

TPS50601A-SP (5962R1022102VSC) Neutron Displacement Damage Characterization

ABSTRACT

This report presents the effect of neutron displacement damage (NDD) on the TPS50601A-SP device. The results show that all devices were fully functional and within production test limits after having been irradiated up to 1×10^{13} n/cm² (1-MeV equivalent). A sample size of fifteen units was exposed to radiation testing per (MIL-STD-883, Method 1017 for Neutron Irradiation) and an additional unirradiated sample device was used for correlation. All devices used in the experiment were from lot date code 1806A and assembly lot 8000965. Electrical testing was performed at Texas Instruments before and after neutron irradiation using the production test program for TPS50601A-SP.

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1 Overview

The TPS50601A-SP is a radiation hardened, 3.0-V to 7.0-V, 6-A synchronous buck converter, which is optimized for small designs through high efficiency and integrating the high-side and low-side MOSFETs. Further space savings are achieved through current mode control, which reduces component count, and a high switching frequency, reducing the inductor's footprint. The devices are offered in an ultra small, thermally enhanced 20-pin ceramic flatpack package.

General device information and testing conditions are listed in [Table 1](#).

Table 1. Overview Information

TI Part Number	TPS50601A-SP
SMD Number	5962R1022102VSC
Device Function	Synchronous Buck Converter
Die Name	RTPS50601A2VM
Technology	LBC7
A/T Lot Number / Date Code	8000965 / 1806A
Unbiased Quantity Tested	15
Exposure Facility	VPT Rad
Neutron Fluence (1-MeV equivalent)	1.0×10^{12} , 5.0×10^{12} , 1.0×10^{13} n/cm ²
Irradiation Temperature	25°C

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2 Test Procedures

The TPS50601A-SP was electrically pre-tested using the production automated test equipment program. General test procedures were IAW MIL-STD-883, Method 1017 for Neutron Irradiation of TPS50601A-SP.

Table 2. Neutron Irradiation Conditions

Group	Sample Qty	Neutron Fluence (n/cm ²)	Bias
A	5	1.0×10^{12}	Unbiased
B	5	5.0×10^{12}	Unbiased
C	5	1.0×10^{13}	Unbiased

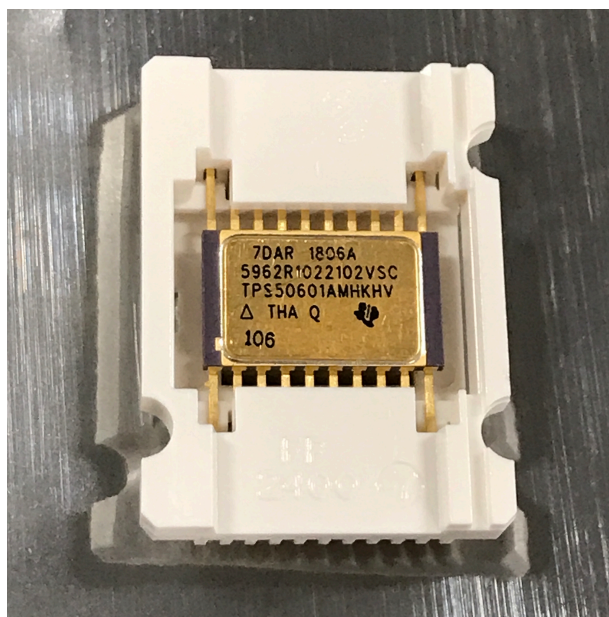


Figure 1. TPS50601A-SP Device

3 Facility

The University of Massachusetts's Fast Neutron Irradiation (FNI) facility is an experimental facility replaces three beam ports that originally existed on the left side of the research reactor. It is designed to give a fast flux level $\geq 10^{11} \text{ n / cm}^2 \text{ -s}$, with relatively low thermal fluence and gamma dose rates. Samples with a cross-sectional area as large as 30 cm (12 in) \times 30 cm (12 in) and up to 15-cm (6-in) thick can be irradiated. The fast neutron flux is designed to be nearly uniform over the 30-cm (12-in) \times 30-cm (12-in) area facing the core, and the fast fluence variation through the sample thickness is minimized via a single 180° rotation of the sample canister at the midpoint of the irradiation period. The FNI facility offers a significantly larger sample volume than previously available within the University of Massachusetts Lowell Research Reactor (UMLRR).

The fluences are calculated based on 1-MeV equivalences.

Detailed information of the radiation facility is available at the following link:

https://www.uml.edu/docs/FNI%20Brochure_tcm18-90375.pdf

4 Results

There were no functional failures at any irradiation level. All parametric measurements remained well within all data sheet (SLVSDF5) limits for all exposure levels. All parametric measurements remained well within the production test limits which are guard-banded from the data sheet limits. The full parameter list and graphs are found in [Appendix A](#).

[Table 3](#) lists the TPS50601A-SP specification compliance matrix.

Table 3. TPS50601A-SP Specification Compliance Matrix

Parameter	Test Condition	TPS50601A-SP Data Sheet (SLVSDF5)				Test #
		MIN	TYP	MAX	Unit	
PVIN internal UVLO threshold	PVIN rising			2.5	V	104.1
PVIN internal UVLO hysteresis				450	mV	106.1
VIN internal UVLO threshold	VIN rising		2.75	3	V	810.1
VIN internal UVLO hysteresis				150	mV	813.1
VIN shutdown supply current	VEN = 0 V	1.35	2.5		mA	42.1, 37.1
VIN operating – non-switching supply current	VSENSE = VBG		5	10	mA	45.1, 33.1
Enable threshold	Rising		1.14	1.18	V	2700.1, 1700.1
	Falling	1.05	1.11			2701.1, 1701.1
Input current	VEN = 1.1 V		6.1		μA	2703.1, 2704.1, 1703.1, 1704.1
Hysteresis current	VEN = 1.3 V		3		μA	2706.1, 1706.1
Voltage reference		0.792	0.804	0.816	V	9100.1, 9002.1
Error amplifier transconductance (gm)	$-2 \mu\text{A} < \text{ICOMP} < 2 \mu\text{A}$, V(COMP) = 1 V	1000	1400	2000	μS	9007.1, 9008.1
Error amplifier source/sink	V(COMP) = 1 V, 100-mV input overdrive	-250	± 115	250	μA	9010.1, 9011.1
Internally set frequency	RT = Open	395	500	585	kHz	7550.1, 2550.1
	RT = 100 k Ω (1%)	395	500	585		7996.1
	RT = 487 k Ω (1%)	85	100	120		7993.1
	RT = 47 k Ω (1%)	900	1000	1100		7994.1
SYNC out low-to-high rise time (10%/90%)	Cload = 25 pF		70	111	ns	2650.1, 7650.1
SYNC out high-to-low fall time (90%/10%)	Cload = 25 pF		6	15.5	ns	2651.1, 7651.1
SYNC out high level threshold	IOH = 50 μA	2			V	7652.1, 7653.1,
SYNC out low level threshold	IOL = 50 μA			600	mV	2652.1, 2653.1

Table 3. TPS50601A-SP Specification Compliance Matrix (continued)

Parameter	Test Condition	TPS50601A-SP Data Sheet (SLVSD5)				Test #
		MIN	TYP	MAX	Unit	
SYNC in low level threshold	PVIN = VIN = 3 V			900	mV	7995.1, 8003.1
SYNC in high level threshold	PVIN = VIN = 3 V	2.45			V	
SYNC in low level threshold	PVIN = VIN = 7 V			900	mV	9995.1, 10003.1
SYNC in high level threshold	PVIN = VIN = 7 V	4.25			V	
SYNC in frequency range		100		1000	kHz	7995.1, 8003.1, 9995.1, 10003.1
Minimum on time	Measured at 10% to 90% of VIN, 25°C, IPH = 2 A		190	235	ns	7999.1, 9999.1
SS charge current		1.5	2.5	3	μA	8998.1, 8999.1
SS/TR to VSENSE matching	V(SS/TR) = 0.4 V		30	90	mV	9009.1, 9012.1
Output high leakage	VSENSE = Vref, V(PWRGD) = 5 V		30	181	nA	54.1, 541.1
Minimum VIN for valid output	V(PWRGD) < 0.5 V at 100 μA		0.6	1	V	812.1
Minimum SS/TR voltage for PWRGD				1.55	V	2705.1, 1705.1

Test Results

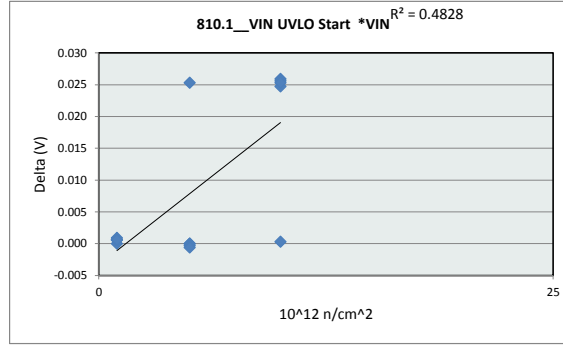
This appendix contains the detailed test results.

NDD Report
TPS50601A-SP

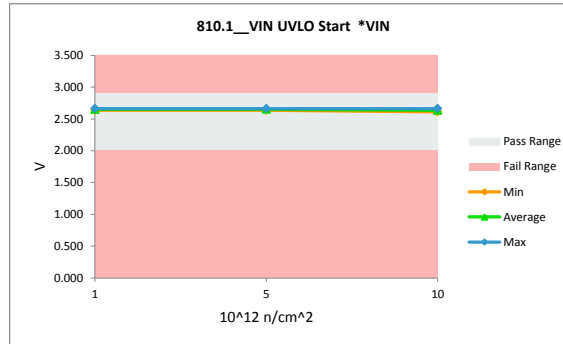
NDD Report
TPS50601A-SP

810.1_VIN UVLO Start *VIN		
Test Site	1	1
Tester	ETS364	ETS364
Test Number	EF823401	EF823401
Unit	V	V
Max Limit	2.9	2.9
Min Limit	2	2

10^12 n/cm^2	Serial #	POL6A pre NDD	POL6A post NDD	Delta
1	102	2.664	2.663	0.001
1	105	2.638	2.638	0.000
1	106	2.664	2.663	0.001
1	107	2.638	2.638	0.001
1	108	2.664	2.663	0.001
5	117	2.663	2.638	0.025
5	118	2.664	2.664	0.000
5	119	2.663	2.663	0.000
5	120	2.638	2.638	0.000
5	121	2.663	2.664	-0.001
10	109	2.664	2.638	0.026
10	110	2.664	2.663	0.000
10	112	2.638	2.613	0.025
10	115	2.663	2.638	0.026
10	116	2.663	2.638	0.025
Max		2.664	2.664	0.026
Average		2.657	2.648	0.009
Min		2.638	2.613	-0.001
Std Dev		0.012	0.016	0.012



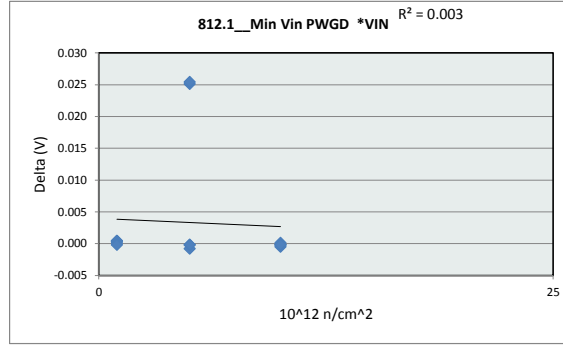
810.1_VIN UVLO Start *VIN			
Test Site	1		
Tester	ETS364		
Test Number	EF823401		
Max Limit	2.9	V	
Min Limit	2	V	
10^12 n/cm^2	1	5	10
LL	2.000	2.000	2.000
Min	2.638	2.638	2.613
Average	2.653	2.653	2.638
Max	2.663	2.664	2.663
UL	2.900	2.900	2.900



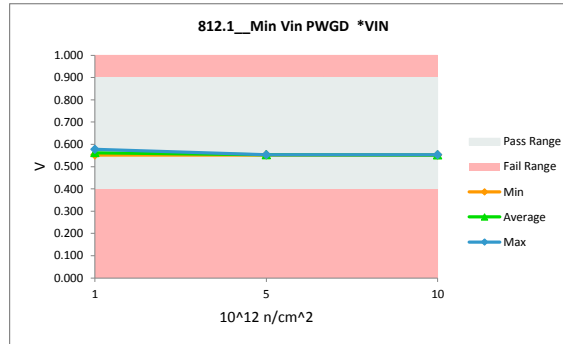
NDD Report
TPS50601A-SP

812.1_Min Vin PWGD *VIN		
Test Site	1	1
Tester	ETS364	ETS364
Test Number	EF823401	EF823401
Unit	V	V
Max Limit	0.9	0.9
Min Limit	0.4	0.4

10 ¹² n/cm ²	Serial #	POL6A pre NDD	POL6A post NDD	Delta
1	102	0.578	0.578	0.000
1	105	0.552	0.552	0.000
1	106	0.578	0.578	0.000
1	107	0.553	0.553	0.000
1	108	0.552	0.553	0.000
5	117	0.578	0.553	0.025
5	118	0.552	0.553	-0.001
5	119	0.578	0.553	0.025
5	120	0.552	0.553	0.000
5	121	0.553	0.553	0.000
10	109	0.552	0.553	0.000
10	110	0.552	0.553	-0.001
10	112	0.552	0.553	0.000
10	115	0.553	0.553	0.000
10	116	0.552	0.553	0.000
Max		0.578	0.578	0.025
Average		0.559	0.556	0.003
Min		0.552	0.552	-0.001
Std Dev		0.012	0.009	0.009



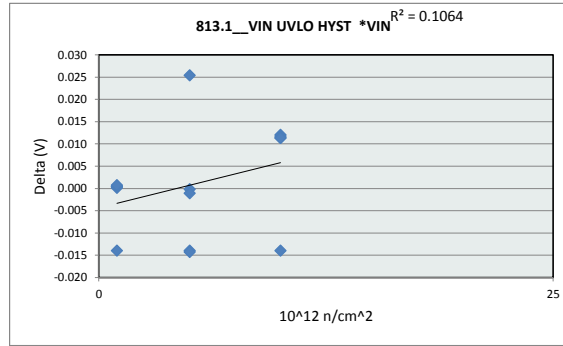
812.1_Min Vin PWGD *VIN			
Test Site	1		
Tester	ETS364		
Test Number	EF823401		
Max Limit	0.9	V	
Min Limit	0.4	V	
10 ¹² n/cm ²	1	5	10
LL	0.400	0.400	0.400
Min	0.552	0.553	0.553
Average	0.562	0.553	0.553
Max	0.578	0.553	0.553
UL	0.900	0.900	0.900



