	Indium Phosphide	Gallium Indium Arsenide Phosphide	Gallium Arsenide	Gallium Indium Arsenide	Indium Arsenide	Aluminium Arsenide	Aluminium(x) Gallium(1 - x) Arsenide (x < 0.45)	Aluminium(x) Gallium(1 - x) Arsenide (x > 0.45)	Gallium Phosphide	Gallium Indium Phosphide	Silicon	Germanium
Energy gap E_g	[1.344]	[1.35] + [0.668]x + [-1.068]y + [0.758]x^{2} + [-0.069]xy + [0.078]yy + 0.0x^{3} + [-0.332]x^{2}y + [0.03]xy^{2} + 0.0y^{3}	[1.424]	[0.36] + [0.63]x + [0.43]x^{2}	[0.354]	[2.153, 2.363]	[1.424] + [1.247]x + [0.0]x^{2}	[1.9] + [0.125]x + [0.143]x^{2}	[2.26, 2.272]	[1.344]	[1.1242]	[0.661, 0.664]
Electron affinity χ	[4.38]	N/A	[4.07]	[4.9] + [-0.83]x + [0.0]x^{2}	[4.9]	N/A	[4.07] + [-1.1]x + [0.0]x^{2}	[3.64] + [-0.14]x + [0.0]x^{2}	[3.8]	[4.38] + [-0.58]x + [0.0]x^{2}	[4.05]	[4.0]
Electron mobility μ_n	[4000.0, 5400.0]	[4000.0, 11000.0]	[2000.0, 8500.0]	[40000.0] + [-80700.0]x + [49200.0]x^{2}	[20000.0, 40000.0]	[75, 293]	[8000.0] + [-22000.0]x + [10000.0]x^{2}	[-255] + [1160]x + [-720]x^{2}	[160, 250]	[50, 1000]	[1400, 1450]	[3800, 3900]
Hole mobility μ_p	[190, 200]	[50, 300]	[400, 450]	[300, 400]	[100, 500]	[105]	[370] + [-970]x + [740]x^{2}	[370] + [-970]x + [740]x^{2}	[135, 150]	[6, 40]	[370, 450]	[1800, 1900]
Intrinsic carrier concentration n_i	[13000000.0]	[10000000.0, 100000000000000.0]	[2100000.0]	[2100000.0, 100000000000000.0]	[1000000000000000.0]	N/A	[250.0, 2100000.0]	[43.0, 250.0]	[2]	N/A	[102000000000.0]	[20000000000000.0, 23300000000000.0]
Electron lifetime τ_n	[1e-08, 2e-09]	N/A	[5e-09, 2.5e-07]	N/A	[3e-08]	N/A	[5e-09, 3e-08]	N/A	[1e-07]	N/A	[1e-09, 0.001]	[0.001]
Hole lifetime τ_p	[3e-06]	N/A	[3e-06]	[10]	[3e-06]	N/A	[1e-09, 2e-08]	N/A	[1e-06]	N/A	[1e-09, 0.001]	[0.001]
(Static) relative permittivity ε_r	[12.56]	[12.5, 13.94]	[12.8, 12.9]	[15.1] + [-2.87]x + [0.67]x^{2}	[15.15]	[10.1]	[12.9] + [-2.84]x + [0.0]x^{2}	[12.9] + [-2.84]x + [0.0]x^{2}	[11.11]	[12.5] + [-1.4]x + [0.0]x^{2}	[11.7]	[16.2]
Surface recombination velocity $S_{p/n}$	[5000.0, 1000000.0]	[10000.0, 100000.0]	[10000.0, 10000000.0]	[1000000.0]	[100.0, 10000.0]	N/A	[400000.0]	N/A	[400000.0, 2000000.0]	[20000.0, 50000.0]	[100.0, 80000.0]	[10.0, 1000000.0]

	Indium Phosphide	Gallium Indium Arsenide Phosphide	Gallium Arsenide	Gallium Indium Arsenide	Indium Arsenide	Aluminium Arsenide	Aluminium(x) Gallium(1 - x) Arsenide (x < 0.45)	Aluminium(x) Gallium(1 - x) Arsenide (x > 0.45)	Gallium Phosphide	Gallium Indium Phosphide	Silicon	Germanium
Energy gap E_g	eV	eV	eV	eV	eV	eV	eV	eV	eV	eV	eV	eV
Electron affinity χ	eV	N/A	eV	eV	eV	N/A	eV	eV	eV	eV	eV	eV
Electron mobility μ_n	$cm^2/V/s$	$cm^2/V/s$	$cm^2/V/s$	$cm^2/V/s$	$cm^2/V/s$	$cm^2/V/s$	$cm^2/V/s$	$cm^2/V/s$	$cm^2/V/s$	$cm^2/V/s$	$cm^2/V/s$	$cm^2/V/s$
Hole mobility μ_p	$cm^2/V/s$	$cm^2/V/s$	$cm^2/V/s$	$cm^2/V/s$	$cm^2/V/s$	$cm^2/V/s$	$cm^2/V/s$	$cm^2/V/s$	$cm^2/V/s$	$cm^2/V/s$	$cm^2/V/s$	$cm^2/V/s$
Intrinsic carrier concentration n_i	cm^{-3}	cm^{-3}	cm^{-3}	cm^{-3}	cm^{-3}	N/A	cm^{-3}	cm^{-3}	cm^{-3}	N/A	cm^{-3}	cm^{-3}
Electron lifetime τ_n	s	N/A	s	N/A	s	N/A	s	N/A	s	N/A	s	s
Hole lifetime τ_p	s	N/A	s	s	s	N/A	s	N/A	s	N/A	s	s
(Static) relative permittivity ε_r	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Surface recombination velocity $S_{p/n}$	cm/s	cm/s	cm/s	cm/s	cm/s	N/A	cm/s	N/A	cm/s	cm/s	cm/s	cm/s

