

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

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

Customer: ELDRS (Unbiased 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: 6:43 A.M

Finish Time: 9:24 A.M

Start Date: 2/May/2008

Finish Date: 9/October/2008

QA: _____

Control Units s/n: #1 #2

Duts : #20 #21 #22 #23 #24

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	06:43 AM	05/02/2008
700.0	100	800.0	25 DGR	98.0	2.94 V		
1.0	-41.015 UA	2.0	-39.181 UA	3.0	-1.834 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	1.242 V		
10.0	1.262 V	11.0	1.260 V	12.0	-3.7 MV		
13.0	-6.3 MV	14.0	1.7 MV	15.0	-3.3 MV		
22.0	39 UV	23.0	2.3 MV	24.0	0.212 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	06:43 AM	05/02/2008
700.0	100	800.0	25 DGR	98.0	2.94 V		
1.0	-40.709 UA	2.0	-39.258 UA	3.0	-1.452 UA		
4.0	-2.063 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	-6.2 MV	14.0	1.7 MV	15.0	-3.2 MV		
22.0	39 UV	23.0	2.2 MV	24.0	0.210 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		

UNBIASED DEVICES 8B2919K019 JM081X21 WAFER#2 ELDRS OK

DEVICE	20	BIN	1	HEAD	3	06:44 AM	05/02/2008
700.0	100	800.0	25 DGR	98.0	2.96 V		
1.0	-40.938 UA	2.0	-39.105 UA	3.0	-1.834 UA		
4.0	-2.368 UA	5.0	-0.89 MA	6.0	-1.06 MA		
7.0	-2.23 MA	8.0	1.259 V	9.0	1.243 V		
10.0	1.262 V	11.0	1.261 V	12.0	-3.4 MV		
13.0	-6.0 MV	14.0	1.4 MV	15.0	-3.0 MV		
22.0	40 UV	23.0	2.3 MV	24.0	0.212 MV		
25.0	81 DB	16.0	-0.96 A	17.0	1.261 V		
18.0	-0.25 A	19.0	1.267 V	20.0	1.247 V		

DEVICE	21	BIN	1	HEAD	3	06:45 AM	05/02/2008
700.0	100	800.0	25 DGR	98.0	2.95 V		
1.0	-40.938 UA	2.0	-39.869 UA	3.0	-1.070 UA		
4.0	0.611 UA	5.0	-0.88 MA	6.0	-1.06 MA		
7.0	-2.24 MA	8.0	1.257 V	9.0	1.241 V		
10.0	1.261 V	11.0	1.259 V	12.0	-3.7 MV		
13.0	-6.1 MV	14.0	1.8 MV	15.0	-3.3 MV		
22.0	39 UV	23.0	2.2 MV	24.0	0.208 MV		
25.0	80 DB	16.0	-0.95 A	17.0	1.260 V		
18.0	-0.25 A	19.0	1.266 V	20.0	1.245 V		

DEVICE	22	BIN	1	HEAD	3	06:45 AM	05/02/2008
700.0	100	800.0	25 DGR	98.0	2.95 V		
1.0	-41.091 UA	2.0	-39.869 UA	3.0	-1.222 UA		
4.0	-2.139 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	1.259 V	12.0	-3.7 MV		
13.0	-5.5 MV	14.0	1.6 MV	15.0	-2.9 MV		
22.0	40 UV	23.0	2.6 MV	24.0	0.205 MV		
25.0	80 DB	16.0	-0.95 A	17.0	1.259 V		
18.0	-0.25 A	19.0	1.266 V	20.0	1.245 V		

DEVICE	23	BIN	1	HEAD	3	06:45 AM	05/02/2008
700.0	100	800.0	25 DGR	98.0	2.94 V		
1.0	-41.550 UA	2.0	-41.015 UA	3.0	-0.535 UA		
4.0	1.681 UA	5.0	-0.89 MA	6.0	-1.08 MA		
7.0	-2.28 MA	8.0	1.257 V	9.0	1.245 V		
10.0	1.260 V	11.0	1.259 V	12.0	-3.6 MV		
13.0	-1.9 MV	14.0	1.3 MV	15.0	-2.8 MV		
22.0	39 UV	23.0	2.1 MV	24.0	0.200 MV		
25.0	82 DB	16.0	-0.95 A	17.0	1.259 V		
18.0	-0.25 A	19.0	1.265 V	20.0	1.248 V		

