

**National Semiconductor Corporation
Radiation Effects Laboratory
South Portland, Maine 04106**

**ANALOG TOTAL DOSE RADIATION REPORT
Enhanced Low Dose Rate (ELDRS)**

Customer: ELDRS (Biased Condition)

Part Type: RM117HRQMLV SMD# 5962R99517

Input Bias Circuit: 9784 IR

Dose Rate: 10 mRad(Si)/sec

Test Program Used: RH00117HYD

Tester: L.Miller / S.Gorman

Wafer Run Number: JM081X21

Wafer Number: 2

Package Type: HT039003

Production Lot #: 8B2919K019

IPI #: N/A

Disposition: PASSES

Summary:

Passes Room Temp @: 100k

Part Out of Room Temp Spec @: N/A (no devices failed)

Functional Failed @: N/A (no devices failed functionally)

Parameters over Limit:

Review By: Bill Brown

Reviewed By QA: Bill Brown October 17, 2008

Note:

These parts may be dose rate sensitive in a space environment and demonstrate enhanced low dose rate effect..

**Standard Test Flow Sheet For Rad Testing
Customer Special Attachment
Rad Hard Linear**

NSID# RM117HRQMLV

LOT# 8B2919K019

IPI# N/A

Test Program: RH00117HYD

Machine: LTX 01-3

Operator: D0226 / D0841

Bias Board: 9784 IR

Start Time: 6:39 A.M

Finish Time: 9:20 A.M

Start Date: 2/May/2008

Finish Date: 9/October/2008

QA: _____

Control Units s/n: #1 #2

Duts : #15 #16 #17 #18 #19

Location Step	Operation Mtd/Cond	Qty In	Qty Out	Var	Mech	Rej	FF
PASS	Pre - Rad Read/Rec. Tp1	5	5	0	0	0	0
	<i>Irradiation</i> <i>3k</i> <i>Level</i>	5	5	0	0	N/A	N/A
PASS	Post Rad Read/Rec. Tp2	5	5	0	0	0	0
	<i>Irradiation</i> <i>10k</i> <i>Level</i>	5	5	0	0	N/A	N/A
PASS	Post Rad Read/Rec. Tp3	5	5	0	0	0	0

**Standard Test Flow Sheet For Rad Testing
Customer Special Attachment
Rad Hard Linear**

NSID# RM117HRQMLV

LOT# 8B2919K019

IPI# N/A

Location Step	Operation Mtd/Cond	Qty In	Qty Out	Var	Mech	Rej	FF
	<i>Irradiation</i> <i>30k</i> <i>Level</i>	5	5	0	0	N/A	N/A
PASS	Post Rad Read/Rec. Tp4	5	5	0	0	0	0
	<i>Irradiation</i> <i>50k</i> <i>Level</i>	5	5	0	0	N/A	N/A
PASS	Post Rad Read/Rec. Tp5	5	5	0	0	0	0
	<i>Irradiation</i> <i>80k</i> <i>Level</i>	5	5	0	0	N/A	N/A
PASS	Post Rad Read/Rec. Tp6	5	5	0	0	0	0
	<i>Irradiation</i> <i>100k</i> <i>Level</i>	5	5	0	0	N/A	N/A
PASS	Post Rad Read/Rec. Tp7	5	5	0	0	0	0

Note: All irradiation's are done per MAS-5010

CONTROL DEVICES 8B2919K019 JM081X21 WAFER#2 ELDRS 0K

DEVICE	1	BIN	1	HEAD	3	06:39 AM	05/02/2008
700.0	100	800.0	25 DGR	98.0	2.94 V		
1.0	-40.404 UA	2.0	-41.550 UA	3.0	1.146 UA		
4.0	1.146 UA	5.0	-0.90 MA	6.0	-1.07 MA		
7.0	-2.26 MA	8.0	1.258 V	9.0	1.239 V		
10.0	1.262 V	11.0	1.260 V	12.0	-3.8 MV		
13.0	-9.2 MV	14.0	2.1 MV	15.0	-3.2 MV		
22.0	40 UV	23.0	2.1 MV	24.0	0.204 MV		
25.0	80 DB	16.0	-0.98 A	17.0	1.261 V		
18.0	-0.25 A	19.0	1.267 V	20.0	1.244 V		

DEVICE	2	BIN	1	HEAD	3	06:39 AM	05/02/2008
700.0	100	800.0	25 DGR	98.0	2.94 V		
1.0	-41.091 UA	2.0	-39.350 UA	3.0	-1.741 UA		
4.0	1.834 UA	5.0	-0.90 MA	6.0	-1.07 MA		
7.0	-2.26 MA	8.0	1.259 V	9.0	1.243 V		
10.0	1.262 V	11.0	1.261 V	12.0	-3.5 MV		
13.0	-6.2 MV	14.0	1.4 MV	15.0	-3.2 MV		
22.0	40 UV	23.0	2.3 MV	24.0	0.217 MV		
25.0	81 DB	16.0	-0.95 A	17.0	1.261 V		
18.0	-0.25 A	19.0	1.268 V	20.0	1.246 V		

BIASED DEVICES 8B2919K019 JM081X21 WAFER#2 ELDRS OK

DEVICE	15	BIN	1	HEAD	3	06:40 AM	05/02/2008
700.0	100	800.0	25 DGR	98.0	2.95 V		
1.0	-40.404 UA	2.0	-40.404 UA	3.0	0.000 UA		
4.0	-2.139 UA	5.0	-0.88 MA	6.0	-1.05 MA		
7.0	-2.23 MA	8.0	1.256 V	9.0	1.243 V		
10.0	1.260 V	11.0	1.258 V	12.0	-3.7 MV		
13.0	-3.6 MV	14.0	1.5 MV	15.0	-4.2 MV		
22.0	40 UV	23.0	2.4 MV	24.0	0.210 MV		
25.0	81 DB	16.0	-0.96 A	17.0	1.259 V		
18.0	-0.25 A	19.0	1.266 V	20.0	1.247 V		

