PCN # 1374

DATE: February 12, 2014

Quality Assurance
160 Rio Robles
San Jose, CA 95134

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☐ **PROCESS CHANGE NOTICE**

☒ **PRODUCT CHANGE NOTICE**

MAXIM INTEGRATED HEREBY ISSUES NOTIFICATION OF CHANGE THAT MAY AFFECT THE FOLLOWING CATEGORIES:

☐ DESIGN	☐ WAFER FAB	☒ ASSEMBLY	☐ TEST	☐ ELEC/MECH SPECS

AFFECTED PRODUCT:

Ordering P/N: (See PN listing XLS in PCN ZIP file)

CHANGE FROM: Currently single source assembly at UTAC Thai Limited (UTL) for the MSOP package	CHANGE TO: Adding an additional assembly vendor: Amkor Technology Philippines (ATP) for the MSOP packages

JUSTIFICATION: Adding ATP as an additional qualified assembly site to ensure supply continuity. Other Maxim parts are already in production at ATP. Please see the attached AEC Q100 report.

TRACEABILITY: Maxim Integrated maintains full traceability by device marking, packaging labels and shipment documents.

Maxim Integrated's Change Notification System is designed to keep our customer base apprised of major product, manufacturing, or facility improvements.

Deborah Meeker / PCN Coordinator

For further information, please contact either of the people listed below.

Contact your local Maxim Integrated Company Representative or Deborah Meeker, PCN Coordinator
408-601-5618 / pcn.coordinator@maximintegrated.com

MAX1792EUAxx/V+
500mA, Low-Dropout Linear Regulator
Temperature Grade 3
8L MSOP – EP
U8E+2

MAX1792EUAxx/V+
500mA, Low-Dropout Linear Regulator

Summary:

This report summarizes the results of the reliability tests performed by Maxim to qualify the MAX1792EAUxx/V+ for automotive applications.

Conclusion:

The MAX1792EUAxx/V+ successfully meets the reliability requirements performed by Maxim in accordance with the automotive qualification standard, AEC-Q100.

AEC-Q100 Qualification Requirements/Acceptance Criteria:

	Stress	ABV	AEC #	#of Lots	SS/Lot	ACC	ATE Temp	Method
Device Specific Tests	Electrostatic Discharge (Human Body/Machine Model)	ESD (HBM/MM)	E2	1	25	HBM:2000V MM:200V	RH	AEC-Q100-002 AEC-Q100-003
	Electrostatic Discharge (Device Model)	ESD (CDM)	E3	1	15	750V corner pins, 500V all other pins	RH	AEC-Q100-011
	Latch-Up	LU	E4	1	6	0	RH	AEC-Q100-004
	Electrical Distribution	ED	E5	3 *1	30	Cpk > 1.33	RHC	AEC-Q100-009
Package/ Process Related Tests	Preconditioning	PC	A1	3	77	0	R	J-STD-020 JESD22- A113
	Temperature Humidity Bias	HAST/THB	A2	3	77	0	RH	JESD22- A101 or A110
	Unbiased HAST	UHAST	A3	3	77	0	R	JESD22- A102, A118, or A101
	Temperature Cycle	TC	A4	3	77	0	RH	JESD22-A104 and Appendix 3
	Wire Bond Pull	WBP	C2	3	5	0	N/A	MIL-STD883 Method 2011
	High Temp Storage	HTSL	A6	1	45	0	RH	JESD22- A103
	Solderability	SD	C3	1	15	0	N/A	JESD22-B102
	High Temp Operating Life *2	HTOL	B1	3	77	0	RHC	JESD22-A108
	Early Life Failure Rate *3	ELFR	B2	3	800	0	RH	AEC Q100-008

Note *1 – One lot process skewed may be used
*2 – Grade 1 (1000hrs), Grade 2 (500hrs), Grade 3 (192hrs)
*3 – Grade 1 (48hrs), Grade 2 (24hrs), Grade 3 (12hrs)

Test Results/Lot information (Device Specific):

Table 1:

Lot Number:	JOKAFA020CC
Part Number:	MAX1792EUA33+
Temperature Grade:	3
Fab Site:	MFN
Fab Process Core:	B8
Fab Process Tech:	B8EIFW 8" 0.8um
Metallization/# Layers:	AlCu / 2
Passivation:	SiN/SiO2
Die Type:	PY27Z
Package Assembly Site:	UTL
Die Size:	60 X 60
Package Type:	8L MSOP – EP
Wire Bond Material/Dia.:	Au 1.3 mils
Mold Compound:	G600
Die Attach:	AB8200T
Leadframe Material:	COPPER
Lead Finish:	100% MATTE TIN
Date Code:	1126
Rel Lot Number:	R25647A

AEC #	Test	Results *SS*		*Temp*
E2	**ESD (HBM)**	2500V		RH
E2	**ESD (MM)**	250V (1)		RH
E3	**ESD (CDM)**	750V		RH
E4	**Latch-Up**	CI 0/6	OV 0/6	RH
E5	**Electrical Distribution**	Cpk >1.33		RHC

Note:

(1) Qual data from R26201AE3 (JOKAFA037CB).

Test Results/Lot information (Package Technology): ATP

Table 2:

Lot Number:		JOKAFA037CB		JOKAFA037CA		JOKAFA037CC		J291EA101E	
Part Number:		MAX1792EUA33/V+		MAX1792EUA33/V+		MAX1792EUA33/V+		MAX4489AUA/V+	
Temperature Grade:		3		3		3		GRADE 1	
Fab Site:		MFN		MFN		MFN		MFN	
Fab Process Core:		B8		B8		B8		B12	
Fab Process Tech:		B8EIFW 8" 0.8um		B8EIFW 8" 0.8um		B8EIFW 8" 0.8um		B12EIFW 8" 1.2µm	
Metallization/# Layers:		AlCu / 2		AlCu / 2		AlCu / 2		AlCu / 2	
Passivation:		SiN/SiO2		SiN/SiO2		SiN/SiO2		SiN / SiO2	
Die Type:		PY27Z		PY27Z		PY27Z		OX49Z-1Z	
Package Assembly Site:		ATP		ATP		ATP		ATP	
Die Size:		60 X 60		60 X 60		60 X 60		62 x 87	
Package Type:		8L MSOP – EP		8L MSOP – EP		8L MSOP – EP		8L MSOP	
Wire Bond Material/Dia.:		Au 1.3 mils		Au 1.3 mils		Au 1.3 mils		Au 1.0 mil	
Mold Compound:		G700K		G700K		G700K		G700K	
Die Attach:		AB8290		AB8290		AB8290		AB8290	
Leadframe Material:		COPPER		COPPER		COPPER		COPPER	
Lead Finish:		100% MATTE TIN		100% MATTE TIN		100% MATTE TIN		100% MATTE TIN	
Date Code:		1231		1231		1231		1140	
Rel Lot Number:		R26201A		R26201B		R26201C		R25816B	
AEC #	**Test**	**Results** *SS*	*Temp*	**Results** *SS*	*Temp*	**Results** *SS*	*Temp*	**Results** *SS*	*Temp*
A1	**Preconditioning**	0/231	R	0/231	R	0/231	R	0/231	R
A2	**HAST**	0/77	RH	0/77	RH	0/77	RH	0/77	RH
A3	**Unbiased HAST**	0/77	R	0/77	R	0/77	R	0/77	R
A4	**Temperature Cycle**	500x – 0/77	RH	500x – 0/77	RH	500x – 0/77	RH	500x – 0/77	RH
C2	**Wire Bond Pull**	0/26	N/A	0/40	N/A	0/45	N/A	0/40	N/A
A6	**High Temp Storage**	500hrs – 0/45	RH	-	N/A	-	N/A	-	N/A
C3	**Solderability**	-	N/A	-	N/A	-	N/A	0/15	N/A
B1	**High Temp Op/Life**	-	N/A	-	N/A	-	N/A	-	N/A

Test Results/Lot information (Package Technology): UTL

Table 3:

Lot Number:		JOKAFA020CC		JOKAFA020EA		JOKAFA020FA	
Part Number:		MAX1792EUA33+		MAX1792EUA33+		MAX1792EUA33+	
Temperature Grade:		3		3		3	
Fab Site:		MFN		MFN		MFN	
Fab Process Core:		B8		B8		B8	
Fab Process Tech:		B8EIFW 8" 0.8um		B8EIFW 8" 0.8um		B8EIFW 8" 0.8um	
Metallization/# Layers:		AlCu / 2		AlCu / 2		AlCu / 2	
Passivation:		SiN/SiO2		SiN/SiO2		SiN/SiO2	
Die Type:		PY27Z		PY27Z		PY27Z	
Package Assembly Site:		UTL		UTL		UTL	
Die Size:		60 X 60		60 X 60		60 X 60	
Package Type:		8L MSOP – EP		8L MSOP – EP		8L MSOP – EP	
Wire Bond Material/Dia.:		Au 1.3 mils		Au 1.3 mils		Au 1.3 mils	
Mold Compound:		G600		G600		G600	
Die Attach:		AB8200T		AB8200T		AB8200T	
Leadframe Material:		COPPER		COPPER		COPPER	
Lead Finish:		100% MATTE TIN		100% MATTE TIN		100% MATTE TIN	
Date Code:		1126		1126		1127	
Rel Lot Number:		R25647A		R25647B		R25647C	
AEC #	**Test**	**Results** *SS*	*Temp*	**Results** *SS*	*Temp*	**Results** *SS*	*Temp*
A1	**Preconditioning**	0/231	R	0/231	R	0/149	R
A2	**HAST**	0/77	RH	0/77	RH	-	N/A
A3	**Unbiased HAST**	0/77	R	0/77	R	0/77	R
A4	**Temperature Cycle**	500x – 0/77	RH	-	N/A	-	N/A
C2	**Wire Bond Pull**	0/54	N/A	-	N/A	-	N/A
A6	**High Temp Storage**	500hrs – 0/45	RH	-	N/A	-	N/A
C3	**Solderability**	-	N/A	-	N/A	-	N/A
B1	**High Temp Op/Life**	1000hrs – 0/77	RHC	-	N/A	-	N/A