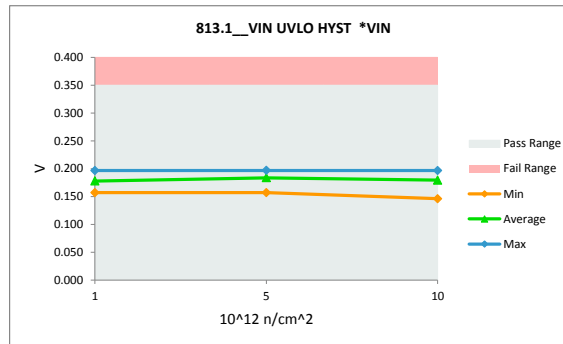
NDD Report
TPS50601A-SP

813.1_VIN UVLO HYST *VIN		
Test Site	1	1
Tester	ETS364	ETS364
Test Number	EF823401	EF823401
Unit	V	V
Max Limit	0.35	0.35
Min Limit	0	0

10^12 n/cm^2	Serial #	POL6A pre NDD	POL6A post NDD	Delta
1	102	0.182	0.196	-0.014
1	105	0.157	0.157	0.000
1	106	0.183	0.182	0.000
1	107	0.157	0.157	0.000
1	108	0.197	0.196	0.001
5	117	0.182	0.157	0.025
5	118	0.183	0.197	-0.014
5	119	0.196	0.196	0.000
5	120	0.157	0.171	-0.014
5	121	0.196	0.197	-0.001
10	109	0.197	0.184	0.012
10	110	0.182	0.196	-0.014
10	112	0.157	0.146	0.011
10	115	0.196	0.184	0.012
10	116	0.197	0.185	0.011
Max		0.197	0.197	0.025
Average		0.181	0.180	0.001
Min		0.157	0.146	-0.014
Std Dev		0.016	0.018	0.012



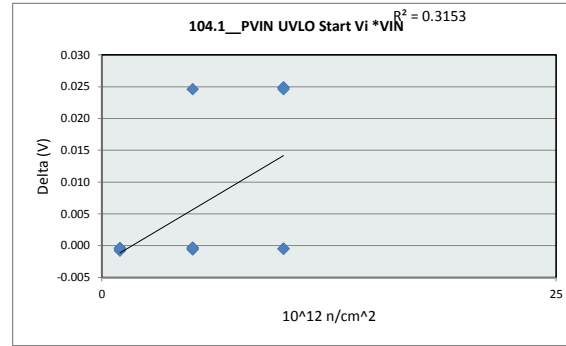
813.1_VIN UVLO HYST *VIN			
Test Site	1		
Tester	ETS364		
Test Number	EF823401		
Max Limit	0.35	V	
Min Limit	0	V	
10^12 n/cm^2	1	5	10
LL	0.000	0.000	0.000
Min	0.157	0.157	0.146
Average	0.178	0.184	0.179
Max	0.196	0.197	0.196
UL	0.350	0.350	0.350



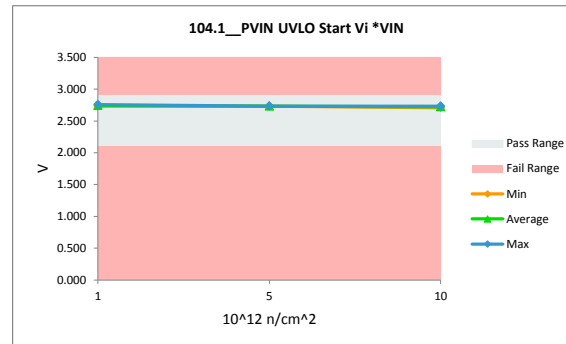
NDD Report
TPS50601A-SP

104.1_PVIN UVLO Start Vi *VIN		
Test Site	1	1
Tester	ETS364	ETS364
Test Number	EF823401	EF823401
Unit	V	V
Max Limit	2.9	2.9
Min Limit	2.1	2.1

10^12 n/cm^2	Serial #	POL6A pre NDD	POL6A post NDD	Delta
1	102	2.733	2.734	-0.001
1	105	2.733	2.733	0.000
1	106	2.758	2.758	0.000
1	107	2.733	2.733	0.000
1	108	2.758	2.758	0.000
5	117	2.733	2.733	0.000
5	118	2.733	2.733	0.000
5	119	2.733	2.733	-0.001
5	120	2.758	2.733	0.025
5	121	2.733	2.733	0.000
10	109	2.758	2.733	0.025
10	110	2.733	2.733	0.000
10	112	2.733	2.733	-0.001
10	115	2.733	2.708	0.025
10	116	2.733	2.708	0.025
Max		2.758	2.758	0.025
Average		2.739	2.733	0.006
Min		2.733	2.708	-0.001
Std Dev		0.012	0.013	0.012



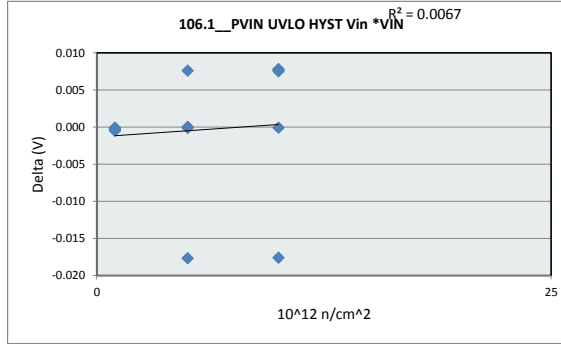
104.1_PVIN UVLO Start Vi *V			
Test Site	1		
Tester	ETS364		
Test Number	EF823401		
Max Limit	2.9	V	
Min Limit	2.1	V	
10^12 n/cm^2	1	5	10
LL	2.100	2.100	2.100
Min	2.733	2.733	2.708
Average	2.743	2.733	2.723
Max	2.758	2.733	2.733
UL	2.900	2.900	2.900



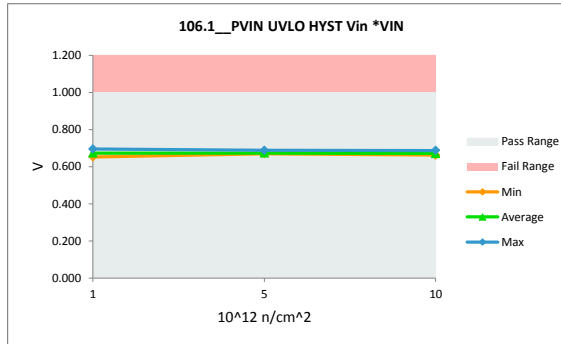
NDD Report
TPS50601A-SP

106.1_PVIN UVLO HYST Vin *VIN		
Test Site	1	1
Tester	ETS364	ETS364
Test Number	EF823401	EF823401
Unit	V	V
Max Limit	1	1
Min Limit	0	0

10^12 n/cm^2	Serial #	POL6A pre NDD	POL6A post NDD	Delta
1	102	0.670	0.670	-0.001
1	105	0.652	0.652	0.000
1	106	0.678	0.678	0.000
1	107	0.670	0.670	0.000
1	108	0.695	0.695	0.000
5	117	0.670	0.670	0.000
5	118	0.670	0.670	0.000
5	119	0.670	0.687	-0.018
5	120	0.678	0.670	0.008
5	121	0.670	0.670	0.000
10	109	0.695	0.687	0.008
10	110	0.652	0.670	-0.018
10	112	0.670	0.670	0.000
10	115	0.670	0.662	0.008
10	116	0.669	0.662	0.007
	Max	0.695	0.695	0.008
	Average	0.672	0.672	0.000
	Min	0.652	0.652	-0.018
	Std Dev	0.012	0.011	0.008



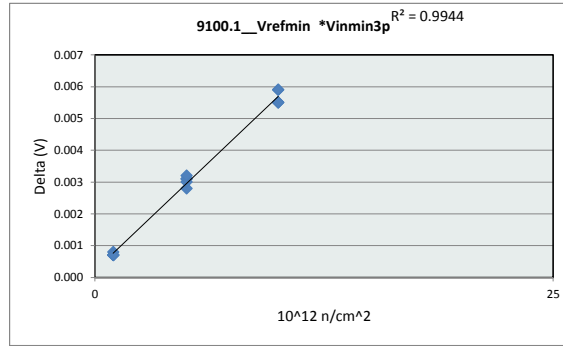
106.1_PVIN UVLO HYST Vin *			
Test Site	1		
Tester	ETS364		
Test Number	EF823401		
Max Limit	1	V	
Min Limit	0	V	
10^12 n/cm^2	1	5	10
LL	0.000	0.000	0.000
Min	0.653	0.670	0.662
Average	0.673	0.673	0.670
Max	0.695	0.687	0.687
UL	1.000	1.000	1.000



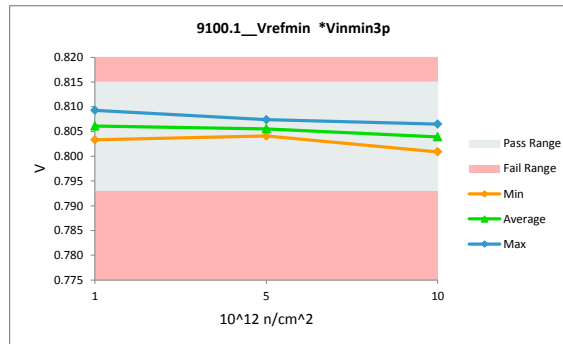
NDD Report
TPS50601A-SP

	9100.1_Vrefmin	*Vinmin3p
Test Site	1	1
Tester	ETS364	ETS364
Test Number	EF823401	EF823401
Unit	V	V
Max Limit	0.815	0.815
Min Limit	0.793	0.793

10 ¹² n/cm ²	Serial #	POL6A pre NDD	POL6A post NDD	Delta
1	102	0.804	0.803	0.001
1	105	0.810	0.809	0.001
1	106	0.808	0.807	0.001
1	107	0.805	0.804	0.001
1	108	0.808	0.807	0.001
5	117	0.808	0.806	0.003
5	118	0.809	0.806	0.003
5	119	0.810	0.807	0.003
5	120	0.807	0.804	0.003
5	121	0.808	0.805	0.003
10	109	0.807	0.801	0.006
10	110	0.812	0.806	0.006
10	112	0.812	0.807	0.006
10	115	0.807	0.801	0.006
10	116	0.810	0.805	0.006
Max		0.812	0.809	0.006
Average		0.808	0.805	0.003
Min		0.804	0.801	0.001
Std Dev		0.002	0.002	0.002



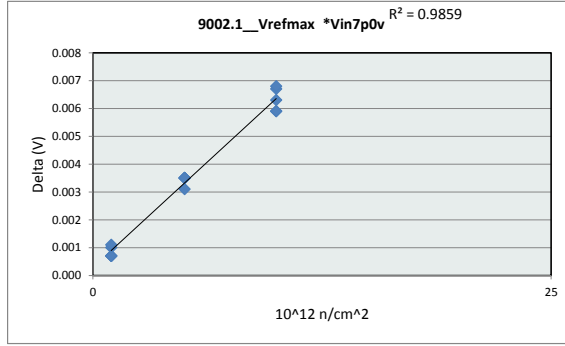
	9100.1_Vrefmin	*Vinmin3p	
Test Site	1	1	
Tester	ETS364	ETS364	
Test Number	EF823401	EF823401	
Max Limit	0.815	V	
Min Limit	0.793	V	
10 ¹² n/cm ²	1	5	10
LL	0.793	0.793	0.793
Min	0.803	0.804	0.801
Average	0.806	0.806	0.804
Max	0.809	0.807	0.807
UL	0.815	0.815	0.815



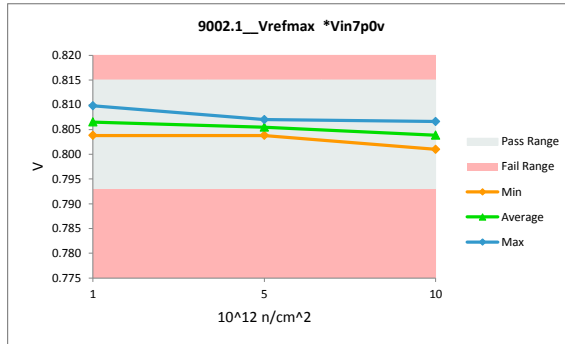
NDD Report
TPS50601A-SP

9002.1_Vrefmax *Vin7p0v		
Test Site	1	1
Tester	ETS364	ETS364
Test Number	EF823401	EF823401
Unit	V	V
Max Limit	0.815	0.815
Min Limit	0.793	0.793

10 ¹² n/cm ²	Serial #	POL6A pre NDD	POL6A post NDD	Delta
1	102	0.805	0.804	0.001
1	105	0.811	0.810	0.001
1	106	0.808	0.807	0.001
1	107	0.805	0.805	0.001
1	108	0.808	0.807	0.001
5	117	0.809	0.806	0.003
5	118	0.809	0.806	0.003
5	119	0.811	0.807	0.004
5	120	0.807	0.804	0.003
5	121	0.808	0.805	0.003
10	109	0.808	0.801	0.007
10	110	0.812	0.805	0.007
10	112	0.813	0.807	0.006
10	115	0.808	0.802	0.006
10	116	0.811	0.805	0.006
Max		0.813	0.810	0.007
Average		0.809	0.805	0.004
Min		0.805	0.801	0.001
Std Dev		0.002	0.002	0.002



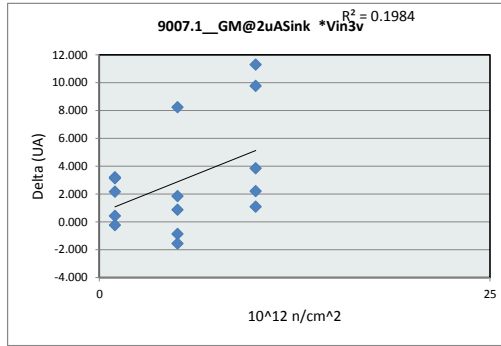
9002.1_Vrefmax *Vin7p0v			
Test Site	1		
Tester	ETS364		
Test Number	EF823401		
Max Limit	0.815	V	
Min Limit	0.793	V	
10 ¹² n/cm ²	1	5	10
LL	0.793	0.793	0.793
Min	0.804	0.804	0.801
Average	0.807	0.805	0.804
Max	0.810	0.807	0.807
UL	0.815	0.815	0.815