DEVICE	24	BIN	1	HEAD	3	06:46 AM	05/02/2008
700.0	100	800.0	25 DGR	98.0	2.94 V		
1.0	-41.550 UA	2.0	-40.404 UA	3.0	-1.146 UA		
4.0	-1.757 UA	5.0	-0.92 MA	6.0	-1.08 MA		
7.0	-2.29 MA	8.0	1.256 V	9.0	1.241 V		
10.0	1.260 V	11.0	1.258 V	12.0	-3.8 MV		
13.0	-5.8 MV	14.0	1.8 MV	15.0	-3.1 MV		
22.0	40 UV	23.0	2.8 MV	24.0	0.204 MV		
25.0	81 DB	16.0	-0.94 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	09:39 AM	05/20/2008
700.0	100	800.0	25 DGR	98.0	2.94 V		
1.0	-41.091 UA	2.0	-40.327 UA	3.0	-0.764 UA		
4.0	-2.063 UA	5.0	-0.91 MA	6.0	-1.07 MA		
7.0	-2.27 MA	8.0	1.258 V	9.0	1.243 V		
10.0	1.262 V	11.0	1.260 V	12.0	-3.5 MV		
13.0	-5.8 MV	14.0	1.6 MV	15.0	-3.2 MV		
22.0	39 UV	23.0	2.4 MV	24.0	0.213 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	1.247 V		

DEVICE	2	BIN	1	HEAD	3	09:39 AM	05/20/2008
700.0	100	800.0	25 DGR	98.0	2.94 V		
1.0	-40.404 UA	2.0	-41.779 UA	3.0	1.375 UA		
4.0	2.216 UA	5.0	-0.89 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	-3.4 MV		
13.0	-6.1 MV	14.0	1.4 MV	15.0	-3.1 MV		
22.0	40 UV	23.0	2.6 MV	24.0	0.211 MV		
25.0	80 DB	16.0	-0.95 A	17.0	1.261 V		
18.0	-0.25 A	19.0	1.267 V	20.0	1.246 V		

UNBIASED DEVICES 8B2919K019 JM081X21 WAFER#2 ELDRS 3K

DEVICE	20	BIN	1	HEAD	3	09:40 AM	05/20/2008
700.0	100	800.0	25 DGR	98.0	2.98 V		
1.0	-41.397 UA	2.0	-39.258 UA	3.0	-2.139 UA		
4.0	0.382 UA	5.0	-0.89 MA	6.0	-1.06 MA		
7.0	-2.23 MA	8.0	1.259 V	9.0	1.243 V		
10.0	1.263 V	11.0	1.261 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	2.8 MV	24.0	0.210 MV		
25.0	80 DB	16.0	-0.96 A	17.0	1.261 V		
18.0	-0.25 A	19.0	1.268 V	20.0	1.247 V		

DEVICE	21	BIN	1	HEAD	3	09:40 AM	05/20/2008
700.0	100	800.0	25 DGR	98.0	2.96 V		
1.0	-41.015 UA	2.0	-39.869 UA	3.0	-1.146 UA		
4.0	-1.528 UA	5.0	-0.88 MA	6.0	-1.06 MA		
7.0	-2.24 MA	8.0	1.258 V	9.0	1.239 V		
10.0	1.262 V	11.0	1.259 V	12.0	-3.9 MV		
13.0	-9.1 MV	14.0	2.1 MV	15.0	-3.3 MV		
22.0	39 UV	23.0	2.6 MV	24.0	0.211 MV		
25.0	79 DB	16.0	-0.95 A	17.0	1.260 V		
18.0	-0.25 A	19.0	1.267 V	20.0	1.243 V		

DEVICE	22	BIN	1	HEAD	3	09:40 AM	05/20/2008
700.0	100	800.0	25 DGR	98.0	2.99 V		
1.0	-39.181 UA	2.0	-41.015 UA	3.0	1.834 UA		
4.0	0.535 UA	5.0	-0.91 MA	6.0	-1.09 MA		
7.0	-2.29 MA	8.0	1.258 V	9.0	1.242 V		
10.0	1.262 V	11.0	1.260 V	12.0	-3.8 MV		
13.0	-5.9 MV	14.0	1.7 MV	15.0	-3.1 MV		
22.0	40 UV	23.0	2.7 MV	24.0	0.220 MV		
25.0	79 DB	16.0	-0.95 A	17.0	1.260 V		
18.0	-0.25 A	19.0	1.267 V	20.0	1.246 V		

DEVICE	23	BIN	1	HEAD	3	09:40 AM	05/20/2008
700.0	100	800.0	25 DGR	98.0	2.98 V		
1.0	-40.404 UA	2.0	-42.619 UA	3.0	2.216 UA		
4.0	1.986 UA	5.0	-0.88 MA	6.0	-1.07 MA		
7.0	-2.27 MA	8.0	1.257 V	9.0	1.241 V		
10.0	1.261 V	11.0	1.259 V	12.0	-3.9 MV		
13.0	-6.3 MV	14.0	1.7 MV	15.0	-2.9 MV		
22.0	39 UV	23.0	2.5 MV	24.0	0.207 MV		
25.0	80 DB	16.0	-0.96 A	17.0	1.259 V		
18.0	-0.25 A	19.0	1.266 V	20.0	1.245 V		