DEVICE	16	BIN	1	HEAD	3	06:40 AM	05/02/2008
700.0	100	800.0	25 DGR	98.0	2.95 V		
1.0	-40.404 UA	2.0	-41.702 UA	3.0	1.299 UA		
4.0	1.681 UA	5.0	-0.89 MA	6.0	-1.07 MA		
7.0	-2.27 MA	8.0	1.258 V	9.0	1.242 V		
10.0	1.261 V	11.0	1.260 V	12.0	-3.6 MV		
13.0	-6.0 MV	14.0	1.6 MV	15.0	-3.0 MV		
22.0	40 UV	23.0	2.1 MV	24.0	0.204 MV		
25.0	80 DB	16.0	-0.97 A	17.0	1.260 V		
18.0	-0.25 A	19.0	1.267 V	20.0	1.246 V		

DEVICE	17	BIN	1	HEAD	3	06:41 AM	05/02/2008
700.0	100	800.0	25 DGR	98.0	2.96 V		
1.0	-41.626 UA	2.0	-40.174 UA	3.0	-1.452 UA		
4.0	-2.827 UA	5.0	-0.92 MA	6.0	-1.09 MA		
7.0	-2.30 MA	8.0	1.257 V	9.0	1.242 V		
10.0	1.261 V	11.0	1.260 V	12.0	-3.9 MV		
13.0	-5.7 MV	14.0	1.8 MV	15.0	-3.4 MV		
22.0	40 UV	23.0	2.6 MV	24.0	0.204 MV		
25.0	80 DB	16.0	-0.96 A	17.0	1.260 V		
18.0	-0.25 A	19.0	1.266 V	20.0	1.246 V		

DEVICE	18	BIN	1	HEAD	3	06:41 AM	05/02/2008
700.0	100	800.0	25 DGR	98.0	2.95 V		
1.0	-38.570 UA	2.0	-40.174 UA	3.0	1.604 UA		
4.0	0.611 UA	5.0	-0.88 MA	6.0	-1.06 MA		
7.0	-2.24 MA	8.0	1.254 V	9.0	1.238 V		
10.0	1.258 V	11.0	1.256 V	12.0	-3.6 MV		
13.0	-6.0 MV	14.0	1.8 MV	15.0	-3.1 MV		
22.0	40 UV	23.0	2.2 MV	24.0	0.209 MV		
25.0	81 DB	16.0	-0.96 A	17.0	1.256 V		
18.0	-0.25 A	19.0	1.263 V	20.0	1.242 V		

DEVICE	19	BIN	1	HEAD	3	06:41 AM	05/02/2008
700.0	100	800.0	25 DGR	98.0	2.95 V		
1.0	-39.350 UA	2.0	-38.952 UA	3.0	-0.398 UA		
4.0	0.000 UA	5.0	-0.89 MA	6.0	-1.06 MA		
7.0	-2.23 MA	8.0	1.256 V	9.0	1.241 V		
10.0	1.260 V	11.0	1.258 V	12.0	-3.4 MV		
13.0	-5.5 MV	14.0	1.5 MV	15.0	-3.2 MV		
22.0	40 UV	23.0	2.4 MV	24.0	0.208 MV		
25.0	82 DB	16.0	-0.97 A	17.0	1.258 V		
18.0	-0.25 A	19.0	1.265 V	20.0	1.244 V		

CONTROL DEVICES 8B2919K019 JM081X21 WAFER#2 ELDRS 3K

DEVICE	1	BIN	1	HEAD	3	09:36 AM	05/20/2008
700.0	100	800.0	25 DGR	98.0	2.94 V		
1.0	-40.404 UA	2.0	-42.314 UA	3.0	1.910 UA		
4.0	2.139 UA	5.0	-0.89 MA	6.0	-1.07 MA		
7.0	-2.26 MA	8.0	1.258 V	9.0	1.241 V		
10.0	1.262 V	11.0	1.260 V	12.0	-3.6 MV		
13.0	-7.2 MV	14.0	1.8 MV	15.0	-3.3 MV		
22.0	40 UV	23.0	2.1 MV	24.0	0.207 MV		
25.0	80 DB	16.0	-0.97 A	17.0	1.261 V		
18.0	-0.25 A	19.0	1.267 V	20.0	1.245 V		

DEVICE	2	BIN	1	HEAD	3	09:37 AM	05/20/2008
700.0	100	800.0	25 DGR	98.0	2.94 V		
1.0	-41.397 UA	2.0	-39.869 UA	3.0	-1.528 UA		
4.0	-1.146 UA	5.0	-0.90 MA	6.0	-1.08 MA		
7.0	-2.26 MA	8.0	1.259 V	9.0	1.243 V		
10.0	1.262 V	11.0	1.261 V	12.0	-3.6 MV		
13.0	-6.3 MV	14.0	1.7 MV	15.0	-3.2 MV		
22.0	39 UV	23.0	2.5 MV	24.0	0.210 MV		
25.0	80 DB	16.0	-0.95 A	17.0	1.261 V		
18.0	-0.25 A	19.0	1.268 V	20.0	1.246 V		

