

ABSTRACT

It is made possible to perform current detection without extending a period of maintaining a vector pattern, which is to be adopted for a voltage source inverter, longer than a period while the vector pattern should be maintained originally, whereby increases of an output distortion and a switching loss are avoided. In a first section including a point of time when sums of periods while upper arm-side switches in a pair of current paths of a voltage source inverter conduct in one cycle of a carrier (C_5) are equal to each other at zero, a first voltage command group (V^{**}) corresponds to switching signals (S_{up} , S_{vp} , S_{wp} , S_{un} , S_{vn} , S_{wn}) in which a period while the upper arm-side switches in all of the current paths are nonconductive in this one cycle is adjacently sandwiched by a pair of periods while all of the upper arm-side switches in the pair of current paths are nonconductive and other upper-arm side switch conducts.