DEVICE	24	BIN	1	HEAD	3	09:41 AM	05/20/2008
700.0	100	800.0	25 DGR	98.0	2.97 V		
1.0	-41.779 UA	2.0	-39.869 UA	3.0	-1.910 UA		
4.0	-1.757 UA	5.0	-0.90 MA	6.0	-1.08 MA		
7.0	-2.29 MA	8.0	1.257 V	9.0	1.240 V		
10.0	1.260 V	11.0	1.259 V	12.0	-3.8 MV		
13.0	-6.2 MV	14.0	1.7 MV	15.0	-3.1 MV		
22.0	39 UV	23.0	2.6 MV	24.0	0.208 MV		
25.0	81 DB	16.0	-0.95 A	17.0	1.259 V		
18.0	-0.25 A	19.0	1.266 V	20.0	1.244 V		

CONTROL DEVICES 8B2919K019 JM081X21 WAFER#2 ELDRS 10K

DEVICE	1	BIN	1	HEAD	3	11:45 AM	06/03/2008
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	1.146 UA	5.0	-0.91 MA	6.0	-1.08 MA		
7.0	-2.26 MA	8.0	1.258 V	9.0	1.243 V		
10.0	1.262 V	11.0	1.261 V	12.0	-3.6 MV		
13.0	-5.6 MV	14.0	1.5 MV	15.0	-3.2 MV		
22.0	40 UV	23.0	2.4 MV	24.0	0.207 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	1.247 V		

DEVICE	2	BIN	1	HEAD	3	11:45 AM	06/03/2008
700.0	100	800.0	25 DGR	98.0	2.94 V		
1.0	-41.091 UA	2.0	-39.258 UA	3.0	-1.834 UA		
4.0	0.993 UA	5.0	-0.89 MA	6.0	-1.08 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	-6.7 MV	14.0	1.6 MV	15.0	-3.1 MV		
22.0	39 UV	23.0	2.4 MV	24.0	0.212 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		

UNBIASED DEVICES 8B2919K019 JM081X21 WAFER#2 ELDRS 10K

DEVICE 20 BIN 1 HEAD 3 11:45 AM 06/03/2008

700.0	100	800.0	25 DGR	98.0	3.02 V
1.0	-40.404 UA	2.0	-40.404 UA	3.0	0.000 UA
4.0	0.000 UA	5.0	-0.87 MA	6.0	-1.03 MA
7.0	-2.22 MA	8.0	1.261 V	9.0	1.244 V
10.0	1.265 V	11.0	1.263 V	12.0	-4.5 MV
13.0	-6.5 MV	14.0	1.9 MV	15.0	-2.9 MV
22.0	45 UV	23.0	2.7 MV	24.0	0.211 MV
25.0	77 DB	16.0	-0.96 A	17.0	1.263 V
18.0	-0.26 A	19.0	1.270 V	20.0	1.248 V

DEVICE 21 BIN 1 HEAD 3 11:46 AM 06/03/2008

700.0	100	800.0	25 DGR	98.0	3.01 V
1.0	-41.702 UA	2.0	-39.105 UA	3.0	-2.598 UA
4.0	-1.299 UA	5.0	-0.87 MA	6.0	-1.04 MA
7.0	-2.22 MA	8.0	1.260 V	9.0	1.240 V
10.0	1.264 V	11.0	1.262 V	12.0	-4.5 MV
13.0	-9.6 MV	14.0	2.1 MV	15.0	-3.0 MV
22.0	40 UV	23.0	2.1 MV	24.0	0.215 MV
25.0	78 DB	16.0	-0.95 A	17.0	1.262 V
18.0	-0.26 A	19.0	1.270 V	20.0	1.245 V

DEVICE 22 BIN 1 HEAD 3 11:46 AM 06/03/2008

700.0	100	800.0	25 DGR	98.0	3.05 V
1.0	-41.626 UA	2.0	-39.487 UA	3.0	-2.139 UA
4.0	-1.070 UA	5.0	-0.89 MA	6.0	-1.07 MA
7.0	-2.28 MA	8.0	1.263 V	9.0	1.246 V
10.0	1.269 V	11.0	1.267 V	12.0	-5.4 MV
13.0	-6.9 MV	14.0	2.0 MV	15.0	-3.1 MV
22.0	39 UV	23.0	2.3 MV	24.0	0.208 MV
25.0	76 DB	16.0	-0.96 A	17.0	1.265 V
18.0	-0.27 A	19.0	1.274 V	20.0	1.250 V

