
NOMENCLATURE

Roman Symbols

A	heat-transfer area, m^2 Chapters 3, 5
A_f	fin area, m^2 , Chapter 3
C	capacitance, F, Chapter 1
C_p	specific heat at constant pressure, $\text{kJ kg}^{-1} \text{ }^\circ\text{C}^{-1}$, Chapter 3
D	diameter, m, Chapter 4
f	frequency, Hz, Chapter 1
g	acceleration of gravity, kg m s^{-2} , Chapter 4
h	heat-transfer coefficient, $\text{W m}^{-2} \text{K}^{-1}$, Chapters 3, 5; height, m, Chapter 3; head, m, Chapter 4
\bar{h}	average heat-transfer coefficient, $\text{W m}^{-2} \text{K}^{-1}$, Chapter 3
H	total head, m, Chapter 4
k	thermal conductivity, $\text{W m}^{-1} \text{K}^{-1}$, Chapters 1, 3, 5
K	degrees Kelvin, Chapter 4
L	length, m, Chapters 3, 5
m	parameter used in fin analysis, Chapter 3
M	parameter used in fin analysis, Chapter 3
\dot{m}	mass flow rate, kg s^{-1} , Chapter 3
n	rotational speed, revolutions min^{-1} , Chapter 4
p	pressure, kPa, Chapter 4
p_o	total pressure, kPa, Chapter 4
P	power, W, Chapters 1, 3, 4; perimeter, m, Chapter 3
PUE	power usage effectiveness, Chapter 6
q	power, W, Chapters 1, 3, 5
q''	heat flux, W cm^{-2} , Chapter 3
Q	volumetric flow rate, $\text{m}^3 \text{ s}^{-1}$, Chapter 4
R	thermal resistance per unit area or insulance, $\text{cm}^2 \text{ }^\circ\text{C W}^{-1}$, Chapter 3
t	thickness, m, Chapter 3
T	temperature, $^\circ\text{C}$, Chapters 1, 3, 5
U	thermal conductance, $\text{W }^\circ\text{C}^{-1}$, Chapter 3
v	velocity, m s^{-1} , Chapter 4
V	volts, V, Chapter 1
w	width, m, Chapter 3
x	distance, m, Chapter 3
z	height, m, Chapter 4

Greek Symbols

∇	dell operator, Chapter 3
ΔT	delta temperature, $^\circ\text{C}$, Chapters 3, 5

ε	fin effectiveness, Chapter 3
η	fin efficiency, Chapters 3, 4
θ	thermal resistance, $^{\circ}\text{C W}^{-1}$, Chapters 3, 5
Π	nondimensional parameter, Chapter 4
ρ	density, kg m^{-3} , Chapter 4

Subscripts

1	first, Chapters 1, 3
2	second, Chapters 1, 3
<i>AMB</i>	ambient, Chapter 3
<i>b</i>	base, Chapter 3
<i>BGA</i>	Chapter 3
<i>Board</i>	Chapter 3
<i>BottomPath</i>	Chapter 3
<i>c</i>	corrected length, m, Chapter 3
<i>C</i>	case, Chapter 3
<i>Carrier</i>	Chapter 3
<i>Case</i>	Chapter 3
<i>Conductive</i>	Chapter 5
<i>Convective</i>	Chapter 5
<i>dynamic</i>	Chapter 4
<i>f</i>	fin, Chapter 3
<i>head</i>	Chapter 4
<i>inlet</i>	Chapter 3
<i>J</i>	junction, Chapter 3
<i>JA</i>	junction to air, Chapter 3
<i>JB</i>	junction to base, Chapter 3
<i>JC</i>	junction to case, Chapter 3
<i>JS</i>	junction to heat sink, Chapter 3
<i>Junction</i>	Chapter 3
<i>max</i>	Chapter 3
<i>outlet</i>	Chapter 3
<i>TIM1</i>	Chapter 3
<i>TIM2</i>	Chapter 3
<i>TopPath</i>	Chapter 3
<i>s</i>	surface, Chapter 3
<i>SA</i>	sink to air, Chapter 3
<i>Substrate</i>	Chapter 3
<i>SurfaceA</i>	Chapter 3
<i>SurfaceB</i>	Chapter 3
∞	infinity, Chapter 3

Superscripts

"	flux, Chapter 3
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