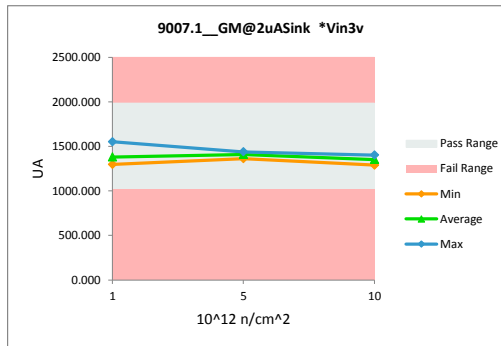
NDD Report
TPS50601A-SP

9007.1_GM@2uASink *Vin3v		
Test Site	1	1
Tester	ETS364	ETS364
Test Number	EF823401	EF823401
Unit	UA	UA
Max Limit	1985	1985
Min Limit	1015	1015

10 ¹² n/cm ²	Serial #	POL6A pre NDD	POL6A post NDD	Delta
1	102	1342.689	1339.495	3.194
1	105	1552.944	1550.791	2.153
1	106	1330.272	1329.857	0.415
1	107	1386.253	1386.498	-0.245
1	108	1300.295	1297.172	3.123
5	117	1433.629	1431.787	1.841
5	118	1379.606	1380.483	-0.877
5	119	1427.041	1428.608	-1.567
5	120	1369.923	1361.697	8.226
5	121	1439.264	1438.397	0.866
10	109	1290.633	1288.427	2.206
10	110	1341.730	1340.644	1.086
10	112	1384.008	1374.244	9.764
10	115	1367.089	1355.798	11.291
10	116	1405.761	1401.918	3.843
Max		1552.944	1550.791	11.291
Average		1383.409	1380.388	3.021
Min		1290.633	1288.427	-1.567
Std Dev		64.913	65.492	3.841



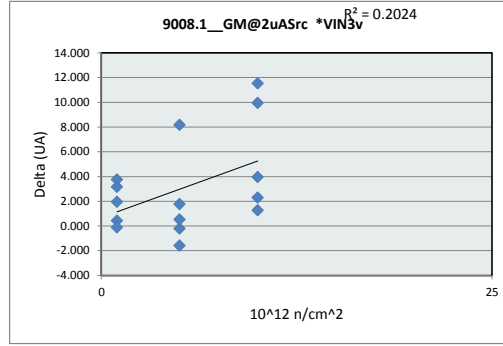
9007.1_GM@2uASink *Vin3v			
Test Site	1		
Tester	ETS364		
Test Number	EF823401		
Max Limit	1985	UA	
Min Limit	1015	UA	
10 ¹² n/cm ²	1	5	10
LL	1015.000	1015.000	1015.000
Min	1297.172	1361.697	1288.427
Average	1380.762	1408.195	1352.206
Max	1550.791	1438.397	1401.918
UL	1985.000	1985.000	1985.000



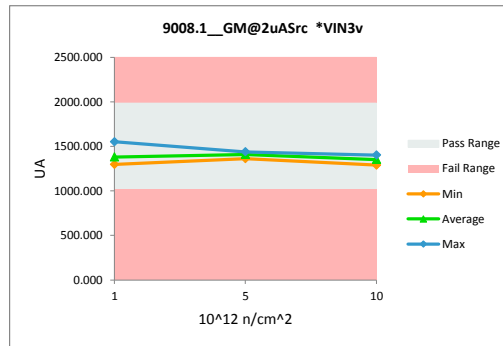
NDD Report
TPS50601A-SP

9008.1_GM@2uASrc *VIN3v		
Test Site	1	1
Tester	ETS364	ETS364
Test Number	EF823401	EF823401
Unit	UA	UA
Max Limit	1985	1985
Min Limit	1015	1015

10 ¹² n/cm ²	Serial #	POL6A pre NDD	POL6A post NDD	Delta
1	102	1342.910	1339.165	3.745
1	105	1552.861	1550.918	1.943
1	106	1330.166	1329.737	0.429
1	107	1386.236	1386.352	-0.116
1	108	1300.389	1297.229	3.159
5	117	1433.662	1431.900	1.762
5	118	1379.955	1380.159	-0.204
5	119	1426.835	1428.418	-1.583
5	120	1369.860	1361.680	8.179
5	121	1439.046	1438.523	0.523
10	109	1290.622	1288.331	2.291
10	110	1341.812	1340.540	1.272
10	112	1384.294	1374.341	9.953
10	115	1367.152	1355.619	11.533
10	116	1405.949	1401.993	3.956
	Max	1552.861	1550.918	11.533
	Average	1383.450	1380.327	3.123
	Min	1290.622	1288.331	-1.583
	Std Dev	64.865	65.556	3.865



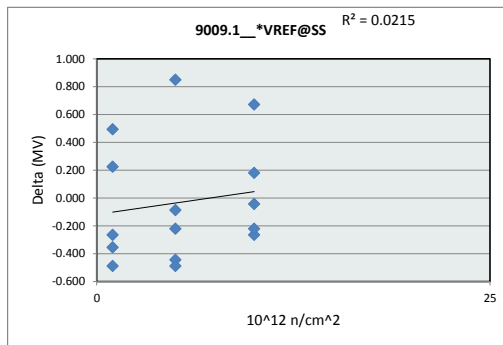
9008.1_GM@2uASrc *VIN3v			
Test Site	1		
Tester	ETS364		
Test Number	EF823401		
Max Limit	1985	UA	
Min Limit	1015	UA	
10 ¹² n/cm ²	1	5	10
LL	1015.000	1015.000	1015.000
Min	1297.229	1361.680	1288.331
Average	1380.680	1408.136	1352.165
Max	1550.918	1438.523	1401.993
UL	1985.000	1985.000	1985.000



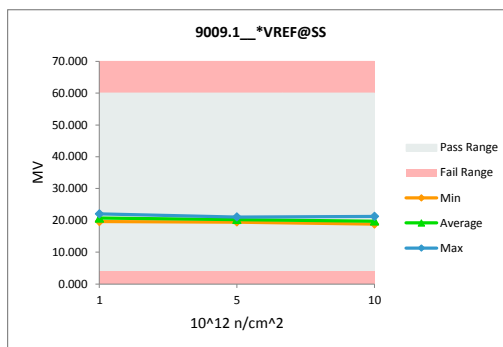
NDD Report TPS50601A-SP

9009.1_*VREF@SS		
Test Site	1	1
Tester	ETS364	ETS364
Test Number	EF823401	EF823401
Unit	MV	MV
Max Limit	60	60
Min Limit	4	4

10 ¹² n/cm ²	Serial #	POL6A pre NDD	POL6A post NDD	Delta
1	102	19.827	19.602	0.225
1	105	21.523	22.012	-0.489
1	106	20.451	20.807	-0.355
1	107	21.746	21.253	0.493
1	108	19.603	19.870	-0.266
5	117	20.943	21.030	-0.087
5	118	20.719	19.870	0.850
5	119	19.023	19.468	-0.445
5	120	20.184	20.405	-0.221
5	121	20.050	20.539	-0.489
10	109	19.827	20.093	-0.266
10	110	18.755	18.799	-0.043
10	112	19.827	19.646	0.180
10	115	19.648	18.977	0.671
10	116	20.987	21.208	-0.221
Max		21.746	22.012	0.850
Average		20.208	20.239	-0.031
Min		18.755	18.799	-0.489
Std Dev		0.854	0.906	0.426



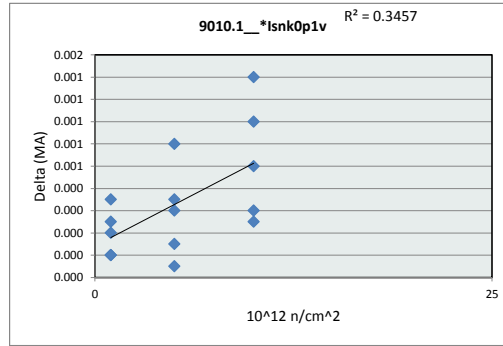
9009.1_*VREF@SS			
Test Site	1		
Tester	ETS364		
Test Number	EF823401		
Max Limit	60	MV	
Min Limit	4	MV	
10 ¹² n/cm ²	1	5	10
LL	4.000	4.000	4.000
Min	19.602	19.468	18.799
Average	20.709	20.262	19.745
Max	22.012	21.030	21.208
UL	60.000	60.000	60.000



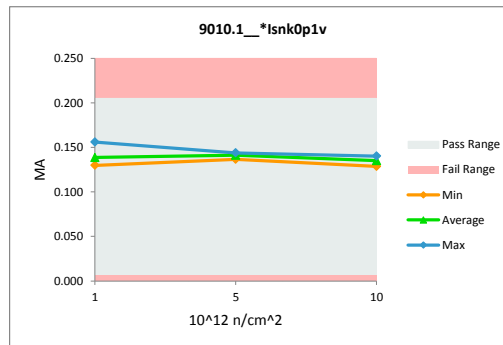
NDD Report
TPS50601A-SP

9010.1_*Isnk0p1v		
Test Site	1	1
Tester	ETS364	ETS364
Test Number	EF823401	EF823401
Unit	MA	MA
Max Limit	0.205	0.205
Min Limit	0.006	0.006

10 ¹² n/cm ²	Serial #	POL6A pre NDD	POL6A post NDD	Delta
1	102	0.134	0.134	0.000
1	105	0.156	0.156	0.000
1	106	0.133	0.133	0.000
1	107	0.139	0.139	0.000
1	108	0.130	0.130	0.000
5	117	0.144	0.144	0.000
5	118	0.139	0.139	0.000
5	119	0.142	0.142	0.000
5	120	0.137	0.137	0.001
5	121	0.144	0.144	0.000
10	109	0.129	0.129	0.000
10	110	0.133	0.133	0.000
10	112	0.138	0.137	0.001
10	115	0.137	0.135	0.001
10	116	0.141	0.140	0.001
Max		0.156	0.156	0.001
Average		0.138	0.138	0.000
Min		0.129	0.129	0.000
Std Dev		0.007	0.007	0.000



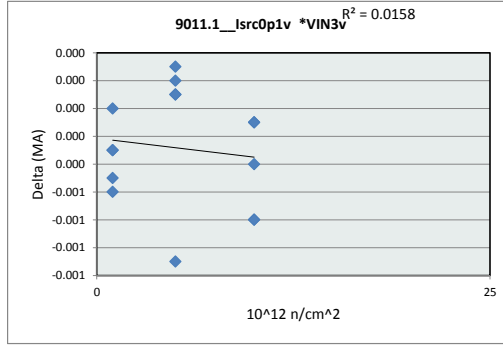
9010.1_*Isnk0p1v			
Test Site	1		
Tester	ETS364		
Test Number	EF823401		
Max Limit	0.205	MA	
Min Limit	0.006	MA	
10 ¹² n/cm ²	1	5	10
LL	0.006	0.006	0.006
Min	0.130	0.137	0.129
Average	0.139	0.141	0.135
Max	0.156	0.144	0.140
UL	0.205	0.205	0.205



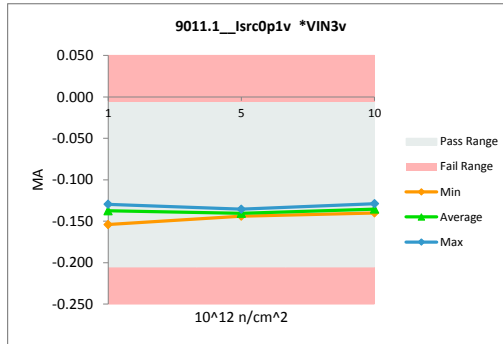
NDD Report
TPS50601A-SP

		9011.1_Isrc0p1v *VIN3v	
		1	1
Test Site		ETS364	ETS364
Tester		EF823401	EF823401
Test Number		MA	MA
Unit			
Max Limit		-0.006	-0.006
Min Limit		-0.205	-0.205

10^12 n/cm^2	Serial #	POL6A pre NDD	POL6A post NDD	Delta
1	102	-0.134	-0.134	0.000
1	105	-0.155	-0.154	-0.001
1	106	-0.133	-0.132	0.000
1	107	-0.138	-0.138	0.000
1	108	-0.130	-0.130	0.000
5	117	-0.143	-0.143	0.000
5	118	-0.137	-0.137	0.000
5	119	-0.143	-0.143	0.000
5	120	-0.137	-0.135	-0.001
5	121	-0.144	-0.144	0.000
10	109	-0.129	-0.129	0.000
10	110	-0.135	-0.135	0.000
10	112	-0.138	-0.138	-0.001
10	115	-0.136	-0.136	-0.001
10	116	-0.140	-0.140	0.000
Max		-0.129	-0.129	0.000
Average		-0.138	-0.138	0.000
Min		-0.155	-0.154	-0.001
Std Dev		0.006	0.006	0.000



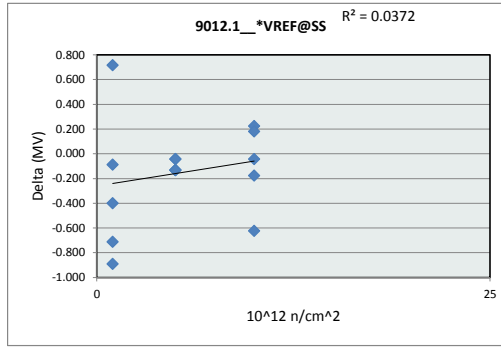
		9011.1_Isrc0p1v *VIN3v		
		1	5	10
Test Site		ETS364	ETS364	ETS364
Tester		EF823401	EF823401	EF823401
Test Number		MA	MA	MA
Max Limit		-0.006	-0.006	-0.006
Min Limit		-0.205	-0.205	-0.205
10^12 n/cm^2		1	5	10
LL		-0.205	-0.205	-0.205
Min		-0.154	-0.144	-0.140
Average		-0.138	-0.141	-0.135
Max		-0.130	-0.136	-0.129
UL		-0.006	-0.006	-0.006



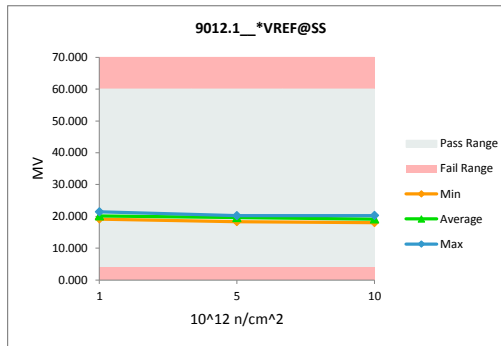
NDD Report
TPS50601A-SP

9012.1_*VREF@SS		
Test Site	1	1
Tester	ETS364	ETS364
Test Number	EF823401	EF823401
Unit	MV	MV
Max Limit	60	60
Min Limit	4	4