DEVICE 23 BIN 1 HEAD 3 11:46 AM 06/03/2008

700.0	100	800.0	25 DGR	98.0	3.05 V
1.0	-42.314 UA	2.0	-40.404 UA	3.0	-1.910 UA
4.0	-2.980 UA	5.0	-0.87 MA	6.0	-1.06 MA
7.0	-2.26 MA	8.0	1.263 V	9.0	1.249 V
10.0	1.269 V	11.0	1.267 V	12.0	-5.6 MV
13.0	-4.9 MV	14.0	1.8 MV	15.0	-2.9 MV
22.0	39 UV	23.0	2.2 MV	24.0	0.205 MV
25.0	76 DB	16.0	-0.97 A	17.0	1.265 V
18.0	-0.27 A	19.0	1.274 V	20.0	1.252 V

DEVICE 24 BIN 1 HEAD 3 11:46 AM 06/03/2008

700.0	100	800.0	25 DGR	98.0	3.02 V
1.0	-41.397 UA	2.0	-39.869 UA	3.0	-1.528 UA
4.0	-1.681 UA	5.0	-0.89 MA	6.0	-1.07 MA
7.0	-2.27 MA	8.0	1.259 V	9.0	1.243 V
10.0	1.263 V	11.0	1.262 V	12.0	-4.6 MV
13.0	-5.7 MV	14.0	1.7 MV	15.0	-2.9 MV
22.0	39 UV	23.0	2.4 MV	24.0	0.208 MV
25.0	78 DB	16.0	-0.95 A	17.0	1.261 V
18.0	-0.26 A	19.0	1.269 V	20.0	1.247 V

CONTROL DEVICES 8B2919K019 JM081X21 WAFER#2 ELDRS 30K

DEVICE	1	BIN	1	HEAD	3	09:09 AM	07/01/2008
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	-1.910 UA	5.0	-0.90 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	-3.7 MV		
13.0	-5.6 MV	14.0	1.6 MV	15.0	-3.2 MV		
22.0	38 UV	23.0	2.4 MV	24.0	0.205 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	1.247 V		

DEVICE	2	BIN	1	HEAD	3	09:09 AM	07/01/2008
700.0	100	800.0	25 DGR	98.0	2.94 V		
1.0	-40.404 UA	2.0	-41.779 UA	3.0	1.375 UA		
4.0	0.840 UA	5.0	-0.90 MA	6.0	-1.06 MA		
7.0	-2.25 MA	8.0	1.259 V	9.0	1.245 V		
10.0	1.262 V	11.0	1.261 V	12.0	-3.4 MV		
13.0	-4.0 MV	14.0	1.2 MV	15.0	-3.1 MV		
22.0	38 UV	23.0	2.6 MV	24.0	0.208 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	1.249 V		

UNBIASED DEVICES 8B2919K019 JM081X21 WAFER#2 ELDRS 30K

DEVICE	20	BIN	1	HEAD	3	09:09 AM	07/01/2008
700.0	100	800.0	25 DGR	98.0	3.09 V		
1.0	-41.550 UA	2.0	-40.709 UA	3.0	-0.840 UA		
4.0	1.757 UA	5.0	-0.82 MA	6.0	-1.01 MA		
7.0	-2.20 MA	8.0	1.273 V	9.0	1.255 V		
10.0	1.280 V	11.0	1.278 V	12.0	-7.1 MV		
13.0	-7.7 MV	14.0	2.0 MV	15.0	-2.8 MV		
22.0	38 UV	23.0	2.6 MV	24.0	0.208 MV		
25.0	72 DB	16.0	-0.98 A	17.0	1.274 V		
18.0	-0.29 A	19.0	1.284 V	20.0	1.258 V		

DEVICE	21	BIN	1	HEAD	3	09:10 AM	07/01/2008
700.0	100	800.0	25 DGR	98.0	3.07 V		
1.0	-39.792 UA	2.0	-42.619 UA	3.0	2.827 UA		
4.0	1.986 UA	5.0	-0.82 MA	6.0	-1.01 MA		
7.0	-2.19 MA	8.0	1.274 V	9.0	1.261 V		
10.0	1.282 V	11.0	1.280 V	12.0	-7.9 MV		
13.0	-3.1 MV	14.0	1.9 MV	15.0	-3.0 MV		
22.0	38 UV	23.0	2.7 MV	24.0	0.209 MV		
25.0	72 DB	16.0	-0.97 A	17.0	1.274 V		
18.0	-0.28 A	19.0	1.285 V	20.0	1.263 V		

