

Sample ID: W1557

Description Shallow iHEMT

Date 12/12/2019

Grower	CC	Substrate ID	BT652-11-W-09	Loading Date	15/11/2019
Requestor	UNSW	Ingot	BT652	Material list	GaAs
Episoft	W1557	Slice	11	Doping type	none
Proposed use	in-situ grown Schottky gates	Supplier	AXT	Orientation	(100)
Notes:	3", ssp, Sapphire backing, shiny side up.				

Sample A without in-situ gate as control. As per W1479 but thin GaAs cap.

Substrate Degas			
Date	[hh:mm]	T(E)	Pressure
03/12/2019	23:59	450	7.55E-10

Process request: AFM

Source Calibration

Source	T[E] °C	Base[C]	Tip[C]	Oscil.	µ/h	nA/Torr	B/G	Mil	Cracker °C	Doping
W- 1-As		430				5.94E-06	1.68E-09	240	900	
W- 6-Ga		1033.1	1133.1			3.39E-07	1.77E-09			
W- 8-Al		1072.7	1022.7			1.09E-07	1.70E-09			

Observations

Time	T(E) °C	Pyro	BandiT	G1	G2	Notes
12:28:22	755	630	665	2.13E-08	1.50E-07	G3: 7.14e-8. BE 1176. 33.4/23.2, 5.6 A. Degassing. As1@245mil.
12:53:15	719	596	622	2.20E-08	1.60E-07	G3: 7.78e-8. BE 1155. 30.0/21.5, 5.3 A. End of degas. As1@255mil.
13:22:37	718	599	625	2.47E-08	1.80E-07	G3: 8.84e-8. BE 1157. As1 closed from 260 to 255 mil. 48% of 1 um GaAs.
13:50:04	718	598	626	2.44E-08	1.70E-07	G3: 8.76e-8. BE 1157. 93% of 1 um GaAs.
13:55:32	718	600	626	2.44E-08	1.80E-07	G3: 8.80e-8. BE 1157. 33% AlGaAs.

Matrix Layers

Layer	Material	Time	[nm]	Ratio	Repeat?	No.	T-SUB	Dopant	Doping	Comments
1	GaAs	01:00:00	1000		<input type="checkbox"/>		598			-----
2	AlGaAs	00:01:19	33	0.33	<input type="checkbox"/>		600			-----
3	GaAs	00:00:07	2		<input type="checkbox"/>		601			-----
Total		01:01:26	1035	<i>Note that the calculated total values do not include repeat layers</i>						