BIASED DEVICES 8B2919K019 JM081X21 WAFER#2 ELDRS 3K

DEVICE	15	BIN	1	HEAD	3	09:37 AM	05/20/2008
700.0	100	800.0	25 DGR	98.0	3.00 V		
1.0	-40.404 UA	2.0	-41.091 UA	3.0	0.688 UA		
4.0	1.146 UA	5.0	-0.87 MA	6.0	-1.04 MA		
7.0	-2.23 MA	8.0	1.258 V	9.0	1.244 V		
10.0	1.262 V	11.0	1.261 V	12.0	-4.1 MV		
13.0	-4.0 MV	14.0	1.5 MV	15.0	-4.1 MV		
22.0	39 UV	23.0	2.1 MV	24.0	0.210 MV		
25.0	79 DB	16.0	-0.96 A	17.0	1.260 V		
18.0	-0.25 A	19.0	1.268 V	20.0	1.248 V		

DEVICE	16	BIN	1	HEAD	3	09:37 AM	05/20/2008
700.0	100	800.0	25 DGR	98.0	3.00 V		
1.0	-41.397 UA	2.0	-40.404 UA	3.0	-0.993 UA		
4.0	-2.216 UA	5.0	-0.89 MA	6.0	-1.06 MA		
7.0	-2.27 MA	8.0	1.259 V	9.0	1.243 V		
10.0	1.263 V	11.0	1.261 V	12.0	-3.9 MV		
13.0	-6.0 MV	14.0	1.6 MV	15.0	-3.1 MV		
22.0	39 UV	23.0	2.4 MV	24.0	0.206 MV		
25.0	80 DB	16.0	-0.97 A	17.0	1.261 V		
18.0	-0.26 A	19.0	1.268 V	20.0	1.247 V		

DEVICE	17	BIN	1	HEAD	3	09:37 AM	05/20/2008
700.0	100	800.0	25 DGR	98.0	2.98 V		
1.0	-39.258 UA	2.0	-41.626 UA	3.0	2.368 UA		
4.0	1.681 UA	5.0	-0.90 MA	6.0	-1.08 MA		
7.0	-2.28 MA	8.0	1.258 V	9.0	1.242 V		
10.0	1.262 V	11.0	1.260 V	12.0	-3.9 MV		
13.0	-6.5 MV	14.0	1.9 MV	15.0	-3.6 MV		
22.0	39 UV	23.0	2.5 MV	24.0	0.210 MV		
25.0	80 DB	16.0	-0.96 A	17.0	1.260 V		
18.0	-0.25 A	19.0	1.267 V	20.0	1.246 V		

DEVICE	18	BIN	1	HEAD	3	09:37 AM	05/20/2008
700.0	100	800.0	25 DGR	98.0	3.00 V		
1.0	-41.015 UA	2.0	-39.869 UA	3.0	-1.146 UA		
4.0	0.000 UA	5.0	-0.88 MA	6.0	-1.05 MA		
7.0	-2.23 MA	8.0	1.256 V	9.0	1.239 V		
10.0	1.260 V	11.0	1.258 V	12.0	-4.0 MV		
13.0	-6.5 MV	14.0	1.7 MV	15.0	-3.1 MV		
22.0	39 UV	23.0	2.5 MV	24.0	0.212 MV		
25.0	79 DB	16.0	-0.96 A	17.0	1.258 V		
18.0	-0.25 A	19.0	1.265 V	20.0	1.243 V		

DEVICE	19	BIN	1	HEAD	3	09:38 AM	05/20/2008
700.0	100	800.0	25 DGR	98.0	3.01 V		
1.0	-41.015 UA	2.0	-39.487 UA	3.0	-1.528 UA		
4.0	0.688 UA	5.0	-0.87 MA	6.0	-1.05 MA		
7.0	-2.22 MA	8.0	1.258 V	9.0	1.242 V		
10.0	1.262 V	11.0	1.260 V	12.0	-4.1 MV		
13.0	-5.9 MV	14.0	1.7 MV	15.0	-3.1 MV		
22.0	40 UV	23.0	2.4 MV	24.0	0.210 MV		
25.0	80 DB	16.0	-0.97 A	17.0	1.260 V		
18.0	-0.26 A	19.0	1.267 V	20.0	1.246 V		

CONTROL DEVICES 8B2919K019 JM081X21 WAFER#2 ELDRS 10K

DEVICE	1	BIN	1	HEAD	3	11:42 AM	06/03/2008
700.0	100	800.0	25 DGR	98.0	2.93 V		
1.0	-40.480 UA	2.0	-39.258 UA	3.0	-1.222 UA		
4.0	-1.757 UA	5.0	-0.90 MA	6.0	-1.07 MA		
7.0	-2.27 MA	8.0	1.258 V	9.0	1.242 V		
10.0	1.262 V	11.0	1.260 V	12.0	-3.5 MV		
13.0	-6.3 MV	14.0	1.6 MV	15.0	-3.2 MV		
22.0	39 UV	23.0	2.2 MV	24.0	0.208 MV		
25.0	81 DB	16.0	-0.97 A	17.0	1.261 V		
18.0	-0.25 A	19.0	1.267 V	20.0	1.246 V		

DEVICE	2	BIN	1	HEAD	3	11:42 AM	06/03/2008
700.0	100	800.0	25 DGR	98.0	2.94 V		
1.0	-40.404 UA	2.0	-41.015 UA	3.0	0.611 UA		
4.0	1.146 UA	5.0	-0.90 MA	6.0	-1.07 MA		
7.0	-2.25 MA	8.0	1.259 V	9.0	1.242 V		
10.0	1.262 V	11.0	1.261 V	12.0	-3.6 MV		
13.0	-6.9 MV	14.0	1.7 MV	15.0	-3.3 MV		
22.0	39 UV	23.0	2.3 MV	24.0	0.210 MV		
25.0	80 DB	16.0	-0.95 A	17.0	1.261 V		
18.0	-0.25 A	19.0	1.268 V	20.0	1.246 V		

