

List of Symbols

σ	electrical conductivity
ρ	electrical resistivity
μ	carrier mobility
μ_d	carrier drift mobility
μ_H	carrier Hall mobility
μ_n	electron mobility
μ_p	hole mobility
n	electron density
p	hole density
n_i	intrinsic carrier density
N_D	donor concentration
N_A	acceptor concentration
R	Hall coefficient
R_n	electron Hall coefficient
R_p	hole Hall coefficient
\mathcal{E}	electric field
H	magnetic field
E	carrier energy
k	carrier wave number
τ_R	radiative recombination time
s	surface recombination time
L_D	diffusion length

(Continued)

E_g	forbidden gap
Δ_{so}	spin-orbit interaction energy
g^*	effective spectroscopic splitting factor
g_n^*	effective electron spectroscopic splitting factor
g_p^*	effective hole spectroscopic splitting factor
E_i	impurity ionization energy
m_0	free electron mass
m^*	effective mass
m_σ	ohmic effective mass
m_c	cyclotron effective mass
m_d	density-of-state mass
m_{dn}	electron density-of-state mass
m_{dp}	hole density-of-state mass
m_n	electron effective mass
$m_{n\perp}, m_{n\parallel}$	electron effective mass in ellipsoidal conduction band
m_p	hole effective mass
m_{p1}, m_{p2}	hole effective masses in spherical valence subbands
$m_{p\perp}, m_{p\parallel}$	hole effective mass in ellipsoidal valence band
T_D	Debye temperature
T_m	melting temperature
ω_l	limiting frequency of longitudinal optical phonons
ω_t	limiting frequency of transverse optical phonons
ϵ_0	static dielectric constant
ϵ_∞	high-frequency (optical) dielectric constant