DEVICE	22	BIN	1	HEAD	3	09:10 AM	07/01/2008
700.0	100	800.0	25 DGR	98.0	3.13 V		
1.0	-40.174 UA	2.0	-43.842 UA	3.0	3.667 UA		
4.0	2.521 UA	5.0	-0.84 MA	6.0	-1.05 MA		
7.0	-2.25 MA	8.0	1.283 V	9.0	1.266 V		
10.0	1.293 V	11.0	1.291 V	12.0	-9.9 MV		
13.0	-7.8 MV	14.0	2.4 MV	15.0	-2.7 MV		
22.0	37 UV	23.0	3.0 MV	24.0	0.206 MV		
25.0	69 DB	16.0	-0.99 A	17.0	1.283 V		
18.0	-0.31 A	19.0	1.296 V	20.0	1.267 V		

DEVICE	23	BIN	1	HEAD	3	09:10 AM	07/01/2008
700.0	100	800.0	25 DGR	98.0	3.13 V		
1.0	-41.550 UA	2.0	-42.314 UA	3.0	0.764 UA		
4.0	-1.222 UA	5.0	-0.84 MA	6.0	-1.02 MA		
7.0	-2.23 MA	8.0	1.284 V	9.0	1.267 V		
10.0	1.294 V	11.0	1.292 V	12.0	-10.3 MV		
13.0	-7.0 MV	14.0	2.4 MV	15.0	-2.7 MV		
22.0	37 UV	23.0	2.5 MV	24.0	0.204 MV		
25.0	68 DB	16.0	-1.00 A	17.0	1.284 V		
18.0	-0.31 A	19.0	1.297 V	20.0	1.269 V		

DEVICE	24	BIN	1	HEAD	3	09:11 AM	07/01/2008
700.0	100	800.0	25 DGR	98.0	3.10 V		
1.0	-41.932 UA	2.0	-40.174 UA	3.0	-1.757 UA		
4.0	-1.375 UA	5.0	-0.84 MA	6.0	-1.04 MA		
7.0	-2.25 MA	8.0	1.274 V	9.0	1.257 V		
10.0	1.282 V	11.0	1.280 V	12.0	-8.1 MV		
13.0	-7.4 MV	14.0	2.3 MV	15.0	-2.8 MV		
22.0	38 UV	23.0	2.5 MV	24.0	0.207 MV		
25.0	71 DB	16.0	-0.97 A	17.0	1.275 V		
18.0	-0.29 A	19.0	1.286 V	20.0	1.259 V		

CONTROL DEVICES 8B2919K019 JM081X21 WAFER#2 ELDRS 50K

DEVICE	1	BIN	1	HEAD	3	11:31 AM	07/29/2008
700.0	100	800.0	25 DGR	98.0	2.93 V		
1.0	-36.096 UA	2.0	-34.949 UA	3.0	-1.146 UA		
4.0	-1.987 UA	5.0	-0.89 MA	6.0	-1.06 MA		
7.0	-2.26 MA	8.0	1.259 V	9.0	1.241 V		
10.0	1.262 V	11.0	1.261 V	12.0	-3.6 MV		
13.0	-7.9 MV	14.0	1.5 MV	15.0	-4.4 MV		
22.0	40 UV	23.0	2.4 MV	24.0	0.310 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	1.245 V		

DEVICE	2	BIN	1	HEAD	3	11:31 AM	07/29/2008
700.0	100	800.0	25 DGR	98.0	2.94 V		
1.0	-36.172 UA	2.0	-34.720 UA	3.0	-1.452 UA		
4.0	-2.216 UA	5.0	-0.89 MA	6.0	-1.07 MA		
7.0	-2.25 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	-3.9 MV	14.0	1.2 MV	15.0	-4.4 MV		
22.0	40 UV	23.0	2.5 MV	24.0	0.309 MV		
25.0	81 DB	16.0	-0.94 A	17.0	1.261 V		
18.0	-0.24 A	19.0	1.268 V	20.0	1.249 V		

UNBIASED DEVICES 8B2919K019 JM081X21 WAFER#2 ELDRS 50K

DEVICE	20	BIN	1	HEAD	3	11:31 AM	07/29/2008
700.0	100	800.0	25 DGR	98.0	3.14 V		
1.0	-34.949 UA	2.0	-37.318 UA	3.0	2.369 UA		
4.0	2.216 UA	5.0	-0.78 MA	6.0	-0.99 MA		
7.0	-2.16 MA	8.0	1.281 V	9.0	1.262 V		
10.0	1.290 V	11.0	1.288 V	12.0	-9.4 MV		
13.0	-9.2 MV	14.0	2.2 MV	15.0	-3.8 MV		
22.0	41 UV	23.0	2.9 MV	24.0	0.311 MV		
25.0	69 DB	16.0	-0.98 A	17.0	1.281 V		
18.0	-0.30 A	19.0	1.294 V	20.0	1.264 V		