BIASED DEVICES 8B2919K019 JM081X21 WAFER#2 ELDRS 10K

DEVICE 15 BIN 1 HEAD 3 11:42 AM 06/03/2008

700.0	100	800.0	25 DGR	98.0	3.09 V
1.0	-41.015 UA	2.0	-39.487 UA	3.0	-1.528 UA
4.0	1.299 UA	5.0	-0.83 MA	6.0	-1.02 MA
7.0	-2.20 MA	8.0	1.263 V	9.0	1.247 V
10.0	1.268 V	11.0	1.266 V	12.0	-5.6 MV
13.0	-5.8 MV	14.0	1.8 MV	15.0	-3.8 MV
22.0	39 UV	23.0	2.4 MV	24.0	0.211 MV
25.0	75 DB	16.0	-0.98 A	17.0	1.265 V
18.0	-0.28 A	19.0	1.274 V	20.0	1.251 V

DEVICE 16 BIN 1 HEAD 3 11:42 AM 06/03/2008

700.0	100	800.0	25 DGR	98.0	3.08 V
1.0	-41.397 UA	2.0	-40.174 UA	3.0	-1.222 UA
4.0	-2.750 UA	5.0	-0.88 MA	6.0	-1.05 MA
7.0	-2.24 MA	8.0	1.261 V	9.0	1.245 V
10.0	1.265 V	11.0	1.264 V	12.0	-4.6 MV
13.0	-6.2 MV	14.0	1.7 MV	15.0	-3.0 MV
22.0	39 UV	23.0	2.2 MV	24.0	0.209 MV
25.0	78 DB	16.0	-0.99 A	17.0	1.263 V
18.0	-0.28 A	19.0	1.271 V	20.0	1.249 V

DEVICE 17 BIN 1 HEAD 3 11:43 AM 06/03/2008

700.0	100	800.0	25 DGR	98.0	3.04 V
1.0	-41.397 UA	2.0	-39.334 UA	3.0	-2.063 UA
4.0	1.299 UA	5.0	-0.87 MA	6.0	-1.06 MA
7.0	-2.26 MA	8.0	1.259 V	9.0	1.242 V
10.0	1.263 V	11.0	1.261 V	12.0	-4.2 MV
13.0	-6.8 MV	14.0	1.7 MV	15.0	-3.1 MV
22.0	40 UV	23.0	2.8 MV	24.0	0.204 MV
25.0	78 DB	16.0	-0.97 A	17.0	1.261 V
18.0	-0.26 A	19.0	1.269 V	20.0	1.246 V

DEVICE 18 BIN 1 HEAD 3 11:43 AM 06/03/2008

700.0	100	800.0	25 DGR	98.0	3.09 V
1.0	-41.015 UA	2.0	-39.869 UA	3.0	-1.146 UA
4.0	-2.216 UA	5.0	-0.85 MA	6.0	-1.02 MA
7.0	-2.21 MA	8.0	1.260 V	9.0	1.243 V
10.0	1.265 V	11.0	1.263 V	12.0	-5.5 MV
13.0	-7.3 MV	14.0	1.9 MV	15.0	-2.9 MV
22.0	39 UV	23.0	2.5 MV	24.0	0.212 MV
25.0	76 DB	16.0	-0.98 A	17.0	1.262 V
18.0	-0.28 A	19.0	1.271 V	20.0	1.247 V

DEVICE 19 BIN 1 HEAD 3 11:43 AM 06/03/2008

700.0	100	800.0	25 DGR	98.0	3.10 V
1.0	-41.550 UA	2.0	-39.258 UA	3.0	-2.292 UA
4.0	0.000 UA	5.0	-0.86 MA	6.0	-1.03 MA
7.0	-2.20 MA	8.0	1.264 V	9.0	1.247 V
10.0	1.270 V	11.0	1.268 V	12.0	-6.1 MV
13.0	-6.7 MV	14.0	2.1 MV	15.0	-2.8 MV
22.0	39 UV	23.0	2.5 MV	24.0	0.213 MV
25.0	75 DB	16.0	-0.99 A	17.0	1.266 V
18.0	-0.29 A	19.0	1.275 V	20.0	1.251 V

CONTROL DEVICES 8B2919K019 JM081X21 WAFER#2 ELDRS 30K

DEVICE	1	BIN	1	HEAD	3	08:53 AM	07/01/2008
700.0	100	800.0	25 DGR	98.0	2.93 V		
1.0	-40.404 UA	2.0	-41.397 UA	3.0	0.993 UA		
4.0	2.445 UA	5.0	-0.89 MA	6.0	-1.07 MA		
7.0	-2.26 MA	8.0	1.258 V	9.0	1.243 V		
10.0	1.262 V	11.0	1.260 V	12.0	-3.8 MV		
13.0	-5.8 MV	14.0	1.7 MV	15.0	-3.1 MV		
22.0	38 UV	23.0	2.2 MV	24.0	0.208 MV		
25.0	81 DB	16.0	-0.97 A	17.0	1.261 V		
18.0	-0.25 A	19.0	1.267 V	20.0	1.246 V		

