact to the thermally conducting material. The invention also relates to a semiconductor device. In one embodiment, the semiconductor device has a trench defining a cell region, wherein a portion of the trench includes a thermally conducting material (130). The invention further relates to a semiconductor device and a method of forming a semiconductor device with an interlayer dielectric that is a thermally conducting material.