**Regarding claim 1**. A semiconductor module comprising:  
a plurality of power semiconductor elements forming upper arms and lower arms of a plurality of sets of half bridge circuits; a plurality of control circuits on/off driving a power semiconductor element having a control terminal in the plurality of power semiconductor elements; and a power supply terminal and a plurality of control terminals of the control circuits, connected to a plurality of respective external connection control terminals, wherein low potential side electrodes of the power semiconductor elements forming the respective upper arms of the plurality of sets of half bridge circuits and high potential side electrodes of the power semiconductor elements forming the respective lower arms of the plurality of sets of half bridge circuits are individually connected to a plurality of respective external connection output terminals.   
   
**Regarding claim 2**. The semiconductor module according to claim 1, wherein the high potential side electrodes of the power semiconductor elements forming the respective upper arms of the plurality of sets of half bridge circuits are mutually connected to each other and mounted on an insulating substrate, while the power semiconductor elements forming the respective lower arms of the plurality of sets of half bridge circuits are mounted on the insulating substrate separately from each other.   
   
**Regarding claim 3**. The semiconductor module according to claim 1, wherein the power semiconductor elements forming the respective upper arms of the plurality of sets of half bridge circuits are arranged to align parallel to a long edge of a rectangular module main body arrayed with the plurality of external connection output terminals, and  
the power semiconductor elements forming the respective lower arms of the plurality of sets of half bridge circuits are arranged to align parallel to an array direction of the power semiconductor elements forming the respective upper arms.   
   
**Regarding claim 4**. The semiconductor module according to claim 1, wherein the power semiconductor elements are switching elements each formed of an IGBT or MOS-FET having a control electrode and diodes each paired with each respective switching element.   
   
**Regarding claim 5**. The semiconductor module according to claim 4, wherein the switching elements and the diodes are alternately arrayed on each of an upper arm side and a lower arm side of the plurality of sets of half bridge circuits.   
   
**Regarding claim 6**. The semiconductor module according to claim 1, wherein the external connection output terminals individually connected to the low potential side electrodes of the power semiconductor elements forming the respective upper arms of the plurality of sets of half bridge circuits, and the external connection output terminals individually connected to the high potential side electrodes of the power semiconductor elements forming the respective lower arms of the plurality of sets of half bridge circuits, are disposed adjacent to each other in pairs with one pair for each of the plurality of sets of half bridge circuits.