DEVICE	2	BIN	1	HEAD	3	08:53 AM	07/01/2008
700.0	100	800.0	25 DGR	98.0	2.94 V		
1.0	-39.945 UA	2.0	-40.404 UA	3.0	0.458 UA		
4.0	-1.681 UA	5.0	-0.90 MA	6.0	-1.08 MA		
7.0	-2.26 MA	8.0	1.259 V	9.0	1.245 V		
10.0	1.262 V	11.0	1.261 V	12.0	-3.6 MV		
13.0	-4.2 MV	14.0	1.4 MV	15.0	-3.0 MV		
22.0	38 UV	23.0	2.5 MV	24.0	0.209 MV		
25.0	81 DB	16.0	-0.95 A	17.0	1.261 V		
18.0	-0.25 A	19.0	1.268 V	20.0	1.248 V		

BIASED DEVICES 8B2919K019 JM081X21 WAFER#2 ELDRS 30K

DEVICE	15	BIN	1	HEAD	3	08:54 AM	07/01/2008
700.0	100	800.0	25 DGR	98.0	3.13 V		
1.0	-39.869 UA	2.0	-42.314 UA	3.0	2.445 UA		
4.0	1.757 UA	5.0	-0.84 MA	6.0	-1.05 MA		
7.0	-2.26 MA	8.0	1.262 V	9.0	1.248 V		
10.0	1.269 V	11.0	1.267 V	12.0	-6.7 MV		
13.0	-4.1 MV	14.0	1.7 MV	15.0	-3.1 MV		
22.0	38 UV	23.0	2.6 MV	24.0	0.216 MV		
25.0	73 DB	16.0	-1.00 A	17.0	1.264 V		
18.0	-0.31 A	19.0	1.275 V	20.0	1.252 V		

DEVICE	16	BIN	1	HEAD	3	08:54 AM	07/01/2008
700.0	100	800.0	25 DGR	98.0	3.14 V		
1.0	-39.945 UA	2.0	-41.779 UA	3.0	1.834 UA		
4.0	1.681 UA	5.0	-0.83 MA	6.0	-1.04 MA		
7.0	-2.25 MA	8.0	1.266 V	9.0	1.252 V		
10.0	1.273 V	11.0	1.271 V	12.0	-7.4 MV		
13.0	-4.4 MV	14.0	1.9 MV	15.0	-2.5 MV		
22.0	38 UV	23.0	2.6 MV	24.0	0.210 MV		
25.0	72 DB	16.0	-0.98 A	17.0	1.268 V		
18.0	-0.31 A	19.0	1.279 V	20.0	1.255 V		

DEVICE	17	BIN	1	HEAD	3	08:54 AM	07/01/2008
700.0	100	800.0	25 DGR	98.0	3.13 V		
1.0	-39.334 UA	2.0	-41.702 UA	3.0	2.368 UA		
4.0	1.528 UA	5.0	-0.83 MA	6.0	-1.04 MA		
7.0	-2.23 MA	8.0	1.265 V	9.0	1.251 V		
10.0	1.272 V	11.0	1.270 V	12.0	-6.9 MV		
13.0	-4.3 MV	14.0	1.9 MV	15.0	-2.4 MV		
22.0	38 UV	23.0	3.0 MV	24.0	0.209 MV		
25.0	73 DB	16.0	-0.98 A	17.0	1.267 V		
18.0	-0.30 A	19.0	1.277 V	20.0	1.255 V		

DEVICE	18	BIN	1	HEAD	3	08:54 AM	07/01/2008
700.0	100	800.0	25 DGR	98.0	3.12 V		
1.0	-42.314 UA	2.0	-40.938 UA	3.0	-1.375 UA		
4.0	1.146 UA	5.0	-0.84 MA	6.0	-1.04 MA		
7.0	-2.24 MA	8.0	1.267 V	9.0	1.253 V		
10.0	1.273 V	11.0	1.272 V	12.0	-6.9 MV		
13.0	-3.2 MV	14.0	1.7 MV	15.0	-2.6 MV		
22.0	38 UV	23.0	2.4 MV	24.0	0.207 MV		
25.0	73 DB	16.0	-1.00 A	17.0	1.269 V		
18.0	-0.30 A	19.0	1.279 V	20.0	1.257 V		

DEVICE	19	BIN	1	HEAD	3	08:55 AM	07/01/2008
700.0	100	800.0	25 DGR	98.0	3.13 V		
1.0	-41.702 UA	2.0	-41.015 UA	3.0	-0.688 UA		
4.0	0.076 UA	5.0	-0.84 MA	6.0	-1.04 MA		
7.0	-2.25 MA	8.0	1.265 V	9.0	1.250 V		
10.0	1.272 V	11.0	1.270 V	12.0	-7.2 MV		
13.0	-5.6 MV	14.0	2.1 MV	15.0	-2.5 MV		
22.0	39 UV	23.0	2.6 MV	24.0	0.211 MV		
25.0	73 DB	16.0	-0.99 A	17.0	1.267 V		
18.0	-0.31 A	19.0	1.278 V	20.0	1.254 V		

CONTROL DEVICES 8B2919K019 JM081X21 WAFER#2 ELDRS 50K

DEVICE	1	BIN	1	HEAD	3	11:27 AM	07/29/2008
700.0	100	800.0	25 DGR	98.0	2.94 V		
1.0	-35.713 UA	2.0	-34.032 UA	3.0	-1.681 UA		
4.0	-1.528 UA	5.0	-0.89 MA	6.0	-1.06 MA		
7.0	-2.26 MA	8.0	1.259 V	9.0	1.244 V		
10.0	1.262 V	11.0	1.261 V	12.0	-3.4 MV		
13.0	-4.6 MV	14.0	1.1 MV	15.0	-4.5 MV		
22.0	40 UV	23.0	2.3 MV	24.0	0.306 MV		
25.0	80 DB	16.0	-0.97 A	17.0	1.261 V		
18.0	-0.25 A	19.0	1.268 V	20.0	1.248 V		

