Magnetic force

Electric current is injected into one corner of a thin metal plate and collected at another corner, as shown in the figure. The plate has a shape of an equilateral triangle with a side $a$, with constant thickness that is much smaller than the linear size $a$, and uniform conductivity. The total injected current is $I$. The plate is subjected to a uniform magnetic field $B$ pointing perpendicular to the plane of the drawing towards the viewer. Find the magnetic force acting on the current-carrying plate.

Figure 1: Top view on a plate and current injection points