DEVICE	21	BIN	1	HEAD	3	11:31 AM	07/29/2008
700.0	100	800.0	25 DGR	98.0	3.12 V		
1.0	-35.561 UA	2.0	-36.860 UA	3.0	1.299 UA		
4.0	0.000 UA	5.0	-0.78 MA	6.0	-0.98 MA		
7.0	-2.17 MA	8.0	1.281 V	9.0	1.266 V		
10.0	1.291 V	11.0	1.289 V	12.0	-9.9 MV		
13.0	-5.0 MV	14.0	1.9 MV	15.0	-4.0 MV		
22.0	40 UV	23.0	2.9 MV	24.0	0.306 MV		
25.0	69 DB	16.0	-0.97 A	17.0	1.281 V		
18.0	-0.30 A	19.0	1.295 V	20.0	1.268 V		

DEVICE	22	BIN	1	HEAD	3	11:32 AM	07/29/2008
700.0	100	800.0	25 DGR	98.0	3.17 V		
1.0	-36.248 UA	2.0	-36.860 UA	3.0	0.611 UA		
4.0	-0.306 UA	5.0	-0.81 MA	6.0	-1.02 MA		
7.0	-2.23 MA	8.0	1.291 V	9.0	1.272 V		
10.0	1.304 V	11.0	1.302 V	12.0	-13.0 MV		
13.0	-9.1 MV	14.0	2.7 MV	15.0	-3.7 MV		
22.0	39 UV	23.0	3.2 MV	24.0	0.306 MV		
25.0	66 DB	16.0	-0.99 A	17.0	1.291 V		
18.0	-0.32 A	19.0	1.307 V	20.0	1.273 V		

DEVICE	23	BIN	1	HEAD	3	11:32 AM	07/29/2008
700.0	100	800.0	25 DGR	98.0	3.16 V		
1.0	-36.860 UA	2.0	-37.700 UA	3.0	0.841 UA		
4.0	0.000 UA	5.0	-0.79 MA	6.0	-1.00 MA		
7.0	-2.20 MA	8.0	1.292 V	9.0	1.273 V		
10.0	1.305 V	11.0	1.302 V	12.0	-13.1 MV		
13.0	-9.1 MV	14.0	2.7 MV	15.0	-3.4 MV		
22.0	40 UV	23.0	3.2 MV	24.0	0.305 MV		
25.0	66 DB	16.0	-0.99 A	17.0	1.291 V		
18.0	-0.32 A	19.0	1.307 V	20.0	1.273 V		

DEVICE	24	BIN	1	HEAD	3	11:32 AM	07/29/2008
700.0	100	800.0	25 DGR	98.0	3.13 V		
1.0	-35.943 UA	2.0	-36.248 UA	3.0	0.306 UA		
4.0	-0.688 UA	5.0	-0.81 MA	6.0	-1.01 MA		
7.0	-2.22 MA	8.0	1.282 V	9.0	1.265 V		
10.0	1.292 V	11.0	1.290 V	12.0	-10.2 MV		
13.0	-7.0 MV	14.0	2.1 MV	15.0	-3.7 MV		
22.0	39 UV	23.0	2.8 MV	24.0	0.313 MV		
25.0	68 DB	16.0	-0.97 A	17.0	1.282 V		
18.0	-0.30 A	19.0	1.296 V	20.0	1.267 V		

CONTROL DEVICES 8B2919K019 JM081X21 WAFER#2 ELDRS 80K

DEVICE	1	BIN	1	HEAD	3	10:16 AM	09/04/2008
700.0	100	800.0	25 DGR	98.0	2.94 V		
1.0	-34.949 UA	2.0	-36.248 UA	3.0	1.299 UA		
4.0	2.445 UA	5.0	-0.88 MA	6.0	-1.06 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	-6.0 MV	14.0	1.3 MV	15.0	-4.4 MV		
22.0	39 UV	23.0	2.8 MV	24.0	0.204 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	10:16 AM	09/04/2008
700.0	100	800.0	25 DGR	98.0	2.94 V		
1.0	-36.248 UA	2.0	-33.650 UA	3.0	-2.598 UA		
4.0	-2.445 UA	5.0	-0.88 MA	6.0	-1.07 MA		
7.0	-2.25 MA	8.0	1.259 V	9.0	1.241 V		
10.0	1.262 V	11.0	1.261 V	12.0	-3.6 MV		
13.0	-8.1 MV	14.0	1.6 MV	15.0	-4.2 MV		
22.0	39 UV	23.0	2.6 MV	24.0	0.215 MV		
25.0	79 DB	16.0	-0.94 A	17.0	1.261 V		
18.0	-0.24 A	19.0	1.268 V	20.0	1.245 V		