DEVICE	2	BIN	1	HEAD	3	11:27 AM	07/29/2008
700.0	100	800.0	25 DGR	98.0	2.95 V		
1.0	-34.949 UA	2.0	-36.096 UA	3.0	1.146 UA		
4.0	0.535 UA	5.0	-0.89 MA	6.0	-1.07 MA		
7.0	-2.25 MA	8.0	1.259 V	9.0	1.244 V		
10.0	1.262 V	11.0	1.261 V	12.0	-3.3 MV		
13.0	-5.0 MV	14.0	1.1 MV	15.0	-4.2 MV		
22.0	40 UV	23.0	2.4 MV	24.0	0.310 MV		
25.0	80 DB	16.0	-0.94 A	17.0	1.261 V		
18.0	-0.24 A	19.0	1.268 V	20.0	1.248 V		

BIASED DEVICES 8B2919K019 JM081X21 WAFER#2 ELDRS 50K

DEVICE 15 BIN 1 HEAD 3 11:27 AM 07/29/2008

700.0	100	800.0	25 DGR	98.0	3.16 V
1.0	-35.484 UA	2.0	-34.949 UA	3.0	-0.535 UA
4.0	-2.139 UA	5.0	-0.80 MA	6.0	-0.98 MA
7.0	-2.15 MA	8.0	1.261 V	9.0	1.246 V
10.0	1.269 V	11.0	1.267 V	12.0	-7.3 MV
13.0	-5.7 MV	14.0	1.6 MV	15.0	-5.1 MV
22.0	40 UV	23.0	2.7 MV	24.0	0.314 MV
25.0	72 DB	16.0	-0.98 A	17.0	1.263 V
18.0	-0.32 A	19.0	1.276 V	20.0	1.250 V

DEVICE 16 BIN 1 HEAD 3 11:27 AM 07/29/2008

700.0	100	800.0	25 DGR	98.0	3.17 V
1.0	-36.172 UA	2.0	-34.414 UA	3.0	-1.757 UA
4.0	-1.910 UA	5.0	-0.81 MA	6.0	-0.99 MA
7.0	-2.19 MA	8.0	1.253 V	9.0	1.236 V
10.0	1.259 V	11.0	1.257 V	12.0	-5.8 MV
13.0	-6.8 MV	14.0	1.6 MV	15.0	-4.3 MV
22.0	40 UV	23.0	2.7 MV	24.0	0.318 MV
25.0	74 DB	16.0	-1.00 A	17.0	1.255 V
18.0	-0.32 A	19.0	1.265 V	20.0	1.241 V

DEVICE 17 BIN 1 HEAD 3 11:28 AM 07/29/2008

700.0	100	800.0	25 DGR	98.0	3.14 V
1.0	-36.248 UA	2.0	-34.414 UA	3.0	-1.834 UA
4.0	-1.834 UA	5.0	-0.81 MA	6.0	-1.00 MA
7.0	-2.20 MA	8.0	1.254 V	9.0	1.238 V
10.0	1.260 V	11.0	1.258 V	12.0	-5.5 MV
13.0	-6.7 MV	14.0	1.7 MV	15.0	-4.2 MV
22.0	40 UV	23.0	2.8 MV	24.0	0.305 MV
25.0	75 DB	16.0	-0.97 A	17.0	1.256 V
18.0	-0.30 A	19.0	1.266 V	20.0	1.242 V

DEVICE 18 BIN 1 HEAD 3 11:28 AM 07/29/2008

700.0	100	800.0	25 DGR	98.0	3.18 V
1.0	-35.943 UA	2.0	-34.032 UA	3.0	-1.910 UA
4.0	-2.063 UA	5.0	-0.79 MA	6.0	-0.98 MA
7.0	-2.15 MA	8.0	1.258 V	9.0	1.243 V
10.0	1.266 V	11.0	1.264 V	12.0	-7.5 MV
13.0	-4.9 MV	14.0	1.8 MV	15.0	-3.9 MV
22.0	40 UV	23.0	2.8 MV	24.0	0.312 MV
25.0	71 DB	16.0	-0.99 A	17.0	1.260 V
18.0	-0.32 A	19.0	1.272 V	20.0	1.248 V

DEVICE 19 BIN 1 HEAD 3 11:28 AM 07/29/2008

700.0	100	800.0	25 DGR	98.0	3.19 V
1.0	-34.873 UA	2.0	-36.860 UA	3.0	1.987 UA
4.0	2.063 UA	5.0	-0.79 MA	6.0	-0.99 MA
7.0	-2.15 MA	8.0	1.265 V	9.0	1.247 V
10.0	1.273 V	11.0	1.271 V	12.0	-8.5 MV
13.0	-7.4 MV	14.0	2.2 MV	15.0	-3.8 MV
22.0	40 UV	23.0	3.1 MV	24.0	0.313 MV
25.0	71 DB	16.0	-1.00 A	17.0	1.267 V
18.0	-0.33 A	19.0	1.280 V	20.0	1.252 V

CONTROL DEVICES 8B2919K019 JM081X21 WAFER#2 ELDRS 80K

DEVICE	1	BIN	1	HEAD	3	10:12 AM	09/04/2008
700.0	100	800.0	25 DGR	98.0	2.94 V		
1.0	-36.248 UA	2.0	-33.727 UA	3.0	-2.522 UA		
4.0	-1.910 UA	5.0	-0.89 MA	6.0	-1.06 MA		
7.0	-2.26 MA	8.0	1.259 V	9.0	1.242 V		
10.0	1.262 V	11.0	1.261 V	12.0	-3.6 MV		
13.0	-7.0 MV	14.0	1.5 MV	15.0	-4.3 MV		
22.0	39 UV	23.0	2.4 MV	24.0	0.200 MV		
25.0	81 DB	16.0	-0.97 A	17.0	1.261 V		
18.0	-0.25 A	19.0	1.268 V	20.0	1.247 V		