10 ¹² n/cm ²	Serial #	POL6A pre NDD	POL6A post NDD	Delta
1	102	18.934	19.825	-0.891
1	105	20.719	21.431	-0.712
1	106	19.871	19.959	-0.088
1	107	21.032	20.316	0.716
1	108	18.755	19.156	-0.400
5	117	20.184	20.227	-0.043
5	118	20.094	20.227	-0.132
5	119	18.219	18.352	-0.133
5	120	19.514	19.646	-0.132
5	121	19.380	19.423	-0.043
10	109	19.023	19.646	-0.623
10	110	17.952	17.995	-0.044
10	112	18.844	18.620	0.224
10	115	19.023	19.200	-0.177
10	116	20.451	20.271	0.180
Max		21.032	21.431	0.716
Average		19.466	19.620	-0.153
Min		17.952	17.995	-0.891
Std Dev		0.906	0.877	0.396



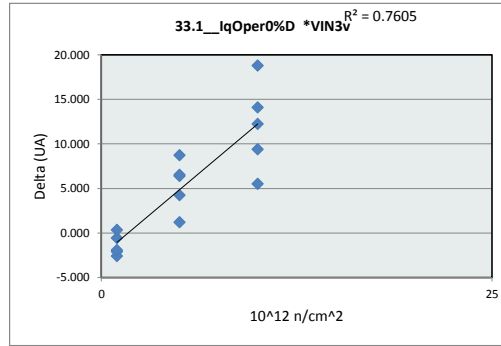
9012.1_*VREF@SS			
Test Site	1		
Tester	ETS364		
Test Number	EF823401		
Max Limit	60	MV	
Min Limit	4	MV	
10 ¹² n/cm ²	1	5	10
LL	4.000	4.000	4.000
Min	19.156	18.352	17.995
Average	20.137	19.575	19.147
Max	21.432	20.227	20.271
UL	60.000	60.000	60.000



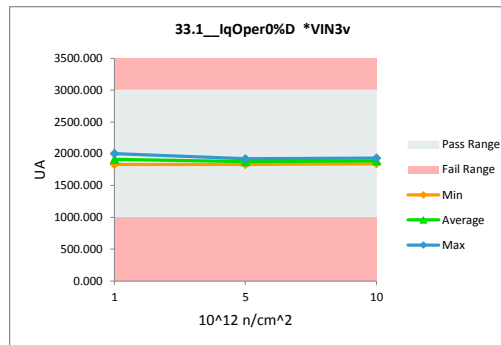
NDD Report
TPS50601A-SP

33.1_IqOper0%D *VIN3v		
Test Site	1	1
Tester	ETS364	ETS364
Test Number	EF823401	EF823401
Unit	UA	UA
Max Limit	3000	3000
Min Limit	1001.5319	1001.5319

10^12 n/cm^2	Serial #	POL6A pre NDD	POL6A post NDD	Delta
1	102	1935.141	1935.716	-0.575
1	105	1998.560	2000.674	-2.115
1	106	1827.015	1829.610	-2.595
1	107	1901.780	1903.708	-1.928
1	108	1877.262	1876.936	0.327
5	117	1885.349	1878.820	6.529
5	118	1923.726	1919.487	4.239
5	119	1838.021	1831.632	6.389
5	120	1859.669	1850.943	8.725
5	121	1890.500	1889.311	1.189
10	109	1851.966	1842.587	9.379
10	110	1889.144	1876.901	12.243
10	112	1940.616	1921.818	18.798
10	115	1945.050	1930.967	14.083
10	116	1874.869	1869.359	5.510
	Max	1998.560	2000.674	18.798
	Average	1895.911	1890.565	5.347
	Min	1827.015	1829.610	-2.595
	Std Dev	45.994	46.139	6.467



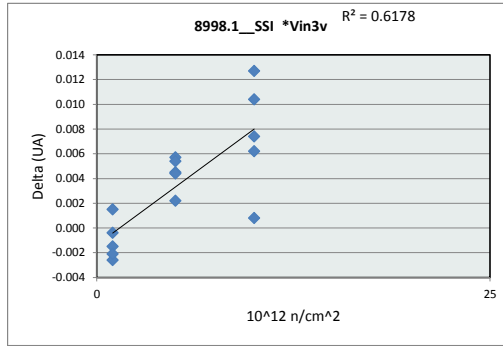
33.1_IqOper0%D *VIN3v			
Test Site	1		
Tester	ETS364		
Test Number	EF823401		
Max Limit	3000	UA	
Min Limit	1001.5319	UA	
10^12 n/cm^2	1	5	10
LL	1001.532	1001.532	1001.532
Min	1829.610	1831.632	1842.587
Average	1909.329	1874.039	1888.326
Max	2000.674	1919.487	1930.967
UL	3000.000	3000.000	3000.000



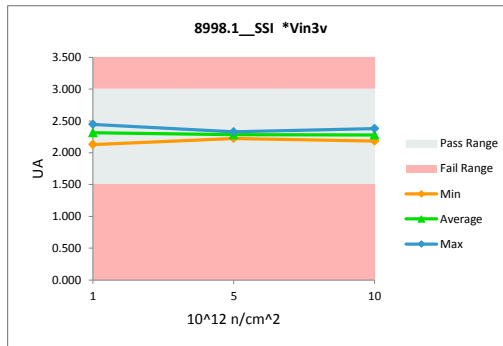
NDD Report
TPS50601A-SP

8998.1_SSI *Vin3v		
Test Site	1	1
Tester	ETS364	ETS364
Test Number	EF823401	EF823401
Unit	UA	UA
Max Limit	3	3
Min Limit	1.5	1.5

10 ¹² n/cm ²	Serial #	POL6A pre NDD	POL6A post NDD	Delta
1	102	2.266	2.267	-0.001
1	105	2.443	2.446	-0.003
1	106	2.297	2.299	-0.002
1	107	2.431	2.431	0.000
1	108	2.131	2.130	0.002
5	117	2.319	2.313	0.006
5	118	2.309	2.303	0.005
5	119	2.230	2.226	0.004
5	120	2.332	2.327	0.004
5	121	2.240	2.238	0.002
10	109	2.190	2.184	0.006
10	110	2.275	2.268	0.007
10	112	2.390	2.380	0.010
10	115	2.306	2.293	0.013
10	116	2.281	2.280	0.001
Max		2.443	2.446	0.013
Average		2.296	2.292	0.004
Min		2.131	2.130	-0.003
Std Dev		0.084	0.084	0.005



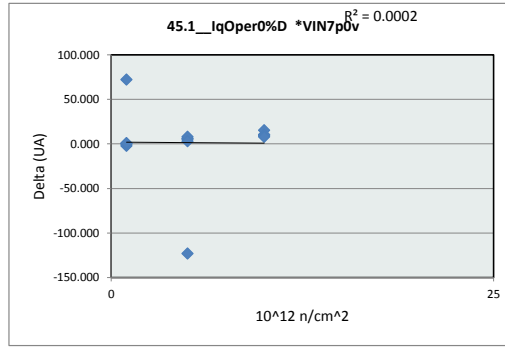
8998.1_SSI *Vin3v			
Test Site	1		
Tester	ETS364		
Test Number	EF823401		
Max Limit	3	UA	
Min Limit	1.5	UA	
10 ¹² n/cm ²	1	5	10
LL	1.500	1.500	1.500
Min	2.130	2.226	2.184
Average	2.315	2.281	2.281
Max	2.446	2.327	2.380
UL	3.000	3.000	3.000



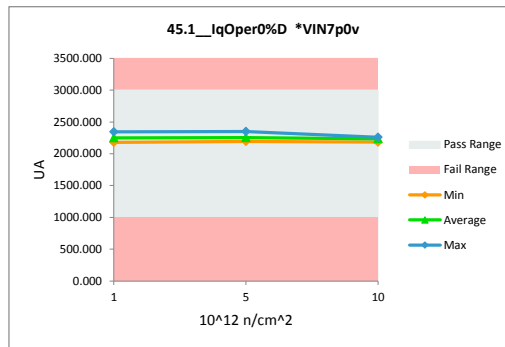
NDD Report
TPS50601A-SP

		45.1_IqOper0%D *VIN7p0v	
		1	1
Test Site		ETS364	ETS364
Tester		EF823401	EF823401
Test Number		UA	UA
Unit		3000	3000
Max Limit		1001.5319	1001.5319
Min Limit			

10^12 n/cm^2	Serial #	POL6A pre NDD	POL6A post NDD	Delta
1	102	2273.664	2273.313	0.351
1	105	2415.924	2343.874	72.050
1	106	2176.218	2178.492	-2.274
1	107	2250.551	2250.940	-0.389
1	108	2204.915	2204.035	0.879
5	117	2227.197	2350.434	-123.237
5	118	2266.719	2261.318	5.401
5	119	2197.435	2191.423	6.012
5	120	2226.066	2218.134	7.932
5	121	2253.872	2250.868	3.003
10	109	2190.630	2181.662	8.968
10	110	2258.021	2248.052	9.969
10	112	2271.205	2255.994	15.211
10	115	2270.943	2260.592	10.351
10	116	2236.117	2228.208	7.909
	Max	2415.924	2350.434	72.050
	Average	2247.965	2246.489	1.476
	Min	2176.218	2178.492	-123.237
	Std Dev	56.268	50.960	38.794



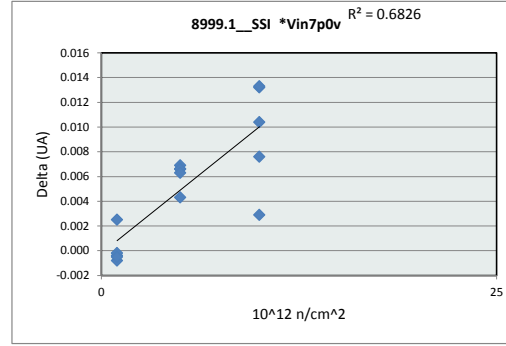
		45.1_IqOper0%D *VIN7p0v		
		1	5	10
Test Site		ETS364		
Tester		EF823401		
Test Number		UA		
Max Limit		3000	UA	
Min Limit		1001.5319	UA	
10^12 n/cm^2		1	5	10
LL		1001.532	1001.532	1001.532
Min		2178.492	2191.423	2181.662
Average		2250.131	2254.435	2234.902
Max		2343.874	2350.434	2260.592
UL		3000.000	3000.000	3000.000



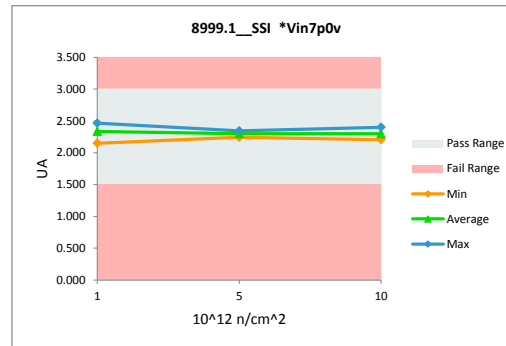
NDD Report
TPS50601A-SP

8999.1_SSI *Vin7p0v		
Test Site	1	1
Tester	ETS364	ETS364
Test Number	EF823401	EF823401
Unit	UA	UA
Max Limit	3	3
Min Limit	1.5	1.5

10 ¹² n/cm ²	Serial #	POL6A pre NDD	POL6A post NDD	Delta
1	102	2.287	2.288	0.000
1	105	2.464	2.464	0.000
1	106	2.317	2.318	-0.001
1	107	2.451	2.451	0.000
1	108	2.152	2.149	0.003
5	117	2.339	2.332	0.007
5	118	2.329	2.322	0.007
5	119	2.249	2.242	0.007
5	120	2.351	2.344	0.006
5	121	2.259	2.255	0.004
10	109	2.211	2.204	0.008
10	110	2.294	2.283	0.010
10	112	2.413	2.400	0.013
10	115	2.328	2.315	0.013
10	116	2.300	2.297	0.003
Max		2.464	2.464	0.013
Average		2.316	2.311	0.005
Min		2.152	2.149	-0.001
Std Dev		0.084	0.084	0.005



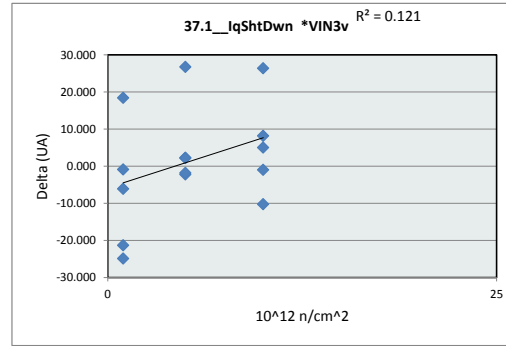
8999.1_SSI *Vin7p0v			
Test Site	1		
Tester	ETS364		
Test Number	EF823401		
Max Limit	3	UA	
Min Limit	1.5	UA	
10 ¹² n/cm ²	1	5	10
LL	1.500	1.500	1.500
Min	2.149	2.242	2.204
Average	2.334	2.299	2.300
Max	2.464	2.344	2.400
UL	3.000	3.000	3.000



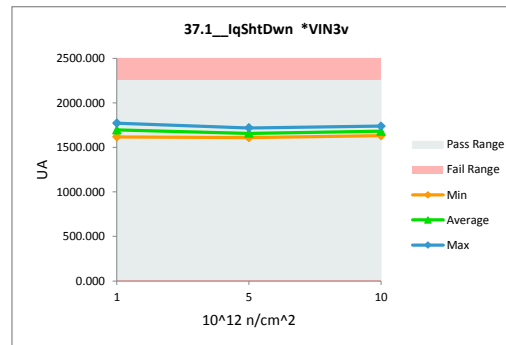
NDD Report
TPS50601A-SP

		37.1_IqShtDwn *VIN3v	
		1	1
Test Site		ETS364	ETS364
Tester		EF823401	EF823401
Test Number		UA	UA
Unit		2250	2250
Max Limit		0.1	0.1
Min Limit			

