
Example

To enhance heat transfer from a silicon chip, a copper pin fin is brazed to the surface of the chip. The pin length and diameter are $L = 12$ mm and $D = 2$ mm, respectively. The surface of the chip, and hence the base of the pin are maintained at a temperature of $T_b = 350$ K. The pin is subject to atmospheric air in cross flow with $V = 10$ m/s and $T_\infty = 300$ K

- What is the average convection coefficient for the surface of the pin?
- Assuming h at the tip of the fin to be the same as that calculated in (a), calculate the heat transfer rate from the pin. (I.e., assume an insulated tip with a corrected fin length.)

