Symbol	Parameter	value	unit
L	Active region length	700	μm
L_S	Section length	10	μm
d	Active region thickness	120	nm
Γ	Optical confinement factor	0.2	----
a	Differential gain	$4x10^{-20}$	m^{-2}
a_2	Approximation parameters for material gain	$0.15x10^{19}$	$m^{-1}.m^{-2}$
b_2	Approximation parameters for material gain	$2.7x10^{-32}$	$m.m^3$
ε	Gain saturation parameter	$1.1x10^{-22}$	m^3
A	non-radiative recombination coefficient	$3.5x10^8$	s^{-1}
B	Bimolecular radiative recombination coefficient	$5.6x10^{-16}$	$m^3.s^{-1}$
C	Auger recombination coefficient	$3x10^{-41}$	$m^6.s^{-1}$
α_a	Attenuation coefficient in the active zone	25	cm^{-1}
α_c	Attenuation coefficient in the cladding zone	15	cm^{-1}

Table 3-1 – RSOA physical dimension and input parameters

We also assume 3 dB of coupling losses. Most of parameters are extracted from [11] and were obtained using ADS algorithm optimization based on fitting measurements with our devices (measurements done by Instituto de Telecomunicações).