Appendix C

Standard waveguide structure

Figure C.1 shows the composition, the doping and the thickness of the layers in the active layer stack of SMART Photonics.

Figure C.2 shows the dimensions of the building blocks in the SMART Photonics foundry process.

Figure C.3 shows the dimensions of the building blocks in the Fraunhofer HHI foundry process.

active

Layer	Material	Doping	d [nm]
III-3	p-InGaAs	$1.5 \cdot 10^{19}$	300
III-2	p-InP	$1.0 \cdot 10^{18}$	1000
III-1	p-InP	low 10^{17}	300
I-7	p-InP	low 10^{17}	200
I-5	i-Q1.25		205
I-4	i-MQW (4)		90
I-3	i-Q1.25		205
I-2	n-InP	low 10^{17}	500
I-1	n-InP	low 10^{18}	500
I-0	n-InP	$1\text{-}4 \cdot 10^{18}$	substrate

passive

Layer	Material	Doping	d [nm]
III-3	p-InGaAs	$1.5 \cdot 10^{19}$	300
III-2	p-InP	$1.0 \cdot 10^{18}$	1000
III-1	p-InP	low 10^{17}	300
II-2	n-InP	low 10^{16}	200
II-1	n-Q1.25	low 10^{16}	500
I-2	n-InP	low 10^{17}	500
I-1	n-InP	low 10^{18}	500
I-0	n-InP	$1\text{-}4 \cdot 10^{18}$	substrate

Figure C.1: Standard active and passive layer structure for the SMART Photonics generic foundry platform.

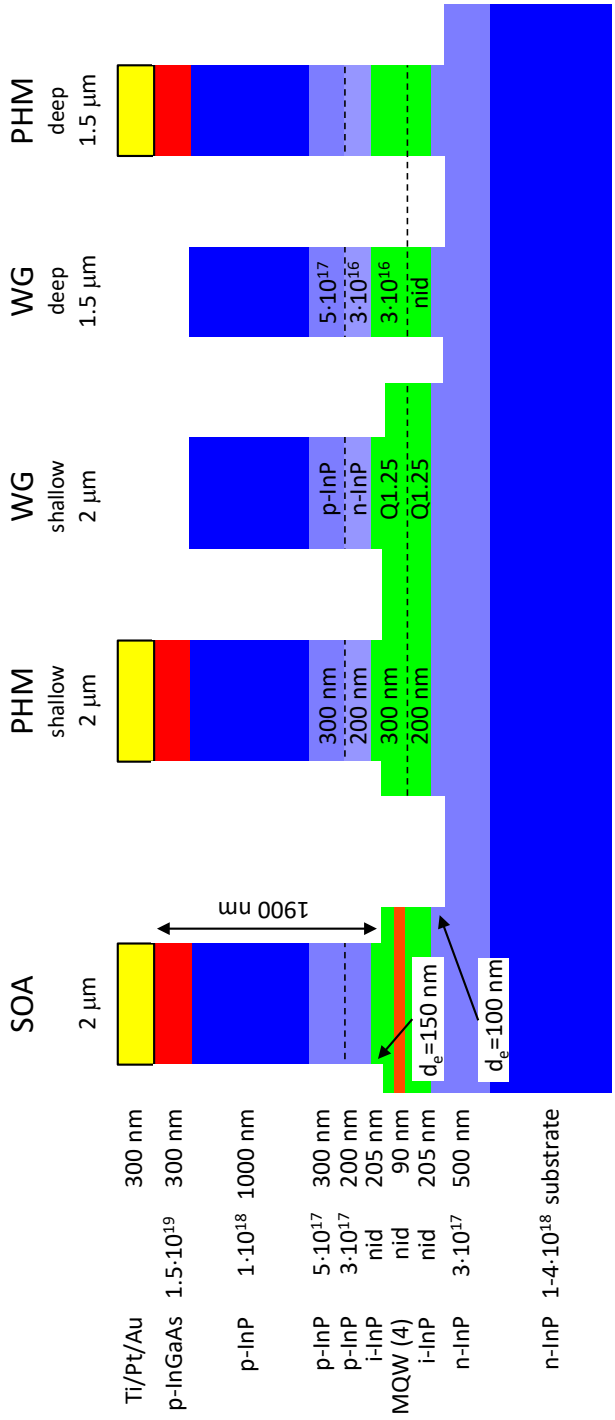

Figure C.2: Cross sections of the Basic Building Blocks for the SMART Photonics generic foundry platform.

