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(54) **POWER SEMICONDUCTOR DEVICES
INCLUDING MULTIPLE LAYER
METALLIZATION**

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ABSTRACT

Power semiconductor devices are provided. In one example, a semiconductor device includes a semiconductor vertical power device structure. The semiconductor device includes a first metallization layer on the semiconductor structure. The first metallization layer includes one or more metal structures. The semiconductor device includes a second metallization layer at least partially overlapping the first metallization layer. The semiconductor device includes an insulating layer between the first metallization layer and the second metallization layer. The insulating layer includes an insulating portion. The insulating portion may be patterned to insulate the one or more metal structures of the first metallization layer.