UNBIASED DEVICES 8B2919K019 JM081X21 WAFER#2 ELDRS 80K

DEVICE	20	BIN	1	HEAD	3	10:17 AM	09/04/2008
700.0	100	800.0	25 DGR	98.0	3.15 V		
1.0	-34.949 UA	2.0	-38.006 UA	3.0	3.056 UA		
4.0	1.299 UA	5.0	-0.75 MA	6.0	-0.96 MA		
7.0	-2.14 MA	8.0	1.284 V	9.0	1.266 V		
10.0	1.296 V	11.0	1.293 V	12.0	-11.2 MV		
13.0	-8.0 MV	14.0	2.4 MV	15.0	-3.6 MV		
22.0	39 UV	23.0	3.0 MV	24.0	0.207 MV		
25.0	67 DB	16.0	-0.98 A	17.0	1.285 V		
18.0	-0.31 A	19.0	1.300 V	20.0	1.268 V		

DEVICE	21	BIN	1	HEAD	3	10:17 AM	09/04/2008
700.0	100	800.0	25 DGR	98.0	3.14 V		
1.0	-35.561 UA	2.0	-36.096 UA	3.0	0.535 UA		
4.0	1.910 UA	5.0	-0.76 MA	6.0	-0.96 MA		
7.0	-2.14 MA	8.0	1.284 V	9.0	1.263 V		
10.0	1.296 V	11.0	1.294 V	12.0	-11.7 MV		
13.0	-10.9 MV	14.0	2.6 MV	15.0	-4.0 MV		
22.0	39 UV	23.0	2.9 MV	24.0	0.211 MV		
25.0	67 DB	16.0	-0.97 A	17.0	1.284 V		
18.0	-0.31 A	19.0	1.300 V	20.0	1.265 V		

DEVICE	22	BIN	1	HEAD	3	10:17 AM	09/04/2008
700.0	100	800.0	25 DGR	98.0	3.18 V		
1.0	-36.172 UA	2.0	-36.860 UA	3.0	0.688 UA		
4.0	-0.382 UA	5.0	-0.79 MA	6.0	-1.00 MA		
7.0	-2.21 MA	8.0	1.295 V	9.0	1.277 V		
10.0	1.311 V	11.0	1.308 V	12.0	-15.3 MV		
13.0	-8.0 MV	14.0	2.9 MV	15.0	-3.4 MV		
22.0	39 UV	23.0	3.3 MV	24.0	0.206 MV		
25.0	64 DB	16.0	-0.98 A	17.0	1.294 V		
18.0	-0.33 A	19.0	1.313 V	20.0	1.278 V		

DEVICE	23	BIN	1	HEAD	3	10:17 AM	09/04/2008
700.0	100	800.0	25 DGR	98.0	3.18 V		
1.0	-36.172 UA	2.0	-37.471 UA	3.0	1.299 UA		
4.0	-0.153 UA	5.0	-0.77 MA	6.0	-0.97 MA		
7.0	-2.18 MA	8.0	1.295 V	9.0	1.274 V		
10.0	1.310 V	11.0	1.307 V	12.0	-15.3 MV		
13.0	-11.1 MV	14.0	3.1 MV	15.0	-3.3 MV		
22.0	39 UV	23.0	3.2 MV	24.0	0.204 MV		
25.0	64 DB	16.0	-0.99 A	17.0	1.294 V		
18.0	-0.34 A	19.0	1.313 V	20.0	1.275 V		

DEVICE	24	BIN	1	HEAD	3	10:18 AM	09/04/2008
700.0	100	800.0	25 DGR	98.0	3.15 V		
1.0	-34.949 UA	2.0	-38.693 UA	3.0	3.744 UA		
4.0	0.153 UA	5.0	-0.79 MA	6.0	-0.99 MA		
7.0	-2.20 MA	8.0	1.286 V	9.0	1.266 V		
10.0	1.298 V	11.0	1.295 V	12.0	-12.5 MV		
13.0	-9.7 MV	14.0	2.9 MV	15.0	-3.7 MV		
22.0	38 UV	23.0	2.9 MV	24.0	0.206 MV		
25.0	66 DB	16.0	-0.97 A	17.0	1.285 V		
18.0	-0.32 A	19.0	1.302 V	20.0	1.268 V		

CONTROL DEVICES 8B2919K019 JM081X21 WAFER#2 ELDRS 100K

DEVICE	1	BIN	1	HEAD	3	09:23 AM	10/09/2008
700.0	100	800.0	25 DGR	98.0	2.94 V		
1.0	-35.561 UA	2.0	-34.949 UA	3.0	-0.611 UA		
4.0	-0.611 UA	5.0	-0.89 MA	6.0	-1.06 MA		
7.0	-2.25 MA	8.0	1.258 V	9.0	1.243 V		
10.0	1.262 V	11.0	1.261 V	12.0	-3.8 MV		
13.0	-5.9 MV	14.0	1.5 MV	15.0	-4.5 MV		
22.0	39 UV	23.0	2.4 MV	24.0	0.205 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	09:23 AM	10/09/2008
700.0	100	800.0	25 DGR	98.0	2.95 V		
1.0	-35.561 UA	2.0	-34.032 UA	3.0	-1.528 UA		
4.0	-1.528 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	-3.6 MV		
13.0	-6.4 MV	14.0	1.6 MV	15.0	-4.4 MV		
22.0	40 UV	23.0	2.1 MV	24.0	0.209 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		