10^12 n/cm^2	Serial #	POL6A pre NDD	POL6A post NDD	Delta
1	102	1718.986	1719.894	-0.908
1	105	1765.821	1771.941	-6.119
1	106	1636.939	1618.515	18.424
1	107	1663.489	1688.379	-24.890
1	108	1656.477	1677.832	-21.355
5	117	1670.406	1668.159	2.247
5	118	1716.275	1718.521	-2.246
5	119	1611.294	1609.123	2.171
5	120	1644.792	1618.078	26.714
5	121	1674.052	1675.898	-1.845
10	109	1657.381	1631.028	26.353
10	110	1683.961	1678.955	5.006
10	112	1700.944	1711.219	-10.275
10	115	1745.629	1737.461	8.168
10	116	1640.429	1641.418	-0.989
	Max	1765.821	1771.941	26.714
	Average	1679.125	1677.761	1.364
	Min	1611.294	1609.123	-24.890
	Std Dev	42.925	48.172	14.760



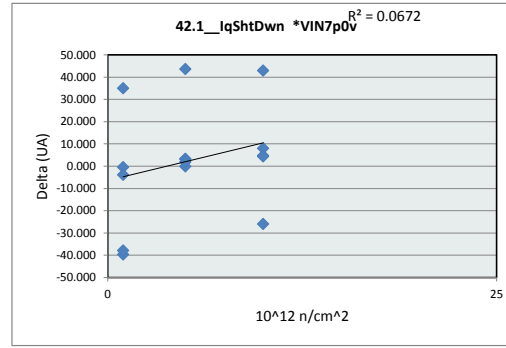
		37.1_IqShtDwn *VIN3v		
		1	5	10
Test Site		ETS364		
Tester		EF823401		
Test Number		UA		
Max Limit		2250	UA	
Min Limit		0.1	UA	
10^12 n/cm^2		1	5	10
LL		0.100	0.100	0.100
Min		1618.515	1609.123	1631.028
Average		1695.312	1657.956	1680.016
Max		1771.941	1718.521	1737.461
UL		2250.000	2250.000	2250.000



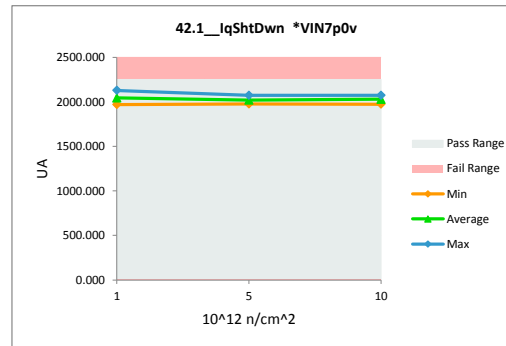
NDD Report
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42.1_IqShtDwn *VIN7p0v		
Test Site	1	1
Tester	ETS364	ETS364
Test Number	EF823401	EF823401
Unit	UA	UA
Max Limit	2250	2250
Min Limit	0.1	0.1

10^12 n/cm^2	Serial #	POL6A pre NDD	POL6A post NDD	Delta
1	102	2052.191	2052.683	-0.491
1	105	2124.099	2127.979	-3.879
1	106	2003.597	1968.612	34.985
1	107	2001.691	2041.385	-39.695
1	108	1990.012	2027.935	-37.922
5	117	2023.261	2020.023	3.238
5	118	2071.874	2071.967	-0.093
5	119	1985.857	1982.719	3.138
5	120	2019.974	1976.342	43.632
5	121	2050.610	2048.765	1.846
10	109	2015.731	1972.805	42.926
10	110	2063.526	2058.798	4.728
10	112	2023.692	2049.678	-25.987
10	115	2080.978	2073.025	7.954
10	116	1993.130	1988.778	4.352
	Max	2124.099	2127.979	43.632
	Average	2033.348	2030.766	2.582
	Min	1985.857	1968.612	-39.695
	Std Dev	39.528	45.805	24.933



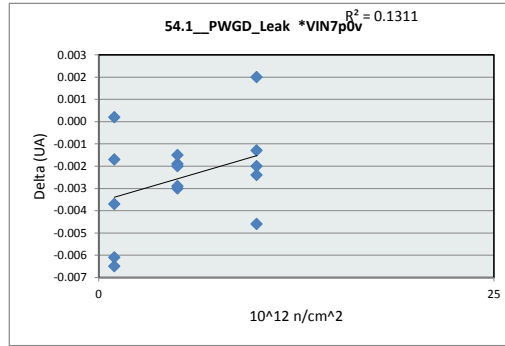
42.1_IqShtDwn *VIN7p0v			
Test Site	1		
Tester	ETS364		
Test Number	EF823401		
Max Limit	2250	UA	
Min Limit	0.1	UA	
10^12 n/cm^2	1	5	10
LL	0.100	0.100	0.100
Min	1968.612	1976.342	1972.805
Average	2043.719	2019.963	2028.617
Max	2127.979	2071.967	2073.025
UL	2250.000	2250.000	2250.000



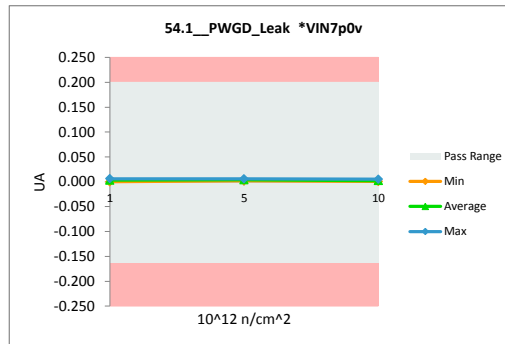
NDD Report
TPS50601A-SP

		54.1_PWGD_Leak *VIN7p0v	
		1	1
Test Site		ETS364	ETS364
Tester		EF823401	EF823401
Test Number		UA	UA
Unit		0.2	0.2
Max Limit		-0.1621	-0.1621
Min Limit			

10 ¹² n/cm ²	Serial #	POL6A pre NDD	POL6A post NDD	Delta
1	102	-0.001	0.005	-0.006
1	105	0.000	0.000	0.000
1	106	0.000	0.006	-0.007
1	107	0.001	0.002	-0.002
1	108	0.000	0.003	-0.004
5	117	-0.001	0.002	-0.003
5	118	0.004	0.006	-0.002
5	119	0.001	0.003	-0.002
5	120	0.003	0.005	-0.003
5	121	0.001	0.003	-0.002
10	109	-0.001	0.002	-0.002
10	110	0.001	0.002	-0.001
10	112	0.000	0.002	-0.002
10	115	0.003	0.001	0.002
10	116	0.001	0.005	-0.005
	Max	0.004	0.006	0.002
	Average	0.001	0.003	-0.002
	Min	-0.001	0.000	-0.007
	Std Dev	0.002	0.002	0.002



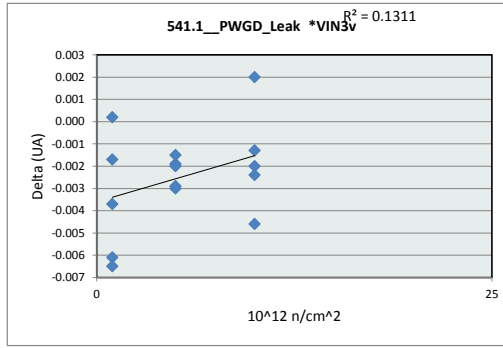
		54.1_PWGD_Leak *VIN7p0v		
		1	5	10
Test Site		ETS364		
Tester		EF823401		
Test Number		UA		
Max Limit		0.2	UA	
Min Limit		-0.1621	UA	
10 ¹² n/cm ²		1	5	10
LL		-0.162	-0.162	-0.162
Min		0.000	0.002	0.001
Average		0.003	0.004	0.002
Max		0.006	0.006	0.005
UL		0.200	0.200	0.200



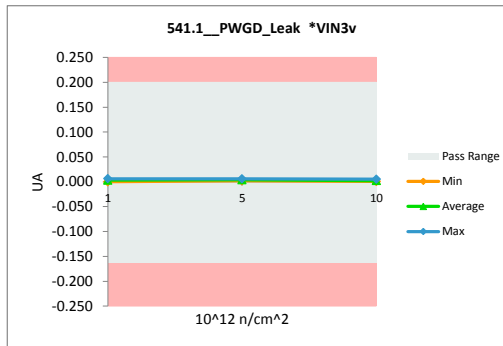
NDD Report
TPS50601A-SP

541.1_PWGD_Leak *VIN3v		
Test Site	1	1
Tester	ETS364	ETS364
Test Number	EF823401	EF823401
Unit	UA	UA
Max Limit	0.2	0.2
Min Limit	-0.1621	-0.1621

10 ¹² n/cm ²	Serial #	POL6A pre NDD	POL6A post NDD	Delta
1	102	-0.001	0.005	-0.006
1	105	0.000	0.000	0.000
1	106	0.000	0.006	-0.007
1	107	0.001	0.002	-0.002
1	108	0.000	0.003	-0.004
5	117	-0.001	0.002	-0.003
5	118	0.004	0.006	-0.002
5	119	0.001	0.003	-0.002
5	120	0.003	0.005	-0.003
5	121	0.001	0.003	-0.002
10	109	-0.001	0.002	-0.002
10	110	0.001	0.002	-0.001
10	112	0.000	0.002	-0.002
10	115	0.003	0.001	0.002
10	116	0.001	0.005	-0.005
Max		0.004	0.006	0.002
Average		0.001	0.003	-0.002
Min		-0.001	0.000	-0.007
Std Dev		0.002	0.002	0.002



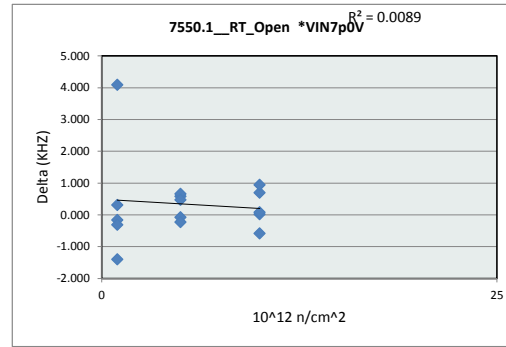
541.1_PWGD_Leak *VIN3v			
Test Site	1		
Tester	ETS364		
Test Number	EF823401		
Max Limit	0.2	UA	
Min Limit	-0.1621	UA	
10 ¹² n/cm ²	1	5	10
LL	-0.162	-0.162	-0.162
Min	0.000	0.002	0.001
Average	0.003	0.004	0.002
Max	0.006	0.006	0.005
UL	0.200	0.200	0.200



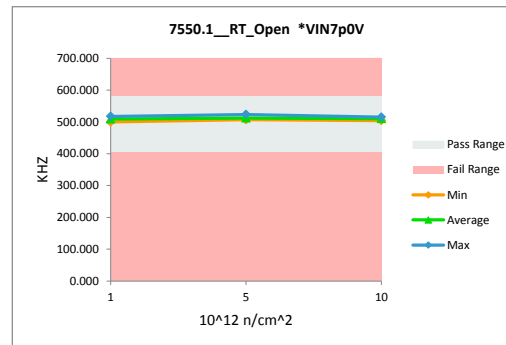
NDD Report
TPS50601A-SP

		7550.1_RT_Open *VIN7p0V	
		1	1
Test Site		ETS364	ETS364
Tester		EF823401	EF823401
Test Number		KHZ	KHZ
Unit		580	580
Max Limit		405	405
Min Limit			

10^12 n/cm^2	Serial #	POL6A pre NDD	POL6A post NDD	Delta
1	102	509.637	509.331	0.306
1	105	516.052	517.452	-1.400
1	106	503.922	499.836	4.086
1	107	504.376	504.540	-0.164
1	108	515.409	515.721	-0.312
5	117	508.104	508.185	-0.081
5	118	524.093	523.514	0.579
5	119	515.503	514.846	0.656
5	120	506.726	506.956	-0.230
5	121	508.741	508.269	0.472
10	109	504.929	504.232	0.697
10	110	510.151	510.136	0.015
10	112	514.427	515.013	-0.586
10	115	511.733	511.651	0.082
10	116	510.733	509.789	0.943
Max		524.093	523.514	4.086
Average		510.969	510.631	0.338
Min		503.922	499.836	-1.400
Std Dev		5.439	5.968	1.193



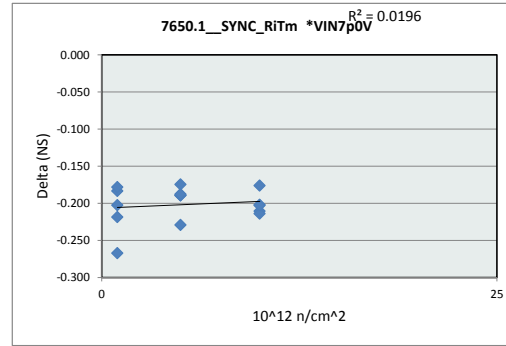
		7550.1_RT_Open *VIN7p0V		
		1	5	10
Test Site		ETS364		
Tester		EF823401		
Test Number		KHZ		
Max Limit		580		
Min Limit		405		
10^12 n/cm^2		1	5	10
LL		405.000	405.000	405.000
Min		499.836	506.956	504.232
Average		509.376	512.354	510.164
Max		517.452	523.514	515.013
UL		580.000	580.000	580.000



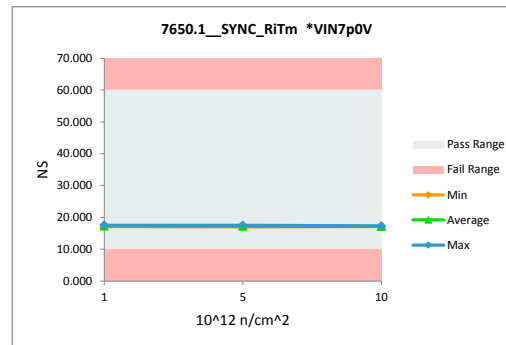
NDD Report
TPS50601A-SP

	7650.1_SYNC_RiTm	*VIN7p0V
Test Site	1	1
Tester	ETS364	ETS364
Test Number	EF823401	EF823401
Unit	NS	NS
Max Limit	60	60
Min Limit	10	10

