

Part III

Thermal Conductivity

Main Symbols

k_F	Radius of the fermi sphere
E_F	Fermi energy
v_F	Fermi velocity
T_F	Fermi temperature
k_B	Boltzmann constant
h	Plank constant
\hbar	$h/2\pi$
e	Electron charge
n_C	Number of electrical carriers
n_e	Number of conduction electrons
H	Magnetic field
E_g	Energy gap of semiconductors
κ	Thermal conductivity
ψ	Thermal diffusivity
η	Mass density
$\langle\lambda\rangle$	Mean free path
c	Specific heat
A	Area
Q	Heat
$\langle\tau\rangle$	Mean scattering time
σ	Electrical conductivity
$\langle m \rangle$	Mean atomic mass
a	Mean atomic space
θ_D	Debye temperature
L_0	Free electron lorentz number
κ_e	Electron thermal conductivity
f_c	Grade of crystallinity
ε	Dielectric constant
ε'	Real part of the dielectric constant
ε''	Imaginary part of the dielectric constant

G	Thermal conductance
B	Magnetic induction
D	Electric displacement
J	Current density