Model Parameter Descriptions and Default Values			
Parameters	Descriptions	Default Value	Suggested Range[1]
a	Lattice oxygen distance	0.5 nm	[0.3,1]
f	O^{2-} vibration frequency	10^{13} Hz	[10^{12}, 10^{14}]
E_a	Activation energy of O^{2-}	1.0 eV	[0.8,1.5]
E_r	Recombination barrier between V_O and O^{2-}	1.25 eV	[0.8,1.5]
E_o	Kinetic barrier of O^{2-} from IML to RS region	1.0 eV	[0.8,1.5]
E_{AC}	Activation energy of conductance in VR region	-0.001 eV	[-0.01,0]
Ψ_1	Energy barrier between RS layer and BE	1.55 V	[0.5,2]
Ψ_2	Energy barrier between IML and RS layer	0.85 V	[0.5,2]
α_1	Field enhancement factor for SET	0.95	[0.5,1.5]
α_2	Field enhancement factor for RESET	1.2	[0.5,1.5]
Z & e	Charge number & unit charge	2 & e	2 & e
R_{th}	Effective thermal resistance	1.8×10^6 K/W	[1×10^6,5×10^6]
L_{IML}	Intermediate modulation layer thickness	60 nm	[0,100]
L_{VR}	VR region height	5.5nm	[0,10]
L_{RS}	RS region height	2.5 nm	[0,10]
W_{IML}	Intermediate modulation layer width	30 nm	[0,100]
w_0	Conductance filament redius	2.5nm	[0,5]
A	(The coefficient associated with the relationship	1.5×10^{-6}	1.5×10^{-6}
B	between conductance and electric field)	1×10^9	1×10^9
C_{V0}	The proportion of Vo in lattice oxygen	0.9	[0,1]
C_{O0}	The proportion of O^{2-} in lattice oxygen	0	[0,1]
σ_{v0}	Initial conductivity of VR region	3×10^4 Ω^{-1} m^{-1}	~10^4
σ_{IML}	Initial conductivity of IML region	1.25×10^5 Ω^{-1} m^{-1}	[10^3,10^6]

[1] The range listed represents reasonable values based on experimental observations and physical insights. The units should be the same as the default values.