Test Results/Lot information (Package Technology): UTL

Table 4:

Lot Number:		TMT0GA045Q1		TMT0HA045Q2		TMT0HA045Q3	
Part Number:		MAX8516EUB+		MAX8516EUB+		MAX8516EUB+	
Temperature Grade:		3		3		3	
Fab Site:		SAN ANTONIO		SAN ANTONIO		SAN ANTONIO	
Fab Process Core:		S4		S4		S4	
Fab Process Tech:		S4LDS 8" 0.4um		S4LDS 8" 0.4um		S4LDS 8" 0.4um	
Metallization/# Layers:		AlCu / 3		AlCu / 3		AlCu / 3	
Passivation:		SiN/SiO2		SiN/SiO2		SiN/SiO2	
Die Type:		PM63Y		PM63Y		PM63Y	
Package Assembly Site:		UTL		UTL		UTL	
Die Size:		60 X 65		60 X 65		60 X 65	
Package Type:		10L MSOP		10L MSOP		10L MSOP	
Wire Bond Material/Dia.:		Au 1.3 mils		Au 1.3 mils		Au 1.3 mils	
Mold Compound:		G600		G600		G600	
Die Attach:		AB8200T		AB8200T		AB8200T	
Leadframe Material:		COPPER		COPPER		COPPER	
Lead Finish:		100% MATTE TIN		100% MATTE TIN		100% MATTE TIN	
Date Code:		1004		1004		1004	
Rel Lot Number:		R24768A		R24768B		R24768C	
AEC #	**Test**	**Results** *SS*	*Temp*	**Results** *SS*	*Temp*	**Results** *SS*	*Temp*
A1	**Preconditioning**	0/231	R	0/231	R	0/231	R
A2	**HAST**	0/48	R	0/48	R	0/48	R
A3	**Unbiased HAST**	-	N/A	-	N/A	-	N/A
A4	**Temperature Cycle**	500x – 0/77	R	500x – 0/77	R	500x – 0/77	R
C2	**Wire Bond Pull**	-	N/A	-	N/A	-	N/A
A6	**High Temp Storage**	1000hrs – 0/45	R	1000hrs – 0/45	R	1000hrs – 0/45	R
C3	**Solderability**	0/15	N/A	0/15	N/A	0/15	N/A
B1	**High Temp Op/Life**	-	N/A	-	N/A	-	N/A

Test Results/Lot information (Wafer Process Technology):

Table 5:

Lot Number:		J8VAIQ003CA		J0BFJQ002EA		JOKAFA020CC		JF00G3168C	
Part Number:		MAX1790EUA+X01		MAX8734AEEI+		MAX1792EUA33+		MAX1951ESA+	
Temperature Grade:		3		3		3		3	
Fab Site:		MFN		MFN		MFN		MFN	
Fab Process Core:		B8		B8		B8		B8	
Fab Process Tech:		B8EIFW 8" 0.8um		B8EIFW 8" 0.8um		B8EIFW 8" 0.8um		B8EIFWP 8" 0.8um	
Metallization/# Layers:		AlCu / 2		AlCu / 2		AlCu / 2		AlCu / 2	
Passivation:		SiN/SiO2		SiN/SiO2		SiN/SiO2		SiN/SiO2	
Die Type:		PY40Y		PX65Y-5Z		PY27Z		PM43Z	
Package Assembly Site:		UNISEM		CARSEM - M		UTL		UTL	
Die Size:		61 X 87		86 X 169		60 X 60		80 X 90	
Package Type:		8L MSOP		28L QSOP		8L MSOP – EP		8L SOIC	
Wire Bond Material/Dia.:		Au 1.3 mils		Au 1.3 mils		Au 1.3 mils		Au 2.0 mils	
Mold Compound:		G600		G600		G600		G600	
Die Attach:		AB8290		84-1LMISNB		AB8200T		AB2200D	
Leadframe Material:		COPPER		COPPER		COPPER		COPPER	
Lead Finish:		100% MATTE TIN		100% MATTE TIN		100% MATTE TIN		100% MATTE TIN	
Date Code:		0825		0822		1126		1121	
Rel Lot Number:		R080548A		R080548B		R25647A		R25700G/H	
AEC #	**Test**	**Results** *SS*	*Temp*	**Results** *SS*	*Temp*	**Results** *SS*	*Temp*	**Results** *SS*	*Temp*
A1	**Preconditioning**	0/231	R	0/231	R	0/231	R	-	N/A
A2	**HAST**	0/77	RH	0/77	RH	0/77	RH	-	N/A
A3	**Unbiased HAST**	0/77	R	0/77	R	0/77	R	-	N/A
A4	**Temperature Cycle**	500x – 0/77	RH	500x – 0/77	RH	500x – 0/77	RH	-	N/A
A6	**High Temp Storage**	1000hrs – 0/45	RH	1000hrs – 0/45	RH	500hrs – 0/45	RH	-	N/A
B1	**High Temp Operating Life**	672hrs – 0/77 (1)	RHC	672hrs – 0/74 (1)	RHC	1000hrs – 0/77	RHC	-	N/A
B2	**Early Life Failure Rate**	48hrs – 0/800 (2)	RH	48hrs – 0/800 (2)	RH	-	N/A	12hrs – 0/4972	RH

Note:

(1) Actual stress duration was 672hrs and was used by following the acceleration factor calculation of a Grade 1 device.

(2) Actual stress duration was 48hrs to simulate a Grade 1 device.

Physical Dimension Data: ATP

Assembly Subcontractor Name : Amkor Technology Philippines

Part Number: N/A, ENG'G DUMMY
Lot # 1: ENGG DUMMY_U8+1 Units 1-10
Lot # 2: ENGG DUMMY_U8+1 Units 11-20
Lot # 3: ENGG DUMMY_U8+1 Units 21-30
Package Type: 8L MSOP
Package Code:U8+1
Report Date: Apr 20, 2011

Dimensional Data (mils)												
SN#	A	A1	A2	b	c	E	D	e	H	L	ά	S
1	40.22	4.71	35.51	11.78	6.26	119.7	119.4	25.57	193.5	22.12	3.86	20.71
2	39.88	4.23	35.65	11.80	6.09	119.6	119.1	25.62	193.6	22.60	4.21	20.71
3	39.93	4.71	35.22	11.95	6.05	119.8	119.0	25.47	193.8	22.19	4.43	20.69
4	40.14	4.82	35.32	11.43	6.16	119.7	119.5	25.49	193.8	22.08	4.19	20.72
5	40.22	4.36	35.16	11.94	6.18	119.7	119.4	25.56	193.6	22.20	4.03	20.69
6	40.06	4.57	35.49	11.86	6.31	119.7	119.1	25.58	193.8	22.06	4.10	20.71
7	39.84	4.23	35.61	11.68	6.22	119.5	118.9	25.55	193.8	22.63	4.07	20.70
8	40.18	4.90	35.28	11.76	6.09	119.4	119.4	25.49	193.7	22.23	4.33	20.71
9	40.34	4.92	35.42	11.57	6.13	119.6	119.1	25.57	193.5	22.37	4.44	20.69
10	39.84	4.59	35.25	11.46	6.26	119.4	119.1	25.53	194.0	22.42	4.32	20.71
11	40.07	4.47	35.60	11.48	6.24	119.7	119.3	25.65	193.8	22.17	3.82	20.70
12	40.04	4.38	35.66	11.39	6.27	119.5	119.1	25.48	193.9	22.08	4.11	20.71
13	40.18	4.86	35.32	11.95	6.37	119.4	119.0	25.59	194.0	22.32	3.95	20.69
14	40.25	4.64	35.61	11.71	6.21	119.4	119.4	25.56	193.9	22.29	3.88	20.70
15	39.93	4.36	35.57	11.50	6.10	119.6	118.9	25.58	193.7	22.25	3.84	20.69
16	40.31	4.82	35.49	11.41	6.14	119.8	119.0	25.64	193.7	22.32	4.43	20.71
17	40.02	4.34	35.68	11.82	6.08	119.4	118.9	25.59	193.8	22.48	4.11	20.71
18	40.35	4.69	35.66	11.90	6.19	119.5	119.4	25.58	194.0	22.50	4.41	20.70
19	40.38	4.20	35.18	11.71	6.34	119.4	119.0	25.63	193.7	22.49	3.83	20.71
20	40.18	4.71	35.47	11.85	6.12	119.4	119.2	25.58	193.7	22.55	4.04	20.71
21	40.10	4.90	35.20	11.88	6.36	119.7	119.0	25.56	193.6	22.40	4.37	20.71
22	40.27	5.06	35.21	11.34	6.04	119.4	119.0	25.57	193.9	22.18	4.05	20.69
23	40.16	4.87	35.29	11.83	6.30	119.7	119.0	25.54	193.6	22.33	4.22	20.68
24	39.95	4.61	35.34	11.86	6.05	119.8	119.1	25.53	193.8	22.23	4.00	20.68
25	40.34	4.72	35.62	11.62	6.07	119.7	119.0	25.58	193.7	22.50	4.37	20.71
26	40.15	4.75	35.40	11.67	6.08	119.4	119.4	25.60	193.8	22.38	4.40	20.69
27	40.12	4.63	35.49	11.35	6.28	119.5	119.4	25.61	194.0	22.51	4.23	20.70
28	39.86	4.44	35.42	11.83	6.23	119.8	119.1	25.55	193.9	22.27	3.93	20.69
29	39.83	4.65	35.18	11.45	6.15	119.5	118.9	25.48	193.8	22.28	4.20	20.72
30	39.88	4.53	35.35	11.33	6.14	119.8	119.4	25.47	193.7	22.33	4.20	20.70
sigma	**0.173**	**0.229**	**0.170**	**0.207**	**0.099**	**0.148**	**0.190**	**0.050**	**0.144**	**0.158**	**0.201**	**0.011**
Min	**39.83**	**4.20**	**35.16**	**11.33**	**6.04**	**119.36**	**118.89**	**25.47**	**193.54**	**22.06**	**3.82**	**20.68**
Max	**40.38**	**5.06**	**35.68**	**11.95**	**6.37**	**119.84**	**119.45**	**25.65**	**194.02**	**22.63**	**4.44**	**20.72**
Average	**40.10**	**4.62**	**35.42**	**11.67**	**6.18**	**119.58**	**119.15**	**25.56**	**193.77**	**22.33**	**4.15**	**20.70**
USL	**43.00**	**6.00**	**37.00**	**14.00**	**7.00**	**122.00**	**122.00**	**25.6 BSC**	**198.00**	**26.00**	**6.00**	**20.7 BSC**
LSL	**0.00**	**2.00**	**30.00**	**10.00**	**5.00**	**114.00**	**114.00**	**25.6 BSC**	**188.00**	**16.00**	**0.00**	**20.7 BSC**
CP	**41.54**	**2.92**	**6.85**	**3.22**	**3.37**	**8.99**	**7.01**	**N/A**	**11.55**	**10.53**	**4.97**	**N/A**
CPK-H	**5.60**	**2.01**	**3.09**	**3.75**	**2.75**	**5.44**	**5.00**	**N/A**	**9.78**	**7.74**	**3.07**	**N/A**
CPK-L	**77.49**	**3.82**	**10.62**	**2.69**	**3.99**	**12.53**	**9.03**	**N/A**	**13.32**	**13.32**	**6.87**	**N/A**
Cpk	**5.60**	**2.01**	**3.09**	**2.69**	**2.75**	**5.44**	**5.00**	**N/A**	**9.78**	**7.74**	**3.07**	**N/A**