DEVICE	2	BIN	1	HEAD	3	10:12 AM	09/04/2008
700.0	100	800.0	25 DGR	98.0	2.94 V		
1.0	-36.096 UA	2.0	-34.414 UA	3.0	-1.681 UA		
4.0	-1.681 UA	5.0	-0.88 MA	6.0	-1.06 MA		
7.0	-2.25 MA	8.0	1.259 V	9.0	1.242 V		
10.0	1.262 V	11.0	1.261 V	12.0	-3.5 MV		
13.0	-7.0 MV	14.0	1.3 MV	15.0	-4.4 MV		
22.0	40 UV	23.0	2.4 MV	24.0	0.206 MV		
25.0	80 DB	16.0	-0.94 A	17.0	1.261 V		
18.0	-0.24 A	19.0	1.268 V	20.0	1.246 V		

BIASED DEVICES 8B2919K019 JM081X21 WAFER#2 ELDRS 80K

DEVICE 15 BIN 1 HEAD 3 10:12 AM 09/04/2008

700.0	100	800.0	25 DGR	98.0	3.19 V
1.0	-34.949 UA	2.0	-36.860 UA	3.0	1.910 UA
4.0	1.223 UA	5.0	-0.76 MA	6.0	-0.96 MA
7.0	-2.12 MA	8.0	1.270 V	9.0	1.251 V
10.0	1.280 V	11.0	1.278 V	12.0	-10.6 MV
13.0	-8.7 MV	14.0	2.4 MV	15.0	-4.4 MV
22.0	39 UV	23.0	3.0 MV	24.0	0.211 MV
25.0	68 DB	16.0	-0.99 A	17.0	1.271 V
18.0	-0.34 A	19.0	1.287 V	20.0	1.256 V

DEVICE 16 BIN 1 HEAD 3 10:13 AM 09/04/2008

700.0	100	800.0	25 DGR	98.0	3.20 V
1.0	-34.949 UA	2.0	-35.943 UA	3.0	0.993 UA
4.0	-0.094 UA	5.0	-0.79 MA	6.0	-0.96 MA
7.0	-2.16 MA	8.0	1.255 V	9.0	1.241 V
10.0	1.263 V	11.0	1.261 V	12.0	-7.9 MV
13.0	-4.5 MV	14.0	1.6 MV	15.0	-3.9 MV
22.0	41 UV	23.0	2.6 MV	24.0	0.209 MV
25.0	71 DB	16.0	-1.00 A	17.0	1.257 V
18.0	-0.33 A	19.0	1.270 V	20.0	1.245 V

DEVICE 17 BIN 1 HEAD 3 10:13 AM 09/04/2008

700.0	100	800.0	25 DGR	98.0	3.18 V
1.0	-34.949 UA	2.0	-36.325 UA	3.0	1.375 UA
4.0	1.834 UA	5.0	-0.79 MA	6.0	-0.99 MA
7.0	-2.18 MA	8.0	1.259 V	9.0	1.241 V
10.0	1.267 V	11.0	1.265 V	12.0	-7.7 MV
13.0	-8.3 MV	14.0	2.1 MV	15.0	-4.2 MV
22.0	38 UV	23.0	3.1 MV	24.0	0.207 MV
25.0	72 DB	16.0	-0.99 A	17.0	1.261 V
18.0	-0.32 A	19.0	1.273 V	20.0	1.245 V

DEVICE 18 BIN 1 HEAD 3 10:13 AM 09/04/2008

700.0	100	800.0	25 DGR	98.0	3.20 V
1.0	-34.414 UA	2.0	-36.860 UA	3.0	2.445 UA
4.0	0.993 UA	5.0	-0.79 MA	6.0	-0.98 MA
7.0	-2.16 MA	8.0	1.268 V	9.0	1.248 V
10.0	1.278 V	11.0	1.276 V	12.0	-10.9 MV
13.0	-10.0 MV	14.0	2.6 MV	15.0	-3.4 MV
22.0	40 UV	23.0	2.7 MV	24.0	0.213 MV
25.0	68 DB	16.0	-1.00 A	17.0	1.269 V
18.0	-0.35 A	19.0	1.285 V	20.0	1.252 V

DEVICE 19 BIN 1 HEAD 3 10:14 AM 09/04/2008

700.0	100	800.0	25 DGR	98.0	3.21 V
1.0	-35.943 UA	2.0	-35.943 UA	3.0	0.000 UA
4.0	0.535 UA	5.0	-0.78 MA	6.0	-0.98 MA
7.0	-2.14 MA	8.0	1.275 V	9.0	1.260 V
10.0	1.287 V	11.0	1.285 V	12.0	-11.5 MV
13.0	-6.1 MV	14.0	2.0 MV	15.0	-3.2 MV
22.0	39 UV	23.0	3.1 MV	24.0	0.207 MV
25.0	67 DB	16.0	-1.01 A	17.0	1.277 V
18.0	-0.36 A	19.0	1.293 V	20.0	1.263 V