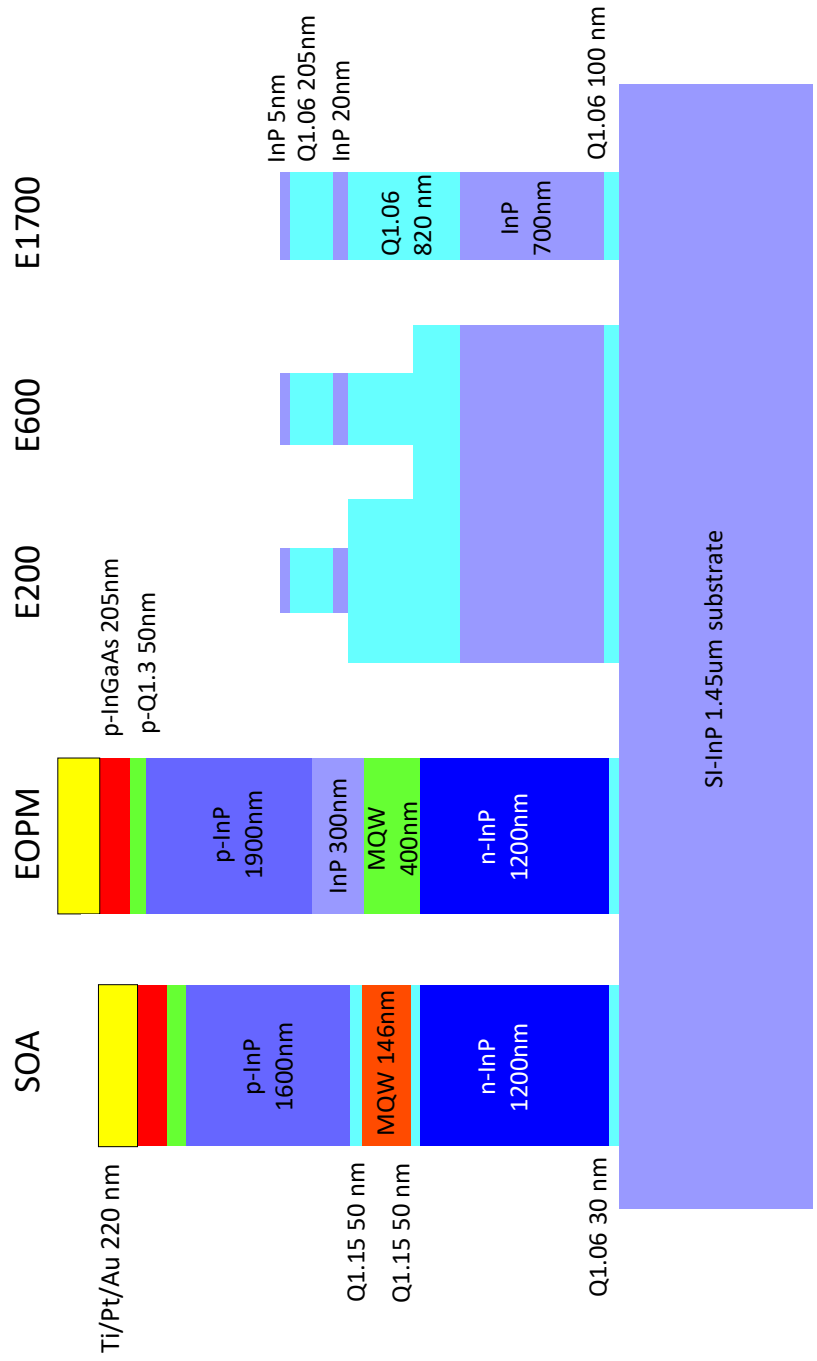

Figure C.3: Cross sections of the Basic Building Blocks for the Fraunhofer HHI generic foundry platform.