10 ¹² n/cm ²	Serial #	POL6A pre NDD	POL6A post NDD	Delta
1	102	17.328	17.512	-0.184
1	105	17.298	17.517	-0.219
1	106	17.120	17.387	-0.267
1	107	16.896	17.098	-0.203
1	108	16.899	17.078	-0.178
5	117	16.853	17.042	-0.189
5	118	16.835	17.024	-0.189
5	119	17.310	17.485	-0.175
5	120	17.030	17.259	-0.229
5	121	17.066	17.254	-0.188
10	109	16.972	17.183	-0.211
10	110	17.046	17.260	-0.214
10	112	17.016	17.192	-0.176
10	115	16.924	17.126	-0.202
10	116	16.937	17.140	-0.203
Max		17.328	17.517	-0.175
Average		17.035	17.237	-0.202
Min		16.835	17.024	-0.267
Std Dev		0.164	0.168	0.024



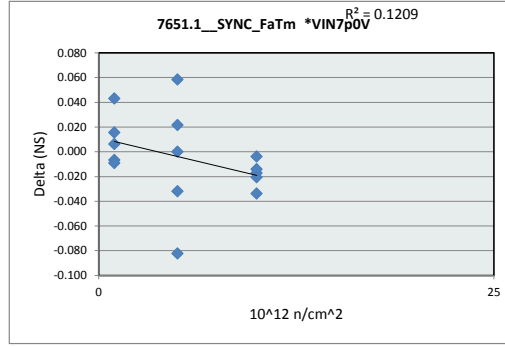
	7650.1_SYNC_RiTm	*VIN7p0V	
Test Site	1	1	
Tester	ETS364	ETS364	
Test Number	EF823401	EF823401	
Max Limit	60	NS	
Min Limit	10	NS	
10 ¹² n/cm ²	1	5	10
LL	10.000	10.000	10.000
Min	17.078	17.024	17.126
Average	17.318	17.213	17.180
Max	17.517	17.485	17.260
UL	60.000	60.000	60.000



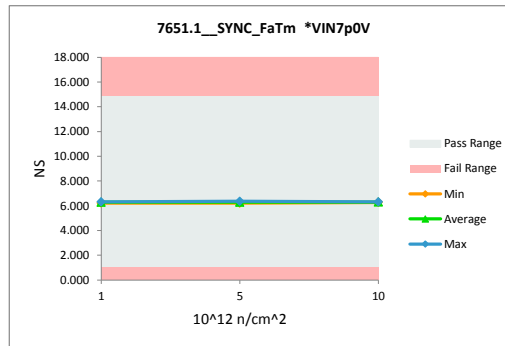
NDD Report
TPS50601A-SP

7651.1_SYNC_FaTm *VIN7p0V		
Test Site	1	1
Tester	ETS364	ETS364
Test Number	EF823401	EF823401
Unit	NS	NS
Max Limit	14.8	14.8
Min Limit	1	1

10 ¹² n/cm ²	Serial #	POL6A pre NDD	POL6A post NDD	Delta
1	102	6.273	6.280	-0.007
1	105	6.327	6.312	0.016
1	106	6.299	6.293	0.006
1	107	6.256	6.213	0.043
1	108	6.277	6.286	-0.009
5	117	6.237	6.320	-0.082
5	118	6.284	6.262	0.022
5	119	6.326	6.358	-0.032
5	120	6.251	6.251	0.000
5	121	6.262	6.204	0.058
10	109	6.270	6.274	-0.004
10	110	6.276	6.293	-0.017
10	112	6.258	6.272	-0.014
10	115	6.274	6.308	-0.034
10	116	6.276	6.297	-0.021
	Max	6.327	6.358	0.058
	Average	6.276	6.281	-0.005
	Min	6.237	6.204	-0.082
	Std Dev	0.025	0.039	0.033



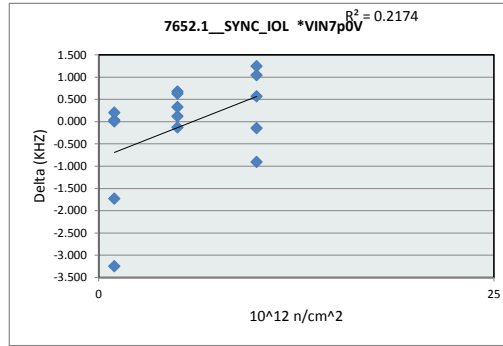
7651.1_SYNC_FaTm *VIN7p0V			
Test Site	1		
Tester	ETS364		
Test Number	EF823401		
Max Limit	14.8	NS	
Min Limit	1	NS	
10 ¹² n/cm ²	1	5	10
LL	1.000	1.000	1.000
Min	6.213	6.204	6.272
Average	6.277	6.279	6.289
Max	6.312	6.358	6.308
UL	14.800	14.800	14.800



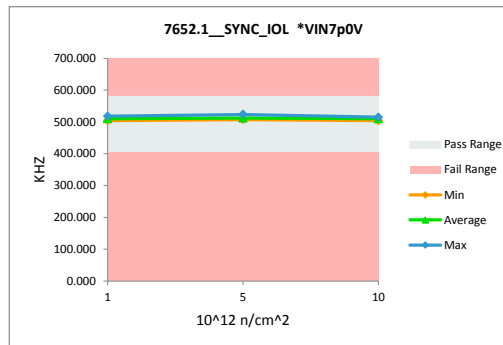
NDD Report
TPS50601A-SP

		7652.1_SYNC_IOL *VIN7p0V	
		1	1
Test Site		ETS364	ETS364
Tester		EF823401	EF823401
Test Number		KHZ	KHZ
Unit		580	580
Max Limit		405	405
Min Limit			

10^12 n/cm^2	Serial #	POL6A pre NDD	POL6A post NDD	Delta
1	102	509.563	509.560	0.002
1	105	516.104	517.836	-1.733
1	106	500.689	503.936	-3.248
1	107	504.697	504.663	0.034
1	108	515.904	515.702	0.202
5	117	508.495	507.819	0.676
5	118	523.391	523.520	-0.129
5	119	515.584	514.957	0.628
5	120	507.213	507.094	0.119
5	121	508.470	508.146	0.324
10	109	505.509	504.263	1.246
10	110	510.030	510.177	-0.147
10	112	513.936	514.842	-0.906
10	115	511.839	511.273	0.567
10	116	510.761	509.718	1.043
	Max	523.391	523.520	1.246
	Average	510.812	510.900	-0.088
	Min	500.689	503.936	-3.248
	Std Dev	5.604	5.537	1.142



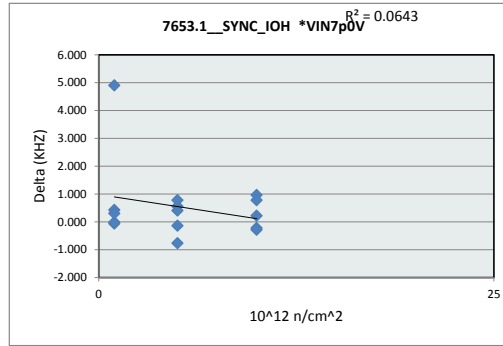
		7652.1_SYNC_IOL *VIN7p0V		
		1	5	10
Test Site		ETS364		
Tester		EF823401		
Test Number		KHZ		
Max Limit		580		
Min Limit		405		
10^12 n/cm^2		1	5	10
LL		405.000	405.000	405.000
Min		503.937	507.094	504.263
Average		510.339	512.307	510.055
Max		517.836	523.520	514.842
UL		580.000	580.000	580.000



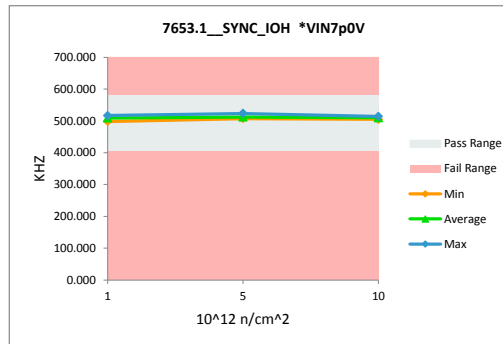
NDD Report
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7653.1_SYNC_IOH *VIN7p0V		
Test Site	1	1
Tester	ETS364	ETS364
Test Number	EF823401	EF823401
Unit	KHZ	KHZ
Max Limit	580	580
Min Limit	405	405

10^12 n/cm^2	Serial #	POL6A pre NDD	POL6A post NDD	Delta
1	102	509.839	509.415	0.424
1	105	516.659	516.722	-0.063
1	106	503.243	498.338	4.905
1	107	504.469	504.487	-0.018
1	108	515.975	515.674	0.302
5	117	508.656	508.100	0.556
5	118	523.427	523.572	-0.145
5	119	515.783	515.008	0.775
5	120	506.653	507.423	-0.770
5	121	508.620	508.214	0.406
10	109	504.928	504.712	0.216
10	110	510.052	510.274	-0.223
10	112	513.989	514.275	-0.286
10	115	512.255	511.293	0.962
10	116	510.538	509.763	0.775
Max		523.427	523.572	4.905
Average		511.006	510.485	0.521
Min		503.243	498.338	-0.770
Std Dev		5.456	6.044	1.300



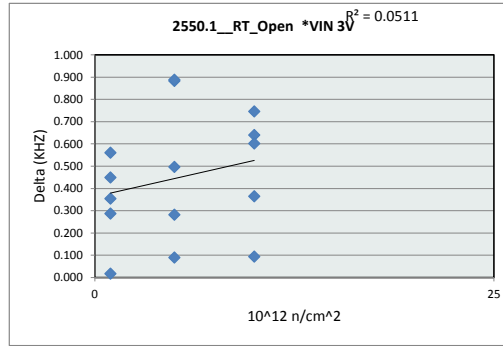
7653.1_SYNC_IOH *VIN7p0V			
Test Site	1		
Tester	ETS364		
Test Number	EF823401		
Max Limit	580	KHZ	
Min Limit	405	KHZ	
10^12 n/cm^2	1	5	10
LL	405.000	405.000	405.000
Min	498.338	507.423	504.712
Average	508.927	512.463	510.064
Max	516.722	523.572	514.275
UL	580.000	580.000	580.000



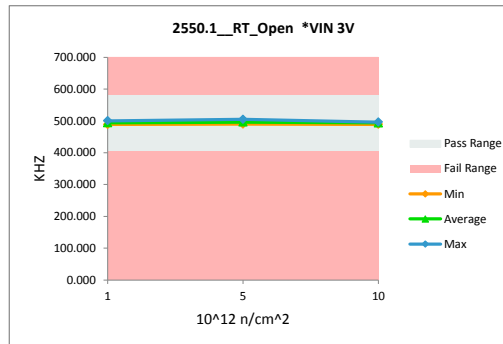
NDD Report
TPS50601A-SP

2550.1_RT_Open *VIN 3V		
Test Site	1	1
Tester	ETS364	ETS364
Test Number	EF823401	EF823401
Unit	KHZ	KHZ
Max Limit	580	580
Min Limit	405	405

10^12 n/cm^2	Serial #	POL6A pre NDD	POL6A post NDD	Delta
1	102	494.044	493.595	0.449
1	105	500.817	500.464	0.354
1	106	491.597	491.037	0.560
1	107	488.495	488.479	0.016
1	108	497.538	497.252	0.286
5	117	493.882	493.385	0.496
5	118	505.310	505.029	0.282
5	119	498.697	497.814	0.883
5	120	490.129	490.040	0.089
5	121	496.005	495.117	0.888
10	109	489.812	489.173	0.640
10	110	495.352	495.259	0.094
10	112	496.657	496.292	0.365
10	115	495.542	494.941	0.601
10	116	493.810	493.065	0.745
	Max	505.310	505.029	0.888
	Average	495.179	494.729	0.450
	Min	488.495	488.479	0.016
	Std Dev	4.408	4.385	0.275



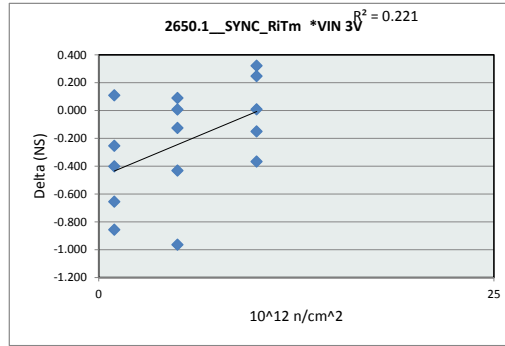
2550.1_RT_Open *VIN 3V			
Test Site	1		
Tester	ETS364		
Test Number	EF823401		
Max Limit	580	KHZ	
Min Limit	405	KHZ	
10^12 n/cm^2	1	5	10
LL	405.000	405.000	405.000
Min	488.479	490.040	489.173
Average	494.165	496.277	493.746
Max	500.464	505.029	496.292
UL	580.000	580.000	580.000



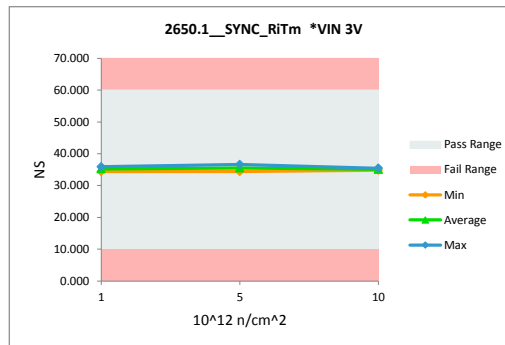
NDD Report
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		2650.1_SYNC_RiTm *VIN 3V	
		1	1
Test Site		ETS364	ETS364
Tester		EF823401	EF823401
Test Number		NS	NS
Unit		60	60
Max Limit		10	10
Min Limit			

10^12 n/cm^2	Serial #	POL6A pre NDD	POL6A post NDD	Delta
1	102	35.201	35.093	0.108
1	105	35.501	35.903	-0.402
1	106	34.993	35.850	-0.857
1	107	34.141	34.396	-0.254
1	108	34.429	35.085	-0.656
5	117	34.394	34.387	0.007
5	118	34.840	34.750	0.089
5	119	35.746	36.178	-0.432
5	120	35.502	35.628	-0.126
5	121	35.680	36.644	-0.964
10	109	34.471	34.839	-0.367
10	110	35.703	35.457	0.247
10	112	35.414	35.094	0.320
10	115	35.301	35.293	0.008
10	116	34.675	34.826	-0.151
	Max	35.746	36.644	0.320
	Average	35.066	35.295	-0.229
	Min	34.141	34.387	-0.964
	Std Dev	0.541	0.649	0.385