CONTROL DEVICES 8B2919K019 JM081X21 WAFER#2 ELDRS 100K

DEVICE	1	BIN	1	HEAD	3	09:18 AM	10/09/2008
700.0	100	800.0	25 DGR	98.0	2.94 V		
1.0	-35.026 UA	2.0	-34.414 UA	3.0	-0.611 UA		
4.0	-2.674 UA	5.0	-0.89 MA	6.0	-1.05 MA		
7.0	-2.25 MA	8.0	1.259 V	9.0	1.243 V		
10.0	1.262 V	11.0	1.261 V	12.0	-3.6 MV		
13.0	-5.7 MV	14.0	1.3 MV	15.0	-4.4 MV		
22.0	39 UV	23.0	2.4 MV	24.0	0.207 MV		
25.0	80 DB	16.0	-0.97 A	17.0	1.261 V		
18.0	-0.25 A	19.0	1.268 V	20.0	1.247 V		

DEVICE	2	BIN	1	HEAD	3	09:18 AM	10/09/2008
700.0	100	800.0	25 DGR	98.0	2.94 V		
1.0	-36.096 UA	2.0	-34.949 UA	3.0	-1.146 UA		
4.0	-2.139 UA	5.0	-0.89 MA	6.0	-1.06 MA		
7.0	-2.25 MA	8.0	1.259 V	9.0	1.243 V		
10.0	1.262 V	11.0	1.261 V	12.0	-3.7 MV		
13.0	-6.2 MV	14.0	1.6 MV	15.0	-4.4 MV		
22.0	39 UV	23.0	2.5 MV	24.0	0.214 MV		
25.0	80 DB	16.0	-0.94 A	17.0	1.261 V		
18.0	-0.24 A	19.0	1.268 V	20.0	1.247 V		

BIASED DEVICES 8B2919K019 JM081X21 WAFER#2 ELDRS 100K

DEVICE 15 BIN 1 HEAD 3 09:19 AM 10/09/2008

700.0	100	800.0	25 DGR	98.0	3.16 V
1.0	-34.414 UA	2.0	-34.949 UA	3.0	0.535 UA
4.0	-3.133 UA	5.0	-0.76 MA	6.0	-0.94 MA
7.0	-2.10 MA	8.0	1.252 V	9.0	1.237 V
10.0	1.259 V	11.0	1.257 V	12.0	-6.8 MV
13.0	-4.8 MV	14.0	1.6 MV	15.0	-5.1 MV
22.0	39 UV	23.0	2.8 MV	24.0	0.213 MV
25.0	73 DB	16.0	-0.96 A	17.0	1.254 V
18.0	-0.32 A	19.0	1.266 V	20.0	1.242 V

DEVICE 16 BIN 1 HEAD 3 09:19 AM 10/09/2008

700.0	100	800.0	25 DGR	98.0	3.19 V
1.0	-33.803 UA	2.0	-35.943 UA	3.0	2.139 UA
4.0	1.146 UA	5.0	-0.78 MA	6.0	-0.96 MA
7.0	-2.15 MA	8.0	1.245 V	9.0	1.229 V
10.0	1.250 V	11.0	1.249 V	12.0	-5.9 MV
13.0	-6.1 MV	14.0	1.5 MV	15.0	-4.2 MV
22.0	38 UV	23.0	2.5 MV	24.0	0.216 MV
25.0	74 DB	16.0	-1.00 A	17.0	1.247 V
18.0	-0.33 A	19.0	1.257 V	20.0	1.234 V

DEVICE 17 BIN 1 HEAD 3 09:19 AM 10/09/2008

700.0	100	800.0	25 DGR	98.0	3.15 V
1.0	-34.720 UA	2.0	-36.248 UA	3.0	1.528 UA
4.0	1.146 UA	5.0	-0.80 MA	6.0	-0.98 MA
7.0	-2.16 MA	8.0	1.247 V	9.0	1.233 V
10.0	1.253 V	11.0	1.251 V	12.0	-5.7 MV
13.0	-4.6 MV	14.0	1.6 MV	15.0	-4.4 MV
22.0	39 UV	23.0	2.8 MV	24.0	0.204 MV
25.0	75 DB	16.0	-0.97 A	17.0	1.250 V
18.0	-0.31 A	19.0	1.260 V	20.0	1.238 V

DEVICE 18 BIN 1 HEAD 3 09:20 AM 10/09/2008

700.0	100	800.0	25 DGR	98.0	3.17 V
1.0	-34.949 UA	2.0	-36.096 UA	3.0	1.146 UA
4.0	1.605 UA	5.0	-0.77 MA	6.0	-0.95 MA
7.0	-2.13 MA	8.0	1.249 V	9.0	1.231 V
10.0	1.256 V	11.0	1.254 V	12.0	-7.1 MV
13.0	-9.0 MV	14.0	2.0 MV	15.0	-4.0 MV
22.0	38 UV	23.0	2.8 MV	24.0	0.219 MV
25.0	72 DB	16.0	-0.97 A	17.0	1.251 V
18.0	-0.32 A	19.0	1.263 V	20.0	1.236 V

DEVICE 19 BIN 1 HEAD 3 09:20 AM 10/09/2008

700.0	100	800.0	25 DGR	98.0	3.19 V
1.0	-34.949 UA	2.0	-35.561 UA	3.0	0.611 UA
4.0	0.917 UA	5.0	-0.77 MA	6.0	-0.96 MA
7.0	-2.12 MA	8.0	1.255 V	9.0	1.240 V
10.0	1.262 V	11.0	1.260 V	12.0	-7.3 MV
13.0	-4.6 MV	14.0	1.5 MV	15.0	-4.1 MV
22.0	39 UV	23.0	2.9 MV	24.0	0.211 MV
25.0	72 DB	16.0	-0.98 A	17.0	1.257 V
18.0	-0.33 A	19.0	1.269 V	20.0	1.245 V