Simulation parameters used in the single-band k.p. model implemented in nextnano as part of the manuscript "Characterisation, modelling and design of cut-off wavelength of InGaAs/GaAsSb Type-II Superlattice Photodiodes".

Table 1: Binary material parameters used in this work

	GaAs	GaSb	InAs	InP
Lattice Parameters				
Lattice constant (Å)	5.65326	6.0959	6.0583	5.8697
Lattice expansion ($\times 10^{-5}$ Å/K)	3.88	4.72	2.74	2.79
Elastic Constants				
C11 (GPa)	122.1	88.42	83.29	101.1
C12 (GPa)	56.6	40.26	45.26	56.1
C44 (GPa)	60	43.22	39.59	45.6
Electron Parameters				
Mass (m_0)	0.067	0.039	0.026	--
Bandgap (eV)	1.519	0.812	0.417	--
Varshni alpha ($\times 10^{-4}$ eV/K)	5.405	4.17	2.76	--
Varshni beta (eV)	204	140	93	--
Absolute deformation potential (eV)	-9.36	-9.2	-6.66	--
Hole Parameters				
Valance band offset (eV)	1.346	1.777	1.39	--
Mass (m_0)	0.51	0.34	0.41	--
Absolute deformation potential (eV)	-1.21	-1.32	-1	--
Uniaxial deformation potential b (eV)	-2	-2	-1.8	--
Uniaxial deformation potential d (eV)	-4.8	-4.7	-3.6	--

Table 2: Bowing parameters for ternary materials used in this work

	GaAs$_{1-x}$Sb$_x$	In$_x$Ga$_{1-x}$As
Electron Parameters		
Mass (m_0)	--	0.0091
Bandgap (eV)	1.43	0.477
Absolute deformation potential (eV)	--	2.61
Hole Parameters		
Valance band offset (eV)	-1.06	-0.38
Mass (m_0)	--	-0.145