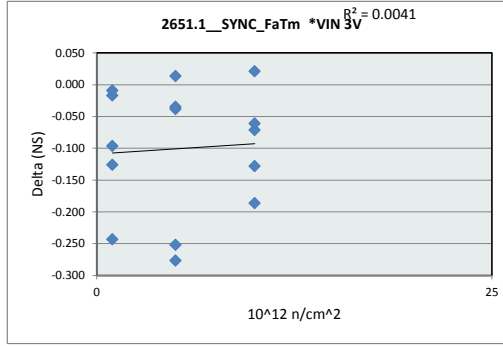
		2650.1_SYNC_RiTm *VIN 3V		
		1	5	10
Test Site		ETS364		
Tester		EF823401		
Test Number		60	NS	
Max Limit		10	NS	
Min Limit				
10^12 n/cm^2		1	5	10
LL		10.000	10.000	10.000
Min		34.396	34.387	34.826
Average		35.265	35.518	35.102
Max		35.903	36.644	35.457
UL		60.000	60.000	60.000



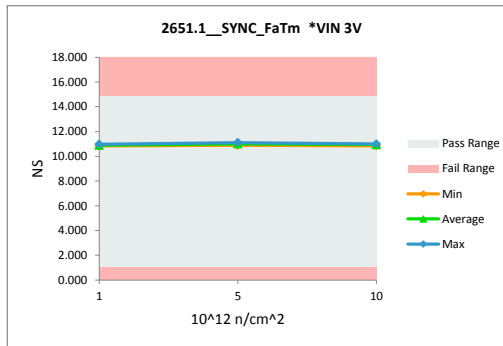
NDD Report
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		2651.1_SYNC_FaTm	*VIN 3V
Test Site		1	1
Tester		ETS364	ETS364
Test Number		EF823401	EF823401
Unit		NS	NS
Max Limit		14.8	14.8
Min Limit		1	1

10 ¹² n/cm ²	Serial #	POL6A pre NDD	POL6A post NDD	Delta
1	102	10.865	10.882	-0.017
1	105	10.875	10.884	-0.009
1	106	10.748	10.845	-0.097
1	107	10.668	10.911	-0.243
1	108	10.834	10.960	-0.126
5	117	10.826	11.103	-0.277
5	118	10.891	10.929	-0.038
5	119	10.906	10.893	0.014
5	120	10.834	11.086	-0.252
5	121	10.972	11.007	-0.035
10	109	10.713	10.899	-0.187
10	110	10.884	10.955	-0.072
10	112	10.921	10.982	-0.061
10	115	10.860	10.988	-0.128
10	116	10.863	10.842	0.021
Max		10.972	11.103	0.021
Average		10.844	10.944	-0.100
Min		10.668	10.842	-0.277
Std Dev		0.080	0.079	0.099



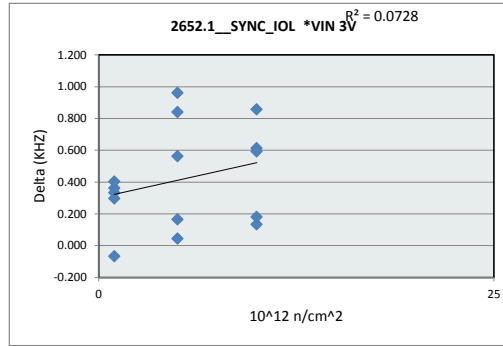
		2651.1_SYNC_FaTm	*VIN 3V	
Test Site		1		
Tester		ETS364		
Test Number		EF823401		
Max Limit		14.8	NS	
Min Limit		1	NS	
10 ¹² n/cm ²		1	5	10
LL		1.000	1.000	1.000
Min		10.845	10.893	10.842
Average		10.896	11.004	10.933
Max		10.960	11.103	10.989
UL		14.800	14.800	14.800



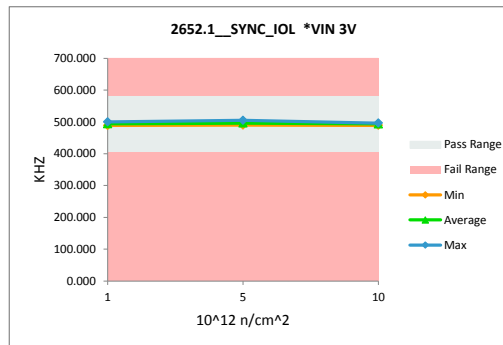
NDD Report
TPS50601A-SP

		2652.1_SYNC_IOL *VIN 3V	
		1	1
Test Site		ETS364	ETS364
Tester		EF823401	EF823401
Test Number		KHZ	KHZ
Unit		580	580
Max Limit		405	405
Min Limit			

10^12 n/cm^2	Serial #	POL6A pre NDD	POL6A post NDD	Delta
1	102	494.094	493.733	0.361
1	105	500.808	500.405	0.403
1	106	491.492	491.159	0.333
1	107	488.418	488.485	-0.067
1	108	497.487	497.191	0.296
5	117	493.949	493.387	0.562
5	118	505.124	504.959	0.165
5	119	498.601	497.761	0.840
5	120	490.080	490.035	0.044
5	121	495.948	494.987	0.961
10	109	489.890	489.277	0.613
10	110	495.270	495.136	0.134
10	112	496.584	496.404	0.180
10	115	495.520	494.928	0.592
10	116	493.918	493.061	0.857
	Max	505.124	504.959	0.961
	Average	495.146	494.727	0.418
	Min	488.418	488.485	-0.067
	Std Dev	4.374	4.345	0.311



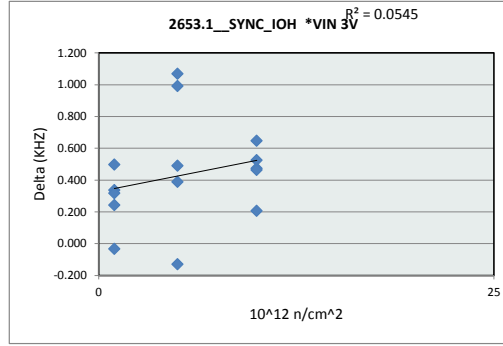
		2652.1_SYNC_IOL *VIN 3V		
		1	5	10
Test Site		ETS364		
Tester		EF823401		
Test Number		KHZ		
Max Limit		580		
Min Limit		405		
10^12 n/cm^2				
LL		405.000	405.000	405.000
Min		488.485	490.035	489.277
Average		494.195	496.226	493.761
Max		500.405	504.959	496.404
UL		580.000	580.000	580.000



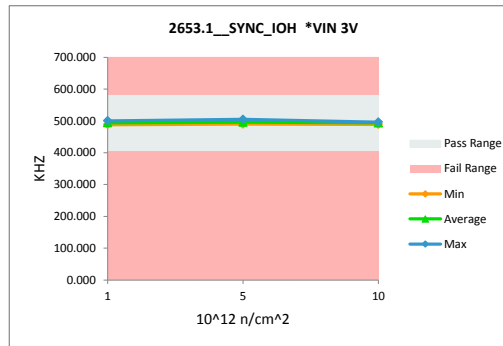
NDD Report
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2653.1_SYNC_IOH *VIN 3V		
Test Site	1	1
Tester	ETS364	ETS364
Test Number	EF823401	EF823401
Unit	KHZ	KHZ
Max Limit	580	580
Min Limit	405	405

10^12 n/cm^2	Serial #	POL6A pre NDD	POL6A post NDD	Delta
1	102	493.988	493.652	0.336
1	105	500.804	500.487	0.317
1	106	491.604	491.107	0.497
1	107	488.393	488.426	-0.033
1	108	497.550	497.308	0.242
5	117	493.863	493.374	0.490
5	118	505.409	505.021	0.389
5	119	498.678	497.687	0.991
5	120	489.871	490.000	-0.129
5	121	496.008	494.939	1.068
10	109	489.778	489.305	0.473
10	110	495.331	495.125	0.206
10	112	496.746	496.283	0.463
10	115	495.523	494.999	0.525
10	116	493.761	493.114	0.647
	Max	505.409	505.021	1.068
	Average	495.154	494.722	0.432
	Min	488.393	488.426	-0.129
	Std Dev	4.462	4.370	0.319



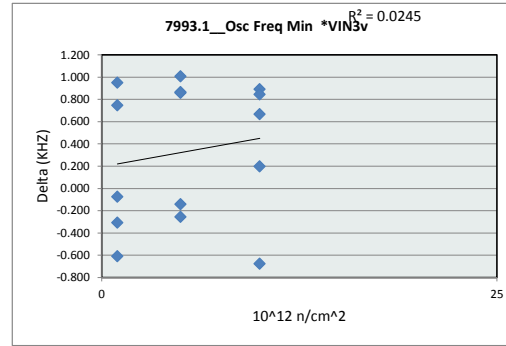
2653.1_SYNC_IOH *VIN 3V			
Test Site	1		
Tester	ETS364		
Test Number	EF823401		
Max Limit	580	KHZ	
Min Limit	405	KHZ	
10^12 n/cm^2	1	5	10
LL	405.000	405.000	405.000
Min	488.426	490.000	489.305
Average	494.196	496.204	493.765
Max	500.487	505.021	496.283
UL	580.000	580.000	580.000



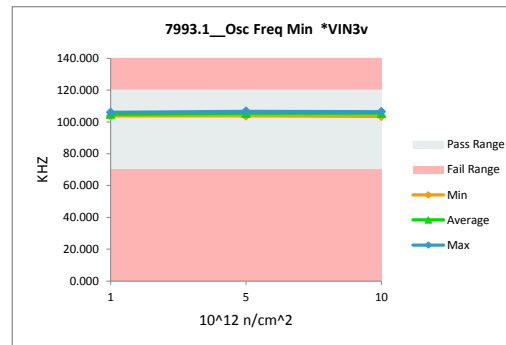
NDD Report
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		7993.1_Osc Freq Min *VIN3v	
		1	1
Test Site		ETS364	ETS364
Tester		EF823401	EF823401
Test Number		KHZ	KHZ
Unit		120	120
Max Limit		70	70
Min Limit			

10^12 n/cm^2	Serial #	POL6A pre NDD	POL6A post NDD	Delta
1	102	106.927	105.976	0.950
1	105	103.823	104.433	-0.610
1	106	105.072	104.326	0.746
1	107	105.186	105.493	-0.308
1	108	103.681	103.755	-0.075
5	117	107.079	106.213	0.866
5	118	103.679	103.821	-0.142
5	119	104.525	104.782	-0.257
5	120	106.136	105.278	0.859
5	121	107.740	106.733	1.007
10	109	106.621	105.730	0.891
10	110	106.947	106.103	0.844
10	112	104.071	103.404	0.667
10	115	104.534	105.210	-0.676
10	116	106.583	106.385	0.198
	Max	107.740	106.733	1.007
	Average	105.507	105.176	0.331
	Min	103.679	103.404	-0.676
	Std Dev	1.417	1.046	0.617



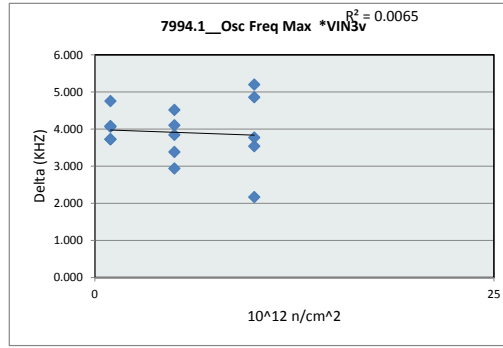
		7993.1_Osc Freq Min *VIN3v		
		1	5	10
Test Site		ETS364		
Tester		EF823401		
Test Number		120	KHZ	
Max Limit		70	KHZ	
Min Limit				
10^12 n/cm^2		1	5	10
LL		70.000	70.000	70.000
Min		103.755	103.821	103.404
Average		104.797	105.365	105.367
Max		105.976	106.733	106.385
UL		120.000	120.000	120.000



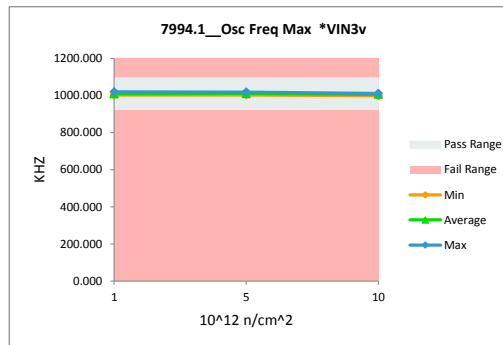
NDD Report
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		7994.1_Osc Freq Max *VIN3v	
		1	1
Test Site		ETS364	ETS364
Tester		EF823401	EF823401
Test Number		KHZ	KHZ
Unit		1095	1095
Max Limit		920	920
Min Limit			

10^12 n/cm^2	Serial #	POL6A pre NDD	POL6A post NDD	Delta
1	102	1011.865	1007.784	4.081
1	105	1023.106	1019.048	4.058
1	106	1009.849	1006.127	3.722
1	107	1011.312	1006.560	4.752
1	108	1005.986	1002.265	3.721
5	117	1018.644	1014.128	4.516
5	118	1015.440	1011.601	3.839
5	119	1005.710	1002.330	3.380
5	120	1007.186	1003.088	4.098
5	121	1021.135	1018.199	2.937
10	109	1012.337	1010.172	2.166
10	110	1012.761	1009.227	3.534
10	112	1002.016	998.248	3.768
10	115	1010.771	1005.916	4.854
10	116	1012.828	1007.632	5.196
	Max	1023.106	1019.048	5.196
	Average	1012.063	1008.155	3.908
	Min	1002.016	998.248	2.166
	Std Dev	5.790	5.836	0.766



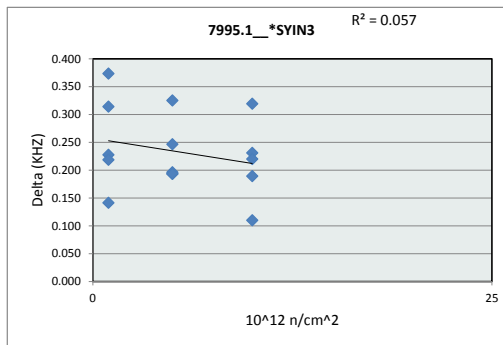
		7994.1_Osc Freq Max *VIN3v		
		1	5	10
Test Site		ETS364		
Tester		EF823401		
Test Number		KHZ		
Max Limit		1095		
Min Limit		920		
10^12 n/cm^2		1	5	10
LL		920.000	920.000	920.000
Min		1002.265	1002.330	998.248
Average		1008.357	1009.869	1006.239
Max		1019.048	1018.199	1010.172
UL		1095.000	1095.000	1095.000