Physical Dimension Data: UTL

Assembly Subcontractor Name : UTAC

Part Number: Dummy Parts
Lot # 1: Dummy Lot 1
Lot # 2: Dummy Lot 2
Lot # 3: Dummy Lot 3
Package Type: MSOP - EP
Package Code: U8E+2
Report Date: 20-Sep-11

Dimensional Data (mm)														
SN#	A	A1	A2	B	C	D	e	E	H	L	L1	α	X	Y
1	0.9652	0.0762	0.8730	0.2608	0.1549	3.0259	0.6528	3.0147	4.9022	0.5563	0.9324	2.16	2.3444	1.5494
2	0.9615	0.0762	0.8636	0.2642	0.1499	3.0247	0.6502	3.0180	4.8768	0.5486	0.9335	2.28	2.3444	1.5490
3	0.9685	0.0762	0.8636	0.2607	0.1499	3.0260	0.6553	3.0226	4.8768	0.5486	0.9335	1.92	2.3419	1.5555
4	0.9652	0.1016	0.8890	0.2605	0.1575	3.0250	0.6528	3.0226	4.8768	0.5537	0.9386	2.18	2.3565	1.5565
5	0.9559	0.0762	0.8636	0.2608	0.1575	3.0226	0.6477	3.0159	4.9022	0.5588	0.9349	2.23	2.3629	1.5495
6	0.9553	0.0762	0.8636	0.2603	0.1575	3.0125	0.6502	3.0212	4.8768	0.5512	0.9322	2.05	2.3493	1.5715
7	0.9615	0.0762	0.8636	0.2642	0.1549	3.0240	0.6528	3.0226	4.9022	0.5715	0.9271	2.21	2.3629	1.5695
8	0.9653	0.0762	0.8636	0.2606	0.1524	3.0148	0.6502	3.0147	4.9022	0.5664	0.9347	1.99	2.3493	1.5555
9	0.9652	0.1016	0.8636	0.2591	0.1524	3.0159	0.6502	3.0226	4.8768	0.5791	0.9323	2.25	2.3594	1.5615
10	0.9654	0.1016	0.8890	0.2642	0.1524	3.0226	0.6528	3.0226	4.8768	0.5588	0.9285	2.28	2.3594	1.5755
11	0.9652	0.0762	0.8890	0.2692	0.1549	3.0226	0.6528	3.0226	4.9022	0.5588	0.9284	2.18	2.3589	1.5720
12	0.9652	0.0762	0.8890	0.2604	0.1575	3.0226	0.6528	3.0226	4.8768	0.5715	0.9346	2.20	2.3519	1.5670
13	0.9652	0.0762	0.8890	0.2642	0.1575	3.0226	0.6528	3.0157	4.8768	0.5664	0.9347	2.23	2.3446	1.5760
14	0.9652	0.0762	0.8740	0.2608	0.1524	3.0258	0.6528	3.0148	4.8768	0.5664	0.9258	2.16	2.3689	1.5620
15	0.9615	0.1016	0.8382	0.2607	0.1575	3.0214	0.6452	3.0226	4.8768	0.5639	0.9310	2.11	2.3744	1.5755
16	0.9652	0.0762	0.8890	0.2606	0.1549	3.0226	0.6528	3.0147	4.9022	0.5613	0.9271	2.29	2.3599	1.5695
17	0.9554	0.0762	0.8636	0.2642	0.1473	3.0258	0.6477	3.0159	4.8768	0.5715	0.9310	2.21	2.3709	1.5620
18	0.9652	0.0762	0.8890	0.2606	0.1499	3.0269	0.6528	3.0226	4.8768	0.5588	0.9258	2.28	2.3354	1.5635
19	0.9652	0.1016	0.8636	0.2607	0.1549	3.0147	0.6528	3.0226	4.8768	0.5512	0.9285	2.18	2.3664	1.5690
20	0.9652	0.0762	0.8890	0.2609	0.1524	3.0226	0.6528	3.0226	4.8768	0.5588	0.9308	2.18	2.3389	1.5500
21	0.9652	0.0762	0.8770	0.2642	0.1524	3.0147	0.6502	3.0226	4.9022	0.5537	0.9309	2.04	2.3404	1.5665
22	0.9558	0.0762	0.8636	0.2606	0.1473	3.0125	0.6528	3.0158	4.9022	0.5664	0.9373	2.09	2.3469	1.5511
23	0.9556	0.0762	0.8636	0.2607	0.1524	3.0147	0.6502	3.0147	4.8768	0.5613	0.9323	2.11	2.3780	1.5511
24	0.9652	0.0762	0.8890	0.2606	0.1549	3.0226	0.6477	3.0126	4.9022	0.5639	0.9309	2.02	2.3235	1.5766
25	0.9652	0.1016	0.8636	0.2606	0.1549	3.0226	0.6452	3.0159	4.9022	0.5664	0.9361	2.22	2.3580	1.5496
26	0.9556	0.0762	0.8890	0.2642	0.1549	3.0226	0.6528	3.0123	4.8768	0.5563	0.9284	2.07	2.3650	1.5590
27	0.9615	0.0762	0.8636	0.2642	0.1524	3.0226	0.6528	3.0147	4.8768	0.5486	0.9323	2.21	2.3389	1.5795
28	0.9557	0.0762	0.8636	0.2606	0.1575	3.0147	0.6528	3.0123	4.9022	0.5613	0.9373	2.23	2.3614	1.5615
29	0.9615	0.0762	0.8636	0.2606	0.1499	3.0125	0.6502	3.0158	4.8768	0.5715	0.9296	2.30	2.3395	1.5570
30	0.9652	0.0762	0.8890	0.2607	0.1524	3.0226	0.6528	3.0226	4.8768	0.5588	0.9309	2.06	2.3830	1.5615
sigma	**0.00415**	**0.01033**	**0.01361**	**0.002153**	**0.00304**	**0.004691**	**0.00246**	**0.00401**	**0.01245**	**0.0078**	**0.0034**	**0.0977**	**0.013905**	**0.0095**
Min	**0.9553**	**0.0762**	**0.8382**	**0.2591**	**0.14732**	**3.0125**	**0.6452**	**3.0123**	**4.8768**	**0.54864**	**0.92583**	**1.92**	**2.3235**	**1.5490**
Max	**0.9685**	**0.1016**	**0.8890**	**0.2692**	**0.15748**	**3.0269**	**0.6553**	**3.0226**	**4.9022**	**0.57912**	**0.93861**	**2.30**	**2.3830**	**1.5795**
Average	**0.96247**	**0.08128**	**0.87317**	**0.2618**	**0.15359**	**3.0208**	**0.651256**	**3.01845**	**4.88611**	**0.561001**	**0.9317**	**2.16**	**2.3545**	**1.5624**
USL	**1.100**	**0.150**	**0.950**	**0.360**	**0.180**	**3.050**	**0.65 BSC**	**3.050**	**5.030**	**0.660**	**0.940**	**6.000**	**2.515**	**1.880**
LSL	**0.940**	**0.000**	**0.750**	**0.250**	**0.130**	**2.950**		**2.950**	**4.780**	**0.410**	**REF**	**0.000**	**2.210**	**1.500**
CP	**6.43**	**2.42**	**2.45**	**8.52**	**2.74**	**3.55**	**N/A**	**4.16**	**3.35**	**5.34**	**N/A**	**10.23**	**3.66**	**6.63**
CPK-H	**11.05**	**2.22**	**1.88**	**15.20**	**2.90**	**2.08**	**N/A**	**2.62**	**3.85**	**4.23**	**N/A**	**13.09**	**3.85**	**11.08**
CPK-L	**1.81**	**2.62**	**3.02**	**1.83**	**2.59**	**5.03**	**N/A**	**5.69**	**2.84**	**6.45**	**N/A**	**7.38**	**3.46**	**2.18**
Cpk	**1.81**	**2.22**	**1.88**	**1.83**	**2.59**	**2.08**	**N/A**	**2.62**	**2.84**	**4.23**	**N/A**	**7.38**	**3.46**	**2.18**

