$POCl_3$ Process

Baseline $POCl_3$ Recipe for 100 ohms/cm^2

Step #	Name	Time	Temp	Gas Flow in SLPM
0	Idle	----	750C	N_2@8.15L
1	Boat In	10’	835C	N_2@8.15L, O_2@0.45L
2	Oxide	5’	835C	N_2@8.15L, O_2@0.45L
3	Stabilize	15’	835C	N_2@8.15L
4	$POCl_3$ Deposition	10’	835C	N_2@8.15L, O_2@0.45L, $POCL_3$@0.45L
5	Purge	5’	835C	N_2@8.15L, O_2@0.45L
6	Drive in	Note 2	Note 2	N_2@8.15L, O_2@0.45L
7	Boat Out	----	750C	N_2@8.15L
8	Idle		750C	N_2@8.15L

Baseline $POCl_3$ Recipe for 50 ohms/ cm^2

Step #	Name	Time	Temp	Gas Flow in SLPM
0	Idle	----	750C	N_2@8.15L
1	Boat In	10’	860C	N_2@8.15L, O_2@0.45L
2	Oxide	5’	860C	N_2@8.15L, O_2@0.45L
3	Stabilize	25’	860C	N_2@8.15L
4	$POCl_3$ Deposition	18’	860C	N_2@8.15L, O_2@0.45L, $POCL_3$@0.45L
5	Purge	5’	860C	N_2@8.15L, O_2@0.45L
6	Drive In	Note 2	Note 2	N_2@8.15L, O_2@0.45L
7	Boat Out	----	750C	N_2@8.15L
8	Idle		750C	N_2@8.15L

Baseline $POCl_3$ Recipe for 10 ohms/ cm^2

Step #	Name	Time	Temp	Gas Flow in SLPM
0	Idle	----	750C	N_2@8.15L
1	Boat In	10’	960C	N_2@8.15L, O_2@0.45L
2	Oxide	5’	960C	N_2@8.15L, O_2@0.45L
3	Stabilize	25’	960C	N_2@8.15L
4	$POCl_3$ Deposition	18’	960C	N_2@8.15L, O_2@0.45L, $POCL_3$@0.45L
5	Purge	5’	960C	N_2@8.15L, O_2@0.45L
6	Drive In	Note 2	Note 2	N_2@8.15L, O_2@0.45L
7	Boat Out	----	750C	N_2@8.15L
8	Idle		750C	N_2@8.15L

NOTES: 1) Use these recipes as baselines for sheet resistances of 10, 50 & 100 ohm/cm^2. Fine tuning is always required for process optimization
2) If Drive-In is required typical process is 36 minutes at 860C