	Indium Phosphide	Gallium Indium Arsenide Phosphide	Gallium Arsenide	Gallium Indium Arsenide	Indium Arsenide	Aluminium Arsenide	Aluminium(x) Gallium(1 - x) Arsenide (x < 0.45)	Aluminium(x) Gallium(1 - x) Arsenide (x > 0.45)	Gallium Phosphide	Gallium Indium Phosphide	Silicon	Germanium
Energy gap E_g	[1, 2]	[2]	[1, 2]	[2]	[1, 2]	[1]	[2]	[2]	[1, 2]	[2]	[1, 2]	[1, 2]
Electron affinity χ	[2]	[**N/A**]	[2]	[2]	[2]	[**N/A**]	[2]	[2]	[2]	[2]	[2]	[2]
Electron mobility μ_n	[1, 2]	[2]	[1, 2]	[2]	[1, 2]	[1]	[2]	[2]	[1, 2]	[2]	[1, 2]	[1, 2]
Hole mobility μ_p	[1, 2]	[2]	[1, 2]	[2]	[1, 2]	[1]	[2]	[2]	[1, 2]	[2]	[1, 2]	[1, 2]
Intrinsic carrier concentration n_i	[2]	[2]	[1, 2]	[2]	[2]	[**N/A**]	[2]	[2]	[2]	[**N/A**]	[1, 2]	[1, 2]
Electron lifetime τ_n	[2]	[**N/A**]	[2]	[**N/A**]	[2]	[**N/A**]	[2]	[**N/A**]	[2]	[**N/A**]	[2]	[2]
Hole lifetime τ_p	[2]	[**N/A**]	[2]	[2]	[2]	[**N/A**]	[2]	[**N/A**]	[2]	[**N/A**]	[2]	[2]
(Static) relative permittivity ε_r	[1, 2]	[2]	[1, 2]	[2]	[1, 2]	[1]	[2]	[2]	[1, 2]	[2]	[2]	[2]
Surface recombination velocity $S_{p/n}$	[2]	[2]	[2]	[2]	[2]	[**N/A**]	[2]	[**N/A**]	[2]	[2]	[2]	[2]

	Indium Phosphide	Gallium Indium Arsenide Phosphide	Gallium Arsenide	Gallium Indium Arsenide	Indium Arsenide	Aluminium Arsenide	Aluminium(x) Gallium(1 - x) Arsenide (x < 0.45)	Aluminium(x) Gallium(1 - x) Arsenide (x > 0.45)	Gallium Phosphide	Gallium Indium Phosphide	Silicon	Germanium
Energy gap E_g	300 K	300 K, Ga_{x}In_{1-x}As_{y}P_{1-y}	300 K	300 K, Ga_{x}In_{1-x}As	295 K	300 K Gamma->X, 295 K Gamma->L	N/A	N/A	300 K	Taken from Ga_{0.47}In_{0.53}As_{0}P_{1}	300 K	300 K - 291 K
Electron affinity χ	300 K	N/A	300 K	300 K, Ga_{x}In_{1-x}As	300 K	N/A	300 K	300 K	300 K	300 K, Ga_{x}In_{1-x}P	300 K	300 K
Electron mobility μ_n	300 K	indicative	300 K	300 K, Ga_{x}In_{1-x}As	300 K	300 K	300 K	300 K	N/A	300 K	300 K	300 K
Hole mobility μ_p	300 K	indicative	300 K	300 K	300 K	300 K	300 K	300 K	N/A	300 K	300 K	300 K
Intrinsic carrier concentration n_i	N/A	indicative	300 K	300 K, lowest for GaAs, highest for InAs	N/A	N/A	indicative	indicative	300 K	N/A	300 K	300 K

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	Indium Phosphide	Gallium Indium Arsenide Phosphide	Gallium Arsenide	Gallium Indium Arsenide	Indium Arsenide	Aluminium Arsenide	Aluminium(x) Gallium(1 - x) Arsenide (x < 0.45)	Aluminium(x) Gallium(1 - x) Arsenide (x > 0.45)	Gallium Phosphide	Gallium Indium Phosphide	Silicon	Germanium
Electron lifetime τ_n	longest lifetime	N/A	longest lifetime	N/A	longest lifetime	N/A	300 K, indicative	N/A	longest lifetime	N/A	falls as donor concentration increases	300 K, longest lifetime
Hole lifetime τ_p	longest lifetime	N/A	longest lifetime	longest lifetime	longest lifetime	N/A	300 K, indicative	N/A	longest lifetime	N/A	falls as acceptor concentration increases	300 K, longest lifetime
(Static) relative permittivity ε_r	300 K	300 K	300 K	300 K, Ga_{x}In_{1-x}As	300 K	N/A	300 K	300 K	300 K	300 K, Ga_{x}In_{1-x}P	300 K	300 K
Surface recombination velocity $S_{p/n}$	indicative	indicative	indicative	indicative	indicative	N/A	free surface	N/A	indicative	indicative	indicative	indicative

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