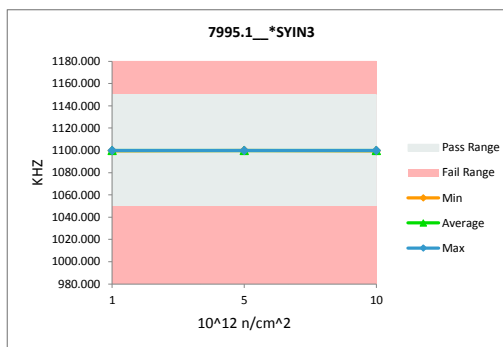
NDD Report TPS50601A-SP

7995.1 *SYIN3		
Test Site	1	1
Tester	ETS364	ETS364
Test Number	EF823401	EF823401
Unit	KHZ	KHZ
Max Limit	1150	1150
Min Limit	1050	1050

10 ¹² n/cm ²	Serial #	POL6A pre NDD	POL6A post NDD	Delta
1	102	1099.993	1099.766	0.227
1	105	1100.040	1099.726	0.314
1	106	1099.952	1099.733	0.219
1	107	1100.045	1099.671	0.374
1	108	1099.932	1099.791	0.141
5	117	1099.957	1099.761	0.196
5	118	1100.083	1099.758	0.325
5	119	1099.924	1099.731	0.193
5	120	1099.977	1099.730	0.247
5	121	1099.978	1099.785	0.193
10	109	1099.943	1099.712	0.231
10	110	1099.921	1099.811	0.110
10	112	1100.017	1099.697	0.319
10	115	1100.001	1099.781	0.220
10	116	1099.979	1099.789	0.189
Max		1100.083	1099.811	0.374
Average		1099.983	1099.749	0.233
Min		1099.921	1099.671	0.110
Std Dev		0.048	0.039	0.072



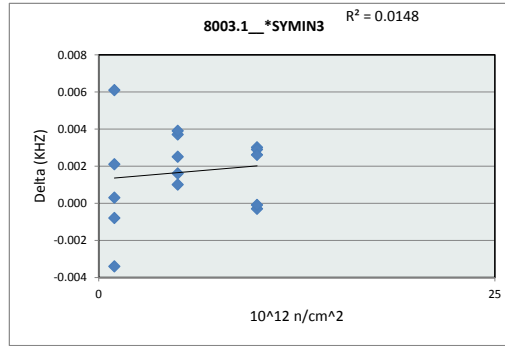
7995.1 *SYIN3			
Test Site	1		
Tester	ETS364		
Test Number	EF823401		
Max Limit	1150	KHZ	
Min Limit	1050	KHZ	
10 ¹² n/cm ²	1	5	10
LL	1050.000	1050.000	1050.000
Min	1099.671	1099.731	1099.697
Average	1099.737	1099.753	1099.758
Max	1099.791	1099.785	1099.811
UL	1150.000	1150.000	1150.000



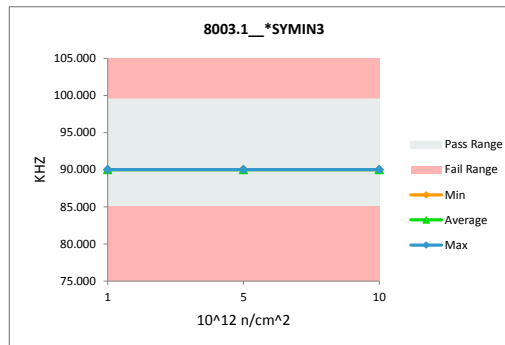
NDD Report
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8003.1 *SYMIN3		
Test Site	1	1
Tester	ETS364	ETS364
Test Number	EF823401	EF823401
Unit	KHZ	KHZ
Max Limit	99.5	99.5
Min Limit	85	85

10 ¹² n/cm ²	Serial #	POL6A pre NDD	POL6A post NDD	Delta
1	102	90.001	89.999	0.002
1	105	90.000	89.994	0.006
1	106	89.998	89.998	0.000
1	107	89.999	90.000	-0.001
1	108	89.999	90.003	-0.003
5	117	90.000	89.999	0.002
5	118	90.000	89.996	0.004
5	119	90.001	89.997	0.004
5	120	90.001	90.000	0.001
5	121	90.001	89.998	0.003
10	109	90.002	89.998	0.003
10	110	90.001	89.998	0.003
10	112	90.001	89.998	0.003
10	115	89.999	89.999	0.000
10	116	90.000	90.000	0.000
Max		90.002	90.003	0.006
Average		90.000	89.998	0.002
Min		89.998	89.994	-0.003
Std Dev		0.001	0.002	0.002



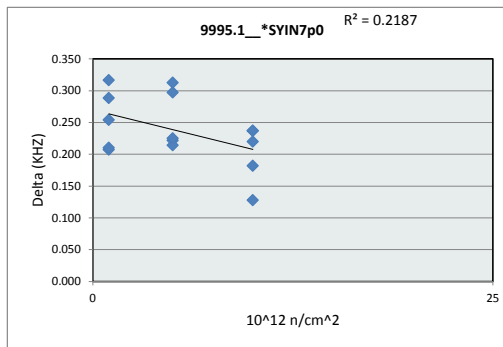
8003.1 *SYMIN3			
Test Site	1		
Tester	ETS364		
Test Number	EF823401		
Max Limit	99.5	KHZ	
Min Limit	85	KHZ	
10 ¹² n/cm ²	1	5	10
LL	85.000	85.000	85.000
Min	89.994	89.997	89.998
Average	89.999	89.998	89.999
Max	90.003	90.000	90.000
UL	99.500	99.500	99.500



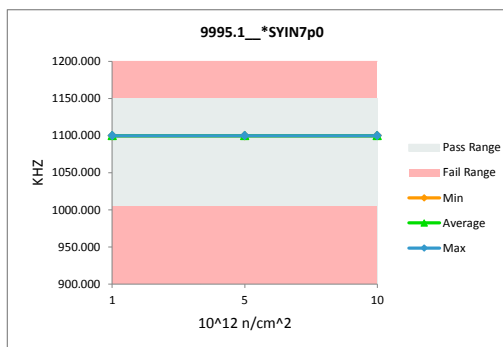
NDD Report TPS50601A-SP

9995.1_*SYIN7p0		
Test Site	1	1
Tester	ETS364	ETS364
Test Number	EF823401	EF823401
Unit	KHZ	KHZ
Max Limit	1150	1150
Min Limit	1005	1005

10^12 n/cm^2	Serial #	POL6A pre NDD	POL6A post NDD	Delta
1	102	1099.986	1099.779	0.207
1	105	1100.021	1099.811	0.210
1	106	1100.057	1099.741	0.317
1	107	1099.989	1099.735	0.254
1	108	1100.015	1099.727	0.288
5	117	1100.015	1099.793	0.222
5	118	1100.002	1099.689	0.313
5	119	1100.035	1099.821	0.214
5	120	1099.977	1099.680	0.297
5	121	1100.016	1099.791	0.225
10	109	1099.993	1099.773	0.220
10	110	1099.962	1099.835	0.128
10	112	1099.990	1099.754	0.237
10	115	1099.979	1099.742	0.237
10	116	1099.956	1099.774	0.182
Max		1100.057	1099.835	0.317
Average		1100.000	1099.763	0.237
Min		1099.956	1099.680	0.128
Std Dev		0.027	0.045	0.051



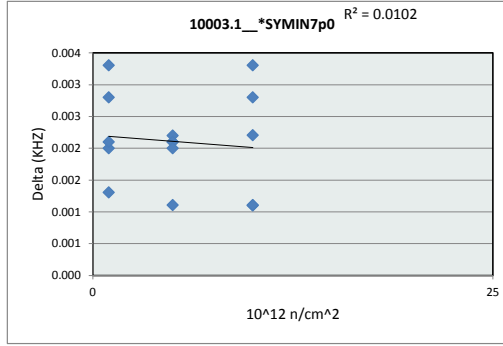
9995.1_*SYIN7p0			
Test Site	1		
Tester	ETS364		
Test Number	EF823401		
Max Limit	1150	KHZ	
Min Limit	1005	KHZ	
10^12 n/cm^2	1	5	10
LL	1005.000	1005.000	1005.000
Min	1099.727	1099.680	1099.742
Average	1099.758	1099.755	1099.775
Max	1099.811	1099.821	1099.835
UL	1150.000	1150.000	1150.000



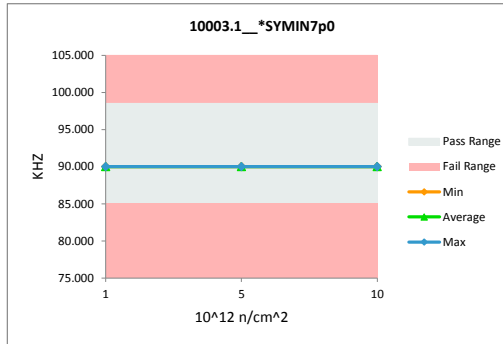
NDD Report
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10003.1_*SYMIN7p0		
Test Site	1	1
Tester	ETS364	ETS364
Test Number	EF823401	EF823401
Unit	KHZ	KHZ
Max Limit	98.5	98.5
Min Limit	85	85

10^12 n/cm^2	Serial #	POL6A pre NDD	POL6A post NDD	Delta
1	102	90.000	89.998	0.001
1	105	90.000	89.998	0.002
1	106	90.001	89.998	0.003
1	107	90.000	89.998	0.002
1	108	90.001	89.997	0.003
5	117	90.000	89.998	0.002
5	118	90.000	89.998	0.002
5	119	90.000	89.999	0.001
5	120	90.000	89.998	0.002
5	121	90.000	89.998	0.002
10	109	90.001	89.998	0.003
10	110	90.001	89.998	0.002
10	112	90.000	89.999	0.001
10	115	90.001	89.997	0.003
10	116	90.000	89.998	0.001
Max		90.001	89.999	0.003
Average		90.000	89.998	0.002
Min		90.000	89.997	0.001
Std Dev		0.000	0.000	0.001



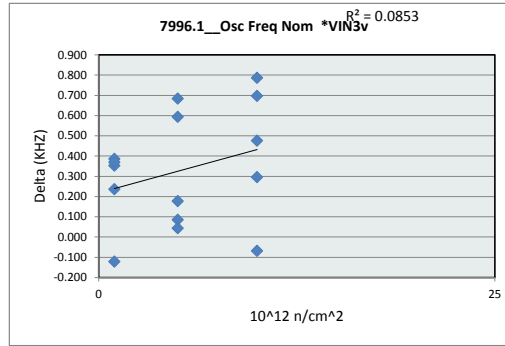
10003.1_*SYMIN7p0			
Test Site	1		
Tester	ETS364		
Test Number	EF823401		
Max Limit	98.5	KHZ	
Min Limit	85	KHZ	
10^12 n/cm^2	1	5	10
LL	85.000	85.000	85.000
Min	89.997	89.998	89.997
Average	89.998	89.998	89.998
Max	89.998	89.999	89.999
UL	98.500	98.500	98.500



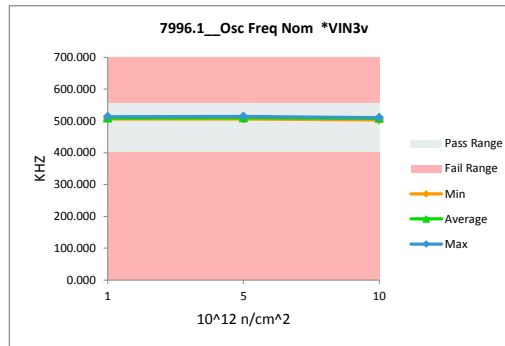
NDD Report
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		7996.1_Osc Freq Nom *VIN3v	
		1	1
Test Site		ETS364	ETS364
Tester		EF823401	EF823401
Test Number		KHZ	KHZ
Unit		555	555
Max Limit		400	400
Min Limit			

10^12 n/cm^2	Serial #	POL6A pre NDD	POL6A post NDD	Delta
1	102	510.144	509.758	0.386
1	105	513.951	513.598	0.352
1	106	507.973	507.604	0.370
1	107	508.873	508.637	0.236
1	108	506.139	506.261	-0.122
5	117	512.952	512.359	0.593
5	118	510.810	510.725	0.085
5	119	506.302	506.259	0.043
5	120	506.938	506.760	0.177
5	121	514.654	513.970	0.684
10	109	510.363	510.433	-0.069
10	110	510.845	510.148	0.697
10	112	503.689	503.394	0.296
10	115	508.882	508.406	0.475
10	116	511.003	510.217	0.786
	Max	514.654	513.970	0.786
	Average	509.568	509.235	0.333
	Min	503.689	503.394	-0.122
	Std Dev	3.049	2.911	0.281



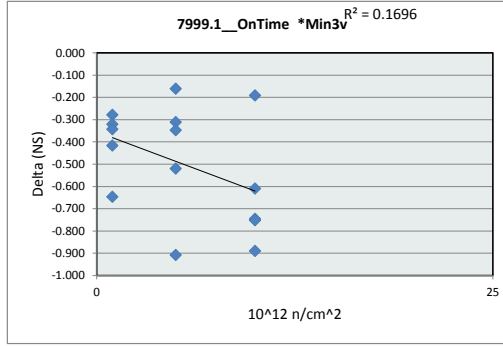
		7996.1_Osc Freq Nom *VIN3v		
		1	5	10
Test Site		ETS364		
Tester		EF823401		
Test Number		KHZ		
Max Limit		555		
Min Limit		400		
10^12 n/cm^2		1	5	10
LL		400.000	400.000	400.000
Min		506.261	506.259	503.394
Average		509.172	510.015	508.520
Max		513.598	513.970	510.433
UL		555.000	555.000	555.000



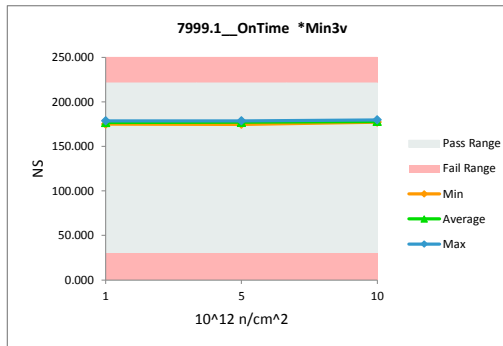
NDD Report
TPS50601A-SP

		7999.1_OnTime *Min3v	
		1	1
Test Site		ETS364	ETS364
Tester		EF823401	EF823401
Test Number		NS	NS
Unit		221	221
Max Limit		30	30
Min Limit			

10 ¹² n/cm ²	Serial #