Process & Reliability In-Line Monitors: ATP

P1 Cpk/DPM PERFORMANCE REPORT FOR OCTOBER'11

- PSOP/MSOP ASSEMBLY -

MFG COORDINATOR : NMARA
SPC FACILITATOR : CHERR

PROCESS	CTRL ITEM (GAUGE/EQUIP)	IND	CHART TYPE	SPEC LIMIT	S/S FREQ	MONTHLY TREND (% OF Cpk>=2.0/ DPM=0) JUL'11	AUG'11	SEP'11	OCT'11	Cpk BREAKDOWN <1.33	1.33-1.66	1.67-1.99	>=2.0	% Cpk >=1.67	AVG (Cpk)	RANGE Cpk	RANGE DPM
WAFER SAW/CLEAN	KERF WIDTH (MACH READOUT)	MAX	X bar R	MAX BLADE THICKNESS +1 MIL	4 CUTS 1X/MACH/SHIFT	100.0%	100.0%	100.0%	100.0%	0.0%	0.0%	0.0%	100.0%	100.0%	15.00	15.99	
		MIN														13.43	
DIE ATTACH	DIE SHEAR (DIE SHEAR TESTER)	MAX	X bar R	2.5 KG/ 5.0 KG	4 UNITS 1X/OVEN/SHIFT	100.0%	100.0%	100.0%	100.0%	0.0%	0.0%	0.0%	100.0%	100.0%	2.80	3.79	
		MIN														2.12	
	EPOXY VOID (X-RAY)		LOG	MAX SINGLE VOID: 5% OF DIE AREA MAX CUMM VOID: 20% OF DIE AREA	5 UNITS 1X/MACHINE/SHFT	0	0	0	0								0
	WET BLT (OPTICAL MEASURING SCOPE)	MAX	X bar R	MIN 0.4 MIL / MIN 0.6 MIL	4 CORNERS OF 2 UNITS 1X/MACHINE/SHFT	100.0%	100.0%	100.0%	100.0%	0.0%	0.0%	0.0%	100.0%	100.0%	5.34	6.53	
		MIN														4.14	
WIREBOND	WIRE PULL (PULL TESTER)	MAX	Z bar W	- 3/4/5/8G	5 WIRES / UNIT ON 2UNITS 1X/MACH/DAY/DEV_CAP _WIRE CHANGE	100.0%	100.0%	100.0%	100.0%	0.0%	0.0%	0.0%	100.0%	100.0%	13.93	14.69	
		MIN														12.95	
	BALL SHEAR (SHEAR TESTER)	MAX	Z bar W	- 2/2.5/3/4/5/6/7/8/9/11/14/16/19/21/23 /25/28/32/36/40 G	5 BALLS / UNIT ON 2 UNITS 1X/MACH/DAY/DEV_CAP _WIRE CHANGE	100.0%	100.0%	100.0%	100.0%	0.0%	0.0%	0.0%	100.0%	100.0%	9.54	10.06	
		MIN														8.81	
	WIRE PULL_COPPER (PULL TESTER)	MAX	Z bar W	- 2.3/2.5/3.0/4.0/5.0/8.0	10 WIRES FROM 2 UNITS 1X/MACHINE/DAY	-	-	-	-	-	-	-	-	-	-	- -	
		MIN															
	BALL SHEAR_COPPER (SHEAR TESTER)	MAX	Z bar W	- 2/2.5/3/4/5/6/7/8/9/11/14/16/19/21/ 23/25/28/36/40	10 BALLS FROM 2 UNITS 1X/MACHINE/DAY	-	-	-	-	-	-	-	-	-	-	- -	
		MIN															

Process & Reliability In-Line Monitors: UTL

MONTHLY Cpk REPORT FOR MXM

VERIFIED BY : DCC

Ref. QS-SPC-001
Serial : 02

LOCATION	: UTL	REPORT DATE	: Mar 10'12
PACKAGE FAMILY	: PLASTIC	PERIOD	: Feb'12

SIGNIFICANT CHARACTERISTICS	GENERIC DATA	SPEC LIMITS	AVG Cpk	MIN Cpk	NUMBER OF MACHINE IN EACH Cpk LEVEL						
					<1.0	1.0-1.32	1.33-1.49	1.50-1.66	1.67-1.99	=/>2.00	TOTAL
WTV	Wafer Size 6" 8" TMA QFN	+/- 12.7 Micron	6.79	5.37	0	0	0	0	0	9	9
	Wafer Size 6" 8" TMA Non QFN	+/- 12.7 Micron	6.10	6.02	0	0	0	0	0	4	4
TTV	Wafer Size 6" 8" TMA QFN	12.7 Micron Max.	3.83	2.55	0	0	0	0	0	9	9
	Wafer Size 6" 8" TMA Non QFN	12.7 Micron Max.	4.21	3.68	0	0	0	0	0	4	4
Saw kerf width	Blade #S1230 Non QFN	2.0 Mil. Max.	37.96	7.39	0	0	0	0	0	8	8
	Blade #G0615, S0620 QFN	2.0 Mil. Max.	3.34	3.06	0	0	0	0	0	2	2
Bond line thickness	>3600 Non QFN	0.5-2.2 Mil.	4.86	3.81	0	0	0	0	0	10	10
	SOT 568C	0.2 Mil. Min.	4.74	4.09	0	0	0	0	0	3	3
Die shear test	>0.5-3.6K QFN 8006	0.4 G./Sq. Mil. Min.	3.34	2.54	0	0	0	0	0	6	6
	DST-Flip Chip SOT	40 Gram Min.	2.05	1.77	0	0	0	0	2	1	3
	DST- SOT	0.4 G./Sq. Mil. Min.	2.56	2.28	0	0	0	0	0	2	2
Wire pull test	1.0 Mil. QFN Revers Bond	4 GMS Min.	4.37	3.60	0	0	0	0	0	13	13
	1.0 Mil. Non QFN <50	4 GMS Min.	3.74	3.74	0	0	0	0	0	1	1
	1.0 Mil. SOT<25 GB5	4 GMS Min.	5.48	5.48	0	0	0	0	0	1	1
	1.0 Mil. SOT<25	4 GMS Min.	3.39	3.39	0	0	0	0	0	1	1
	1.0 Mil. TS/VS/MSOP <50	4 GMS Min.	3.54	3.54	0	0	0	0	0	1	1
	1.3 Mil. E-TSSOP <50	6 GMS Min.	5.11	5.11	0	0	0	0	0	1	1
	1.3 Mil. Non QFN <50	6 GMS Min.	3.66	3.09	0	0	0	0	0	4	4
Ball shear test	1.0 Mil. QFN Reverse Bond BPO 3.4-3.5	21 GMS Min.	2.23	1.72	0	0	0	0	2	8	10
	1.0 Mil. SC70 MXM NS BPO >2.5-2.7	14 GMS Min.	2.25	2.25	0	0	0	0	0	1	1
	1.0 Mil. SOT MXM NS BPO >2.5-2.7	14 GMS Min.	1.91	1.91	0	0	0	0	1	0	1
	1.0 Mil. Non QFN MXM NS BPO >2.9-3.1	19 GMS Min.	2.13	2.13	0	0	0	0	0	1	1
	1.3 Mil. Non QFN MXM NS BPO >3.7-3.9	28 GMS Min.	2.10	1.80	0	0	0	0	1	2	3
Mold temp	TEMP 175+/-5 C. Non QFN	170-180 Deg.C.	2.09	1.96	0	0	0	0	2	1	3
	TEMP 175+/-5 C. QFN	170-180 Deg.C.	2.30	2.29	0	0	0	0	0	2	2
Plate thickness	By Process-QFN	400-800 Micro Inch.	1.99	1.88	0	0	0	0	2	1	3
	By Process-Non QFN	300-800,400-800 Micro Inch.	3.29	2.37	0	0	0	0	0	3	3
Composition	Sn/Pb	70-95 % Sn	11.06	11.06	0	0	0	0	0	1	1
Tin Conc.	Process	Up to M/C type	2.56	2.49	0	0	0	0	0	4	4
Lead Conc.	Process	3-15 G/Ll	5.43	5.43	0	0	0	0	0	1	1
Coplanarity	Yes	3 Mil. Max.	41.48	40.45	0	0	0	0	0	3	3
Stand off	SOT56-CU/TSSOP14/16	0-5.9 / 2-5.9 Mil.	3.09	2.62	0	0	0	0	0	2	2
Lead span	SOT56-CU/TSSOP14/16	102.4-118.1/-248.0-255.9 Mil.	5.10	2.63	0	0	0	0	0	2	2
Pkg. Dim	Yes	+/- 0.05 mm.	5.61	4.82	0	0	0	0	0	10	10
Seating height	SOT23	35.4-57.1 Mil.	6.77	6.77	0	0	0	0	0	1	1
Lead length	SOT23	11.8-21.6 Mil.	3.24	3.24	0	0	0	0	0	1	1
Terminal length	SOT23	19.7-27.6 Mil.	7.08	7.08	0	0	0	0	0	1	1
COLUMN TOTAL	N/A	N/A	N/A	N/A	0	0	0	0	10	125	135
% OF GRAND TOTAL	N/A	N/A	N/A	N/A	0.0	0.0	0.0	0.0	7.4	92.6	100