UNBIASED DEVICES 8B2919K019 JM081X21 WAFER#2 ELDRS 100K

DEVICE	20	BIN	1	HEAD	3	09:23 AM	10/09/2008
700.0	100	800.0	25 DGR	98.0	3.18 V		
1.0	-34.491 UA	2.0	-37.394 UA	3.0	2.904 UA		
4.0	-0.611 UA	5.0	-0.77 MA	6.0	-0.94 MA		
7.0	-2.13 MA	8.0	1.286 V	9.0	1.267 V		
10.0	1.299 V	11.0	1.297 V	12.0	-12.6 MV		
13.0	-9.3 MV	14.0	2.6 MV	15.0	-3.5 MV		
22.0	38 UV	23.0	2.9 MV	24.0	0.211 MV		
25.0	66 DB	16.0	-0.98 A	17.0	1.286 V		
18.0	-0.32 A	19.0	1.303 V	20.0	1.269 V		

DEVICE	21	BIN	1	HEAD	3	09:23 AM	10/09/2008
700.0	100	800.0	25 DGR	98.0	3.17 V		
1.0	-36.096 UA	2.0	-36.860 UA	3.0	0.764 UA		
4.0	-0.153 UA	5.0	-0.75 MA	6.0	-0.94 MA		
7.0	-2.14 MA	8.0	1.286 V	9.0	1.265 V		
10.0	1.299 V	11.0	1.296 V	12.0	-13.2 MV		
13.0	-10.8 MV	14.0	2.9 MV	15.0	-3.8 MV		
22.0	39 UV	23.0	3.0 MV	24.0	0.211 MV		
25.0	65 DB	16.0	-0.97 A	17.0	1.286 V		
18.0	-0.32 A	19.0	1.303 V	20.0	1.267 V		

DEVICE	22	BIN	1	HEAD	3	09:24 AM	10/09/2008
700.0	100	800.0	25 DGR	98.0	3.20 V		
1.0	-36.325 UA	2.0	-37.318 UA	3.0	0.993 UA		
4.0	-0.917 UA	5.0	-0.77 MA	6.0	-0.99 MA		
7.0	-2.20 MA	8.0	1.298 V	9.0	1.279 V		
10.0	1.315 V	11.0	1.312 V	12.0	-17.2 MV		
13.0	-8.8 MV	14.0	3.2 MV	15.0	-3.3 MV		
22.0	39 UV	23.0	3.3 MV	24.0	0.205 MV		
25.0	63 DB	16.0	-0.98 A	17.0	1.296 V		
18.0	-0.34 A	19.0	1.316 V	20.0	1.279 V		

DEVICE	23	BIN	1	HEAD	3	09:24 AM	10/09/2008
700.0	100	800.0	25 DGR	98.0	3.19 V		
1.0	-36.096 UA	2.0	-38.388 UA	3.0	2.292 UA		
4.0	0.000 UA	5.0	-0.75 MA	6.0	-0.95 MA		
7.0	-2.18 MA	8.0	1.297 V	9.0	1.280 V		
10.0	1.315 V	11.0	1.312 V	12.0	-17.3 MV		
13.0	-6.7 MV	14.0	3.0 MV	15.0	-3.2 MV		
22.0	38 UV	23.0	3.3 MV	24.0	0.202 MV		
25.0	63 DB	16.0	-0.99 A	17.0	1.295 V		
18.0	-0.34 A	19.0	1.316 V	20.0	1.281 V		

DEVICE	24	BIN	1	HEAD	3	09:24 AM	10/09/2008
700.0	100	800.0	25 DGR	98.0	3.17 V		
1.0	-36.860 UA	2.0	-36.860 UA	3.0	0.000 UA		
4.0	-0.076 UA	5.0	-0.77 MA	6.0	-0.97 MA		
7.0	-2.18 MA	8.0	1.288 V	9.0	1.268 V		
10.0	1.302 V	11.0	1.299 V	12.0	-13.7 MV		
13.0	-10.0 MV	14.0	2.8 MV	15.0	-3.7 MV		
22.0	38 UV	23.0	2.7 MV	24.0	0.207 MV		
25.0	65 DB	16.0	-0.97 A	17.0	1.287 V		
18.0	-0.32 A	19.0	1.305 V	20.0	1.270 V		