Implant and Anneal Conditions

GDS No.	Description	Species	Dose (cm^2)	Energy (keV)	Tilt (°)
4	PD - Si P+ Implant	Boron	5.00E+14	20	7
5	MOD+PD - P++ Implant	Boron	4.00E+15	10	0
6	MOD - Si N++ Implant	Phosphorus	4.00E+15	30	0
7	MOD - Si P Implant	1. Boron	5.00E+12	16	0
		2. Boron	5.00E+12	40	0
8	MOD - Si N Implant	1. Phosphorus	3.00E+12	45	0
		2. Phosphorus	3.00E+12	110	0
10	PD - Ge N++ Implant	Phosphorus	4.00E+15	10	0

GDS No.	Description	Anneal
4 - 8	Activation for substrate and contact implants in Si	RTA 1030°C, 5 s
10	Activation for implants in Ge	RTA 500°C, 5 min

Electrical Parameters

Electrical Parameters		
Parameter	**Value**	**Tolerance**
Top Si resistivity	N.A.	8.5 to 11.5 Ohm.cm
BOX	2000 nm	1950 to 2050 nm
Handle Wafer Si resistivity (std res.)	N.A.	14 to 19 Ohm.cm
Handle Wafer Si resistivity (high res.)	750 Ohm.cm	more than
Contact resistivity (Metal 1 to Si contact)	<5E-6 Ω.cm2	less than
Contact resistivity (Metal 1 to Ge contact)	<5E-6 Ω.cm2	less than
Interconnect Metal 1 (0.75 um Al) Sheet Resistance	<40 mΩ/□	less than
Interconnect Metal 2 (2.0 um Al) Sheet Resistance	<20 mΩ/□	less than

GDS No.	Description	Rsh (Ω/□)	Si (or Ge) Thickness
4	PD - Si P+ Implant	230	220 nm Si
5	MOD+PD - P++ Implant	110	90 nm Si
6	MOD - Si N++ Implant	70	90 nm Si
7	MOD - Si P Implant	4500	220 nm Si
8	MOD - Si N Implant	2700	220 nm Si
10	PD - Ge N++ Implant	150	500 nm Ge