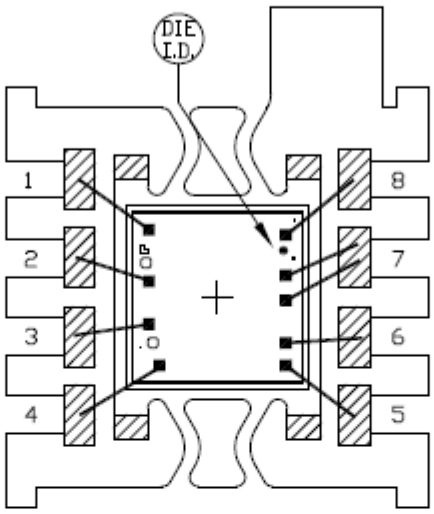
CLASS 2 DOCUMENT

1 of 3

mxm-Feb-12.xls

Wire-Bond Diagram:

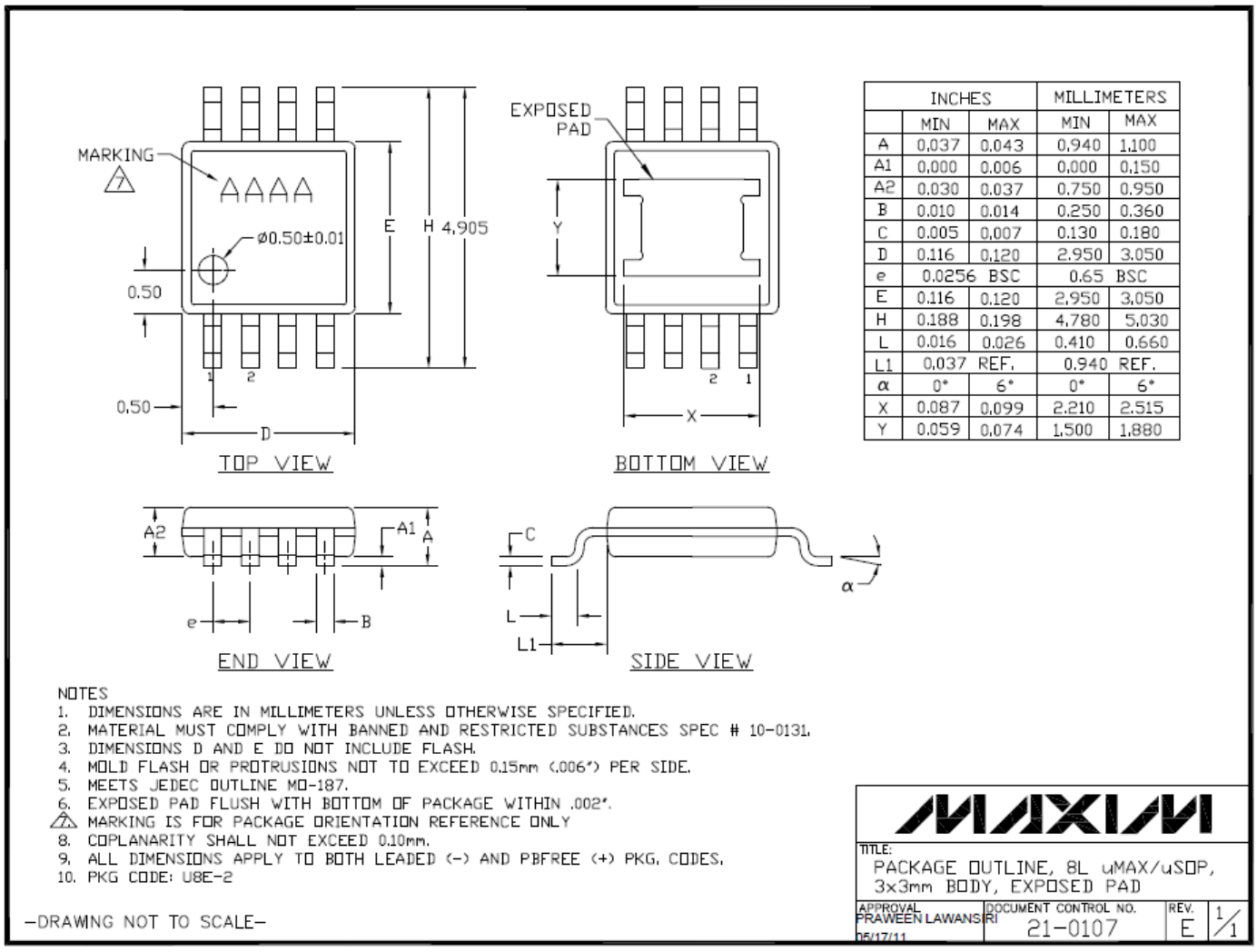
EXPOSED PAD PKG.



BONDABLE AREA

PKG. CODE: U8E-2		SIGNATURES	DATE	MAXIM CONFIDENTIAL & PROPRIETARY	
CAV./PAD SIZE: 68x73	PKG.	ROHINI KESAVAN	10/20/11	BOND DIAGRAM #: 05-9000-4790	REV: A
	DESIGN	BEN LANDEN	10/19/11		

Package Outline Drawing:



	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.037	0.043	0.940	1.100
A1	0.000	0.006	0.000	0.150
A2	0.030	0.037	0.750	0.950
B	0.010	0.014	0.250	0.360
C	0.005	0.007	0.130	0.180
D	0.116	0.120	2.950	3.050
e	0.0256 BSC		0.65 BSC	
E	0.116	0.120	2.950	3.050
H	0.188	0.198	4.780	5.030
L	0.016	0.026	0.410	0.660
L1	0.037 REF.		0.940 REF.	
α	0°	6°	0°	6°
X	0.087	0.099	2.210	2.515
Y	0.059	0.074	1.500	1.880

NOTES
1. DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
2. MATERIAL MUST COMPLY WITH BANNED AND RESTRICTED SUBSTANCES SPEC # 10-0131.
3. DIMENSIONS D AND E DO NOT INCLUDE FLASH.
4. MOLD FLASH OR PROTRUSIONS NOT TO EXCEED 0.15mm (.006") PER SIDE.
5. MEETS JEDEC OUTLINE MO-187.
6. EXPOSED PAD FLUSH WITH BOTTOM OF PACKAGE WITHIN .002".
7. MARKING IS FOR PACKAGE ORIENTATION REFERENCE ONLY
8. COPLANARITY SHALL NOT EXCEED 0.10mm.
9. ALL DIMENSIONS APPLY TO BOTH LEADED (-) AND PBFREE (+) PKG. CODES.
10. PKG CODE: U8E-2

–DRAWING NOT TO SCALE–

MAXIM

TITLE:
PACKAGE OUTLINE, 8L uMAX/uSOP,
3x3mm BODY, EXPOSED PAD

APPROVAL	DOCUMENT CONTROL NO.	REV.	
PRAWEEN LAWANSIRI 05/17/11	21-0107	E	1/1

Electrical Distribution:

Lot R25647A91

Temp	Test	EC / QA Min	EC / QA Max	QA CPK
85	IN_1	-900.E-03	-200.E-03	126.8
25	IN_1	-900.E-03	-100.E-03	106.5
-40	IN_1	-900.E-03	-200.E-03	65.9
85	IN_2	-900.E-03	-200.E-03	141.1
25	IN_2	-900.E-03	-100.E-03	110.4
-40	IN_2	-900.E-03	-200.E-03	56.5
85	OUT_1	-900.E-03	-200.E-03	326.8
25	OUT_1	-900.E-03	-100.E-03	83.6
-40	OUT_1	-900.E-03	-200.E-03	50.3
85	OUT_2	-900.E-03	-200.E-03	328.7
25	OUT_2	-900.E-03	-100.E-03	105.7
-40	OUT_2	-900.E-03	-200.E-03	71.3
85	RST	-900.E-03	-200.E-03	49.1
25	RST	-900.E-03	-100.E-03	44.4
-40	RST	-900.E-03	-200.E-03	52.6
85	SHDN	-900.E-03	-200.E-03	50.6
25	SHDN	-900.E-03	-100.E-03	68.5
-40	SHDN	-900.E-03	-200.E-03	67.2
85	SET	-900.E-03	-200.E-03	45.6
25	SET	-900.E-03	-100.E-03	65.6
-40	SET	-900.E-03	-200.E-03	58.6
85	CHAR_RISE	2.E+00	2.35E+00	4.3
25	CHAR_RISE	2.E+00	2.35E+00	4.9
-40	CHAR_RISE	2.E+00	2.35E+00	3.9
85	CHAR_FALL	2.E+00	2.35E+00	3.4
25	CHAR_FALL	2.E+00	2.35E+00	3.6
-40	CHAR_FALL	2.E+00	2.35E+00	2.8
85	HYST	000.E+00	100.E-03	6.2
25	HYST	000.E+00	100.E-03	8.7
-40	HYST	000.E+00	100.E-03	8.4
85	OUT_V_ALM	3.201E+00	3.396E+00	9.4
25	OUT_V_ALM	3.201E+00	3.399E+00	7.2
-40	OUT_V_ALM	3.201E+00	3.399E+00	4.9
85	OUT_V_AMM	3.234E+00	3.366E+00	6.8
25	OUT_V_AMM	3.234E+00	3.366E+00	5.0
-40	OUT_V_AMM	3.234E+00	3.366E+00	3.0
85	OUT_V_AHM	3.201E+00	3.399E+00	9.3
25	OUT_V_AHM	3.201E+00	3.399E+00	7.0
-40	OUT_V_AHM	3.201E+00	3.399E+00	4.3
85	PVI_CHK_1	450.E-03	550.E-03	75.0
25	PVI_CHK_1	450.E-03	550.E-03	89.2
-40	PVI_CHK_1	450.E-03	550.E-03	97.3
85	OUT_V_VLM	1.2125E+00	1.2875E+00	4.4
25	OUT_V_VLM	1.2125E+00	1.2875E+00	4.3
-40	OUT_V_VLM	1.212E+00	1.288E+00	3.8
85	OUT_V_VMM	1.225E+00	1.275E+00	3.2
25	OUT_V_VMM	1.219E+00	1.281E+00	3.8
-40	OUT_V_VMM	1.212E+00	1.288E+00	3.7

Electrical Distribution:

Temp	Test	EC / QA Min	EC / QA Max	QA CPK
85	OUT_V_VHM	1.2125E+00	1.2875E+00	4.5
25	OUT_V_VHM	1.2125E+00	1.2875E+00	4.4
-40	OUT_V_VHM	1.212E+00	1.288E+00	3.4
85	PVI_CHK_2	450.E-03	550.E-03	81.3
25	PVI_CHK_2	450.E-03	550.E-03	77.0
-40	PVI_CHK_2	450.E-03	550.E-03	84.0
85	PVI_CHECK	450.E-03	520.E-03	106.3
25	PVI_CHECK	250.E-03	520.E-03	79.0
-40	PVI_CHECK	250.E-03	520.E-03	73.1
85	LINE_REG1	3.201E+00	3.399E+00	10.2
25	LINE_REG1	3.201E+00	3.399E+00	7.5
-40	LINE_REG1	3.201E+00	3.399E+00	5.0
85	LINE_REG2	3.201E+00	3.399E+00	10.0
25	LINE_REG2	3.201E+00	3.399E+00	7.4
-40	LINE_REG2	3.201E+00	3.399E+00	5.0
85	LINE_REG	-150.E-03	150.E-03	4.8
25	LINE_REG	-150.E-03	150.E-03	4.6
-40	LINE_REG	-150.E-03	150.E-03	4.2
85	LOAD_REG	000.E+00	1.E+00	17.3
25	LOAD_REG	000.E+00	1.E+00	12.9
-40	LOAD_REG	000.E+00	1.E+00	9.2
85	GND_I_LOW	000.E+00	250.E-06	8.2
25	GND_I_LOW	000.E+00	250.E-06	10.6
-40	GND_I_LOW	000.E+00	250.E-06	11.8
85	GND_I_HI	000.E+00	500.E-06	12.1
25	GND_I_HI	000.E+00	500.E-06	11.3
-40	GND_I_HI	000.E+00	500.E-06	10.7
85	SHDN_BIAS	-1.E-06	1.E-06	2664.3
25	SHDN_BIAS	-1.E-06	1.E-06	3848.8
-40	SHDN_BIAS	-1.E-06	1.E-06	5991.2
85	SHDN_BIAS	-1.E-06	1.E-06	2583.4
25	SHDN_BIAS	-1.E-06	1.E-06	4085.8
-40	SHDN_BIAS	-1.E-06	1.E-06	5339.0
85	RST LEAK	-1.E-06	1.E-06	2682.7
25	RST LEAK	-1.E-06	1.E-06	2715.5
-40	RST LEAK	-1.E-06	1.E-06	3158.4
85	SET BIAS	-100.E-09	100.E-09	190.8
25	SET BIAS	-100.E-09	100.E-09	228.4
-40	SET BIAS	-100.E-09	100.E-09	138.6
85	SET_TH_LO	3.2E+00	3.4E+00	9.8
25	SET_TH_LO	3.2E+00	3.4E+00	7.3
-40	SET_TH_LO	3.2E+00	3.4E+00	5.0
85	SET_TH_HI	5.4E+00	5.6E+00	504.0
25	SET_TH_HI	5.4E+00	5.6E+00	472.3
-40	SET_TH_HI	5.4E+00	5.6E+00	482.6
85	OUT_MEAS	3.26E+00	3.32E+00	1.5
25	OUT_MEAS	3.201E+00	3.399E+00	7.3
-40	OUT_MEAS	3.201E+00	3.399E+00	5.0
85	SET_TH_CH	50.E-03	150.E-03	4.6
25	SET_TH_CH	50.E-03	150.E-03	4.6
-40	SET_TH_CH	50.E-03	150.E-03	4.7
85	SHDN_VIHC	600.E-03	1.6E+00	17.8
25	SHDN_VIHC	600.E-03	1.6E+00	16.1
-40	SHDN_VIHC	600.E-03	1.6E+00	16.4
85	SHDN_VIL	000.E+00	500.E-03	4.3
25	SHDN_VIL	000.E+00	500.E-03	4.5
-40	SHDN_VIL	000.E+00	500.E-03	4.5
85	SHDN_VILC	600.E-03	1.6E+00	15.9
25	SHDN_VILC	600.E-03	1.6E+00	17.5
-40	SHDN_VILC	600.E-03	1.6E+00	15.9
85	RST_VOL	000.E+00	100.E-03	44.4
25	RST_VOL	000.E+00	100.E-03	41.4
-40	RST_VOL	000.E+00	100.E-03	43.4
85	RST_VALID	000.E+00	100.E-03	21.7
25	RST_VALID	000.E+00	100.E-03	23.0
-40	RST_VALID	000.E+00	100.E-03	22.9
85	RST_VALC	500.E-03	1.E+00	8.1
25	RST_VALC	500.E-03	1.E+00	13.2
-40	RST_VALC	500.E-03	1.E+00	15.3
85	RST_TRIPL	000.E+00	100.E+00	13.1
25	RST_TRIPL	000.E+00	100.E+00	15.2
-40	RST_TRIPL	000.E+00	100.E+00	10.0
85	RST_TRIPC	1.1375E+00	1.1875E+00	6.4
25	RST_TRIPC	1.1375E+00	1.1875E+00	5.8
-40	RST_TRIPC	1.1375E+00	1.1875E+00	3.4
85	I_LIM_0%	550.E-03	1.8E+00	4.1
25	I_LIM_0%	550.E-03	1.8E+00	3.8
-40	I_LIM_0%	550.E-03	1.8E+00	3.3
85	I_LIM_0%	550.E-03	1.8E+00	3.9
25	I_LIM_0%	550.E-03	1.8E+00	3.6
-40	I_LIM_0%	550.E-03	1.8E+00	3.2
85	I_LIM_90%	550.E-03	1.8E+00	3.9
25	I_LIM_90%	550.E-03	1.8E+00	4.1
-40	I_LIM_90%	550.E-03	1.8E+00	3.7
85	I_LIM_96%	550.E-03	3.3E+00	4.7
25	I_LIM_96%	550.E-03	3.3E+00	4.4
-40	I_LIM_96%	550.E-03	3.3E+00	4.1
85	RST TIMNG	1.5E-03	8.E-03	4.1
25	RST TIMNG	1.5E-03	8.E-03	3.0
-40	RST TIMNG	1.5E-03	8.E-03	2.9
85	ON_SUP_I	10.E-06	250.E-06	5.2
25	ON_SUP_I	10.E-06	250.E-06	5.8
-40	ON_SUP_I	10.E-06	250.E-06	6.6

Electrical Distribution:

Lot R25647B91

Temp	Test	EC / QA Min	EC / QA Max	QA CPK
85	IN_1	-900.E-03	-200.E-03	179.0
25	IN_1	-900.E-03	-100.E-03	110.3
-40	IN_1	-900.E-03	-200.E-03	61.8
85	IN_2	-900.E-03	-200.E-03	220.5
25	IN_2	-900.E-03	-100.E-03	61.9
-40	IN_2	-900.E-03	-200.E-03	50.7
85	OUT_1	-900.E-03	-200.E-03	347.0
25	OUT_1	-900.E-03	-100.E-03	64.6
-40	OUT_1	-900.E-03	-200.E-03	73.4
85	OUT_2	-900.E-03	-200.E-03	485.4
25	OUT_2	-900.E-03	-100.E-03	71.6
-40	OUT_2	-900.E-03	-200.E-03	115.2
85	RST	-900.E-03	-200.E-03	47.1
25	RST	-900.E-03	-100.E-03	48.5
-40	RST	-900.E-03	-200.E-03	51.0
85	SHDN	-900.E-03	-200.E-03	51.5
25	SHDN	-900.E-03	-100.E-03	65.7
-40	SHDN	-900.E-03	-200.E-03	64.5
85	SET	-900.E-03	-200.E-03	35.6
25	SET	-900.E-03	-100.E-03	52.4
-40	SET	-900.E-03	-200.E-03	42.4
85	CHAR_RISE	2.E+00	2.35E+00	4.1
25	CHAR_RISE	2.E+00	2.35E+00	4.6
-40	CHAR_RISE	2.E+00	2.35E+00	4.4
85	CHAR_FALL	2.E+00	2.35E+00	3.0
25	CHAR_FALL	2.E+00	2.35E+00	3.3
-40	CHAR_FALL	2.E+00	2.35E+00	3.2
85	HYST	000.E+00	100.E-03	6.8
25	HYST	000.E+00	100.E-03	8.3
-40	HYST	000.E+00	100.E-03	6.6
85	OUT_V_ALM	3.201E+00	3.396E+00	10.9
25	OUT_V_ALM	3.201E+00	3.399E+00	9.1
-40	OUT_V_ALM	3.201E+00	3.399E+00	5.0
85	OUT_V_AMM	3.234E+00	3.366E+00	7.9
25	OUT_V_AMM	3.234E+00	3.366E+00	6.5
-40	OUT_V_AMM	3.234E+00	3.366E+00	3.0
85	OUT_V_AHM	3.201E+00	3.399E+00	11.1
25	OUT_V_AHM	3.201E+00	3.399E+00	9.1
-40	OUT_V_AHM	3.201E+00	3.399E+00	4.4
85	PVI_CHK_1	450.E-03	550.E-03	99.4
25	PVI_CHK_1	450.E-03	550.E-03	84.7
-40	PVI_CHK_1	450.E-03	550.E-03	84.0
85	OUT_V_VLM	1.2125E+00	1.2875E+00	4.4
25	OUT_V_VLM	1.2125E+00	1.2875E+00	4.1
-40	OUT_V_VLM	1.212E+00	1.288E+00	3.5
85	OUT_V_VMM	1.225E+00	1.275E+00	3.2
25	OUT_V_VMM	1.219E+00	1.281E+00	3.6
-40	OUT_V_VMM	1.212E+00	1.288E+00	3.3

Electrical Distribution:

Temp	Test	EC / QA Min	EC / QA Max	QA CPK
85	OUT_V_VHM	1.2125E+00	1.2875E+00	4.4
25	OUT_V_VHM	1.2125E+00	1.2875E+00	4.2
-40	OUT_V_VHM	1.212E+00	1.288E+00	3.2
85	PVI_CHK_2	450.E-03	550.E-03	132.9
25	PVI_CHK_2	450.E-03	550.E-03	89.4
-40	PVI_CHK_2	450.E-03	550.E-03	86.8
85	PVI_CHECK	450.E-03	520.E-03	119.4
25	PVI_CHECK	250.E-03	520.E-03	68.7
-40	PVI_CHECK	250.E-03	520.E-03	86.8
85	LINE_REG1	3.201E+00	3.399E+00	11.9
25	LINE_REG1	3.201E+00	3.399E+00	9.7
-40	LINE_REG1	3.201E+00	3.399E+00	5.2
85	LINE_REG2	3.201E+00	3.399E+00	10.6
25	LINE_REG2	3.201E+00	3.399E+00	8.7
-40	LINE_REG2	3.201E+00	3.399E+00	5.0
85	LINE_REG	-150.E-03	150.E-03	3.5
25	LINE_REG	-150.E-03	150.E-03	3.5
-40	LINE_REG	-150.E-03	150.E-03	3.1
85	LOAD_REG	000.E+00	1.E+00	12.4
25	LOAD_REG	000.E+00	1.E+00	10.1
-40	LOAD_REG	000.E+00	1.E+00	7.9
85	GND_I_LOW	000.E+00	250.E-06	7.7
25	GND_I_LOW	000.E+00	250.E-06	8.6
-40	GND_I_LOW	000.E+00	250.E-06	8.8
85	GND_I_HI	000.E+00	500.E-06	9.3
25	GND_I_HI	000.E+00	500.E-06	9.3
-40	GND_I_HI	000.E+00	500.E-06	8.9
85	SHDN_BIAS	-1.E-06	1.E-06	2715.4
25	SHDN_BIAS	-1.E-06	1.E-06	3548.0
-40	SHDN_BIAS	-1.E-06	1.E-06	2428.9
85	SHDN_BIAS	-1.E-06	1.E-06	2939.8
25	SHDN_BIAS	-1.E-06	1.E-06	3761.5
-40	SHDN_BIAS	-1.E-06	1.E-06	5020.1
85	RST LEAK	-1.E-06	1.E-06	1788.2
25	RST LEAK	-1.E-06	1.E-06	3057.2
-40	RST LEAK	-1.E-06	1.E-06	2650.8
85	SET BIAS	-100.E-09	100.E-09	220.4
25	SET BIAS	-100.E-09	100.E-09	207.7
-40	SET BIAS	-100.E-09	100.E-09	164.5
85	SET_TH_LO	3.2E+00	3.4E+00	10.4
25	SET_TH_LO	3.2E+00	3.4E+00	8.6
-40	SET_TH_LO	3.2E+00	3.4E+00	5.1
85	SET_TH_HI	5.4E+00	5.6E+00	317.1
25	SET_TH_HI	5.4E+00	5.6E+00	383.8
-40	SET_TH_HI	5.4E+00	5.6E+00	535.9
85	OUT_MEAS	3.26E+00	3.32E+00	1.5
25	OUT_MEAS	3.201E+00	3.399E+00	8.7
-40	OUT_MEAS	3.201E+00	3.399E+00	5.1
85	SET_TH_CH	50.E-03	200.E-03	5.7
25	SET_TH_CH	50.E-03	150.E-03	5.5
-40	SET_TH_CH	50.E-03	150.E-03	5.7
85	SHDN_VIHC	600.E-03	1.6E+00	12.8
25	SHDN_VIHC	600.E-03	1.6E+00	12.4
-40	SHDN_VIHC	600.E-03	1.6E+00	14.8
85	SHDN_VIL	000.E+00	500.E-03	5.4
25	SHDN_VIL	000.E+00	500.E-03	4.5
-40	SHDN_VIL	000.E+00	500.E-03	4.9
85	SHDN_VILC	600.E-03	1.6E+00	12.9
25	SHDN_VILC	600.E-03	1.6E+00	13.8
-40	SHDN_VILC	600.E-03	1.6E+00	12.5
85	RST_VOL	000.E+00	100.E-03	44.5
25	RST_VOL	000.E+00	100.E-03	40.7
-40	RST_VOL	000.E+00	100.E-03	44.2
85	RST_VALID	000.E+00	100.E-03	29.9
25	RST_VALID	000.E+00	100.E-03	37.8
-40	RST_VALID	000.E+00	100.E-03	32.2
85	RST_VALC	500.E-03	1.E+00	8.6
25	RST_VALC	500.E-03	1.E+00	13.9
-40	RST_VALC	500.E-03	1.E+00	13.7
85	RST_TRIPL	000.E+00	100.E+00	6.4
25	RST_TRIPL	000.E+00	100.E+00	11.1
-40	RST_TRIPL	000.E+00	100.E+00	7.4
85	RST_TRIPC	1.1375E+00	1.1875E+00	6.2
25	RST_TRIPC	1.1375E+00	1.1875E+00	6.5
-40	RST_TRIPC	1.1375E+00	1.1875E+00	3.8
85	I_LIM_0%	550.E-03	1.8E+00	4.2
25	I_LIM_0%	550.E-03	1.8E+00	4.0
-40	I_LIM_0%	550.E-03	1.8E+00	3.6
85	I_LIM_0%	550.E-03	1.8E+00	3.9
25	I_LIM_0%	550.E-03	1.8E+00	4.0
-40	I_LIM_0%	550.E-03	1.8E+00	3.5
85	I_LIM_90%	550.E-03	1.8E+00	4.0
25	I_LIM_90%	550.E-03	1.8E+00	3.9
-40	I_LIM_90%	550.E-03	1.8E+00	3.9
85	I_LIM_96%	550.E-03	3.3E+00	4.8
25	I_LIM_96%	550.E-03	3.3E+00	5.0
-40	I_LIM_96%	550.E-03	3.3E+00	4.4
85	RST TIMNG	1.5E-03	8.E-03	3.3
25	RST TIMNG	1.5E-03	8.E-03	3.0
-40	RST TIMNG	1.5E-03	8.E-03	2.9
85	ON_SUP_I	10.E-06	250.E-06	4.6
25	ON_SUP_I	10.E-06	250.E-06	4.8
-40	ON_SUP_I	10.E-06	250.E-06	5.6

Electrical Distribution:

Lot R25647C91

Temp	Test	EC / QA Min	EC / QA Max	QA CPK
85	IN_1	-900.E-03	-200.E-03	151.0
25	IN_1	-900.E-03	-100.E-03	122.0
-40	IN_1	-900.E-03	-200.E-03	57.8
85	IN_2	-900.E-03	-200.E-03	173.2
25	IN_2	-900.E-03	-100.E-03	126.6
-40	IN_2	-900.E-03	-200.E-03	49.6
85	OUT_1	-900.E-03	-200.E-03	359.5
25	OUT_1	-900.E-03	-100.E-03	290.2
-40	OUT_1	-900.E-03	-200.E-03	74.7
85	OUT_2	-900.E-03	-200.E-03	400.1
25	OUT_2	-900.E-03	-100.E-03	274.5
-40	OUT_2	-900.E-03	-200.E-03	99.4
85	RST	-900.E-03	-200.E-03	45.3
25	RST	-900.E-03	-100.E-03	44.4
-40	RST	-900.E-03	-200.E-03	45.9
85	SHDN	-900.E-03	-200.E-03	49.1
25	SHDN	-900.E-03	-100.E-03	71.7
-40	SHDN	-900.E-03	-200.E-03	68.3
85	SET	-900.E-03	-200.E-03	38.6
25	SET	-900.E-03	-100.E-03	56.7
-40	SET	-900.E-03	-200.E-03	48.5
85	CHAR_RISE	2.E+00	2.35E+00	4.4
25	CHAR_RISE	2.E+00	2.35E+00	5.0
-40	CHAR_RISE	2.E+00	2.35E+00	4.1
85	CHAR_FALL	2.E+00	2.35E+00	3.3
25	CHAR_FALL	2.E+00	2.35E+00	3.6
-40	CHAR_FALL	2.E+00	2.35E+00	2.8
85	HYST	000.E+00	100.E-03	6.7
25	HYST	000.E+00	100.E-03	8.8
-40	HYST	000.E+00	100.E-03	7.9
85	OUT_V_ALM	3.201E+00	3.396E+00	8.2
25	OUT_V_ALM	3.201E+00	3.399E+00	8.0
-40	OUT_V_ALM	3.201E+00	3.399E+00	5.1
85	OUT_V_AMM	3.234E+00	3.366E+00	6.0
25	OUT_V_AMM	3.234E+00	3.366E+00	5.7
-40	OUT_V_AMM	3.234E+00	3.366E+00	3.1
85	OUT_V_AHM	3.201E+00	3.399E+00	8.3
25	OUT_V_AHM	3.201E+00	3.399E+00	7.8
-40	OUT_V_AHM	3.201E+00	3.399E+00	4.4
85	PVI_CHK_1	450.E-03	550.E-03	91.8
25	PVI_CHK_1	450.E-03	550.E-03	86.9
-40	PVI_CHK_1	450.E-03	550.E-03	74.2
85	OUT_V_VLM	1.2125E+00	1.2875E+00	4.1
25	OUT_V_VLM	1.2125E+00	1.2875E+00	4.0
-40	OUT_V_VLM	1.212E+00	1.288E+00	3.6
85	OUT_V_VMM	1.225E+00	1.275E+00	3.0
25	OUT_V_VMM	1.219E+00	1.281E+00	3.6
-40	OUT_V_VMM	1.212E+00	1.288E+00	3.4

Electrical Distribution:

Temp	Test	EC / QA Min	EC / QA Max	QA CPK
85	OUT_V_VHM	1.2125E+00	1.2875E+00	4.3
25	OUT_V_VHM	1.2125E+00	1.2875E+00	4.3
-40	OUT_V_VHM	1.212E+00	1.288E+00	3.2
85	PVI_CHK_2	450.E-03	550.E-03	96.4
25	PVI_CHK_2	450.E-03	550.E-03	72.0
-40	PVI_CHK_2	450.E-03	550.E-03	85.2
85	PVI_CHECK	450.E-03	520.E-03	91.2
25	PVI_CHECK	250.E-03	520.E-03	69.1
-40	PVI_CHECK	250.E-03	520.E-03	79.3
85	LINE_REG1	3.201E+00	3.399E+00	8.6
25	LINE_REG1	3.201E+00	3.399E+00	8.4
-40	LINE_REG1	3.201E+00	3.399E+00	5.2
85	LINE_REG2	3.201E+00	3.399E+00	9.0
25	LINE_REG2	3.201E+00	3.399E+00	8.3
-40	LINE_REG2	3.201E+00	3.399E+00	5.2
85	LINE_REG	-150.E-03	150.E-03	4.0
25	LINE_REG	-150.E-03	150.E-03	3.9
-40	LINE_REG	-150.E-03	150.E-03	3.8
85	LOAD_REG	000.E+00	1.E+00	17.7
25	LOAD_REG	000.E+00	1.E+00	15.2
-40	LOAD_REG	000.E+00	1.E+00	11.5
85	GND_I_LOW	000.E+00	250.E-06	10.1
25	GND_I_LOW	000.E+00	250.E-06	11.0
-40	GND_I_LOW	000.E+00	250.E-06	11.8
85	GND_I_HI	000.E+00	500.E-06	12.8
25	GND_I_HI	000.E+00	500.E-06	12.3
-40	GND_I_HI	000.E+00	500.E-06	11.7
85	SHDN_I	-1.E-06	15.E-06	11.2
25	SHDN_I	-1.E-06	15.E-06	82.1
-40	SHDN_I	-1.E-06	15.E-06	82.3
85	SHDN_BIAS	-1.E-06	1.E-06	1768.5
25	SHDN_BIAS	-1.E-06	1.E-06	2560.1
-40	SHDN_BIAS	-1.E-06	1.E-06	2123.3
85	SHDN_BIAS	-1.E-06	1.E-06	3224.1
25	SHDN_BIAS	-1.E-06	1.E-06	5350.0
-40	SHDN_BIAS	-1.E-06	1.E-06	5020.6
85	RST LEAK	-1.E-06	1.E-06	2253.2
25	RST LEAK	-1.E-06	1.E-06	2688.4
-40	RST LEAK	-1.E-06	1.E-06	2717.8
85	SET BIAS	-100.E-09	100.E-09	214.6
25	SET BIAS	-100.E-09	100.E-09	206.4
-40	SET BIAS	-100.E-09	100.E-09	147.7
85	SET_TH_LO	3.2E+00	3.4E+00	8.9
25	SET_TH_LO	3.2E+00	3.4E+00	8.2
-40	SET_TH_LO	3.2E+00	3.4E+00	5.2
85	SET_TH_HI	5.4E+00	5.6E+00	480.5
25	SET_TH_HI	5.4E+00	5.6E+00	474.7
-40	SET_TH_HI	5.4E+00	5.6E+00	335.3
85	SET_TH_CH	50.E-03	200.E-03	4.9
25	SET_TH_CH	50.E-03	150.E-03	4.6
-40	SET_TH_CH	50.E-03	150.E-03	4.6
85	SHDN_VIHC	600.E-03	1.6E+00	17.1
25	SHDN_VIHC	600.E-03	1.6E+00	17.9
-40	SHDN_VIHC	600.E-03	1.6E+00	17.7
85	SHDN_VIL	000.E+00	500.E-03	4.7
25	SHDN_VIL	000.E+00	500.E-03	5.6
-40	SHDN_VIL	000.E+00	500.E-03	4.5
85	SHDN_VILC	600.E-03	1.6E+00	16.3
25	SHDN_VILC	600.E-03	1.6E+00	16.9
-40	SHDN_VILC	600.E-03	1.6E+00	16.6
85	RST_VOL	000.E+00	100.E-03	55.0
25	RST_VOL	000.E+00	100.E-03	55.1
-40	RST_VOL	000.E+00	100.E-03	52.6
85	RST_VALID	000.E+00	100.E-03	25.1
25	RST_VALID	000.E+00	100.E-03	28.3
-40	RST_VALID	000.E+00	100.E-03	23.6
85	RST_VALC	500.E-03	1.E+00	8.3
25	RST_VALC	500.E-03	1.E+00	12.8
-40	RST_VALC	500.E-03	1.E+00	16.0
85	RST_TRIPL	000.E+00	100.E+00	17.2
25	RST_TRIPL	000.E+00	100.E+00	13.5
-40	RST_TRIPL	000.E+00	100.E+00	7.0
85	RST_TRIPC	1.1375E+00	1.1875E+00	6.1
25	RST_TRIPC	1.1375E+00	1.1875E+00	5.4
-40	RST_TRIPC	1.1375E+00	1.1875E+00	3.2
85	I_LIM_0%	550.E-03	1.8E+00	4.6
25	I_LIM_0%	550.E-03	1.8E+00	4.5
-40	I_LIM_0%	550.E-03	1.8E+00	3.8
85	I_LIM_0%	550.E-03	1.8E+00	4.3
25	I_LIM_0%	550.E-03	1.8E+00	4.5
-40	I_LIM_0%	550.E-03	1.8E+00	3.9
85	I_LIM_90%	550.E-03	1.8E+00	4.5
25	I_LIM_90%	550.E-03	1.8E+00	4.5
-40	I_LIM_90%	550.E-03	1.8E+00	4.3
85	I_LIM_96%	550.E-03	3.3E+00	5.0
25	I_LIM_96%	550.E-03	3.3E+00	5.2
-40	I_LIM_96%	550.E-03	3.3E+00	4.7
85	RST TIMNG	1.5E-03	8.E-03	3.6
25	RST TIMNG	1.5E-03	8.E-03	3.3
-40	RST TIMNG	1.5E-03	8.E-03	2.9
85	ON_SUP_I	10.E-06	250.E-06	5.8
25	ON_SUP_I	10.E-06	250.E-06	6.1
-40	ON_SUP_I	10.E-06	250.E-06	7.1

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