MECHANICAL AND ELECTRICAL CHARACTERISTICS OF SIS DETECTORS

ACE Memo ID: 1997.10.23.BLD (JPL/SIS/detectors)

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To: CRIS/SIS Data Analysis Teams
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position	Micron Semico. Serial No.	center thickness (μm)	thickness gradient (μm/mm)	junction dead layer (μm)	ohmic dead layer (μm)	junction DL grad. (μm/mm)	ohmic DL grad. (μm/mm)
M1A	008	79.138	<4	0.5**	0.5**	<0.01	<0.01
M2A	022	82.780	<4	0.5**	0.5**	<0.01	<0.01
T1A	P100	107.438	<0.3	0.40	0.31	<0.01	<0.01
T2A	016	108.314	<0.3	0.52	0.34	<0.01	<0.01
T3A	119	258.964	<0.4	0.25	0.20	<0.01	<0.01
T4A	209	493.546	<0.3	0.26	0.17	<0.01	<0.01
T5A	232	745***	<0.2	0.28	0.30	<0.02	<0.01
T6-1A	P1000	1000.28*	<0.1	0.43	0.28	<0.01	<0.01
T6-2A	110	893.212	<0.15	0.30	0.17	<0.02	<0.01
T6-3A	229	747***	<0.2	0.24	0.22	<0.01	<0.01
T7-1A	221	972.807	<0.2	0.29	0.20	<0.01	<0.01
T7-2A	228	726.926	<0.15	0.25	0.15	<0.01	<0.01
T7-3A	010	505.403	<0.5	0.38	0.22	<0.01	<0.01
T7-4A	125	493.634	<0.3	0.41	0.25	<0.01	<0.01
T7-5A	202	492.253	<0.5	0.30	0.23	<0.01	<0.01
T7-6A	204	492.963	<0.4	0.39	0.20	<0.01	<0.01
T8A	007	978.693	<0.15	0.24	0.25	<0.02	<0.1
M1B	001	78.332	<5	0.5**	0.5**	<0.03	<0.03
M2B	002	81.530	<4	0.5**	0.5**	<0.04	<0.03
T1B	018	109.199	<0.25	0.36	0.27	<0.01	<0.01
T2B	019	108.508	<0.3	0.40	0.47	<0.03	<0.01
T3B	023	257.491	<0.5	0.22	0.23	<0.01	<0.03
T4B	216	503.423	<0.5	0.33	0.24	<0.01	<0.01
T5B	230	752***	<0.25	0.36	0.20	<0.01	<0.01
T6-1B	040	988.908	<0.25	0.30	0.25	<0.01	<0.01
T6-2B	131	903.069	<0.15	0.27	0.16	<0.03	<0.03
T6-3B	214	760.511	<0.25	0.33	0.16	<0.01	<0.01
T7-1B	000	998.327	<0.2	0.30	0.17	<0.01	<0.03
T7-2B	208	747.549	<0.2	0.31	0.23	<0.01	<0.01
T7-3B	126	504.940	<0.7	0.31	0.19	<0.01	<0.01
T7-4B	133	493.031	<0.6	0.26	0.33	<0.01	<0.01
T7-5B	200	495.290	<0.5	0.21	0.23	<0.01	<0.01
T7-6B	205	494.395	<0.45	0.31	0.15	<0.03	<0.01
T8B	103	992.128	<0.2	0.33	0.20	<0.01	<0.01

* Two MSU measurements were made: one gave 1000.28, while the other gave 1001.54.
** nominal value
*** Not measured at MSU. Micron Semiconductor measurements are reported instead.
Note, T3A was detector ID #012 at GSI: which has a center thickness of 248.621 μm.

position	depletion bias (V)	operating bias (V)	breakdown bias (V)	room temp. current (µA)	stability (dI/dt)/I (%/day)	room temp. noise (keV FWHM)
M1A						
M2A						
T1A	10	35	200	0.0	0.1	190
T2A	10	35	150	0.1	0.2	160
T3A	25	60	200	0.2	<0.1	115
T4A	60	120	230	0.4	<0.1	110
T5A	60	200	200	2.6	<0.1	115
T6-1A	150	190	210	1.4	<0.1	190
T6-2A	140	"	200	1.5	<0.1	70
T6-3A	40	"	220	2.2	<0.1	95
T7-1A	110	160	170	2.7	<0.1	110
T7-2A	100	"	170	2.7	<0.1	92
T7-3A	100	"	210	0.9	<0.1	100
T7-4A	50	"	240	1.3	<0.1	110
T7-5A	90	"	220	0.3	<0.1	74
T7-6A	65	"	220	0.8	<0.1	75
T8A	200	240	250	2.8	<0.1	70
M1B						
M2B						
T1B	10	35	200	0.4	0.1	160
T2B	10	35	200	0.2	<0.1	150
T3B	25	60	150	0.2	<0.1	110
T4B	50	120	210	0.4	<0.1	72
T5B	55	150	160	1.5	<0.1	75
T6-1B	150	230	250	0.8	<0.1	54
T6-2B	180	"	240	5.0	<0.1	76
T6-3B	80	"	260	2.9	<0.1	110
T7-1B	175	210	220	0.9	<0.1	63
T7-2B	140	"	220	0.8	<0.1	75
T7-3B	75	"	250	0.4	<0.1	73
T7-4B	55	"	250	2.2	<0.1	79
T7-5B	50	"	250	0.3	<0.1	96
T7-6B	70	"	280	1.9	<0.1	85
T8B	180	200	210	1.1	<0.1	55