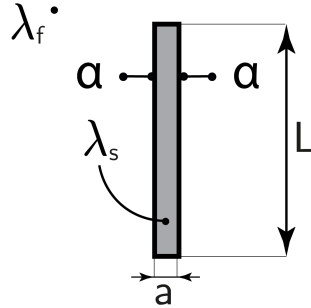


## Biot Number 08

Give an expression for the Biot number of a thin vertical plate in terms of given variables. Note that the plate is subjected to convection on 2 sides.



The standard expression for the Biot number is:

$$\text{Bi} = \frac{\alpha L_c}{\lambda_s}$$

The characteristic length in the given situation should be determined.

In this case, the characteristic length is:

$$L_c = \frac{V}{A_s} = \frac{LWa}{2LW} = \frac{a}{2}$$

$W$  denotes the width of the plate.

With this finding, the Biot number in the given situation can be expressed as:

$$\text{Bi} = \frac{\alpha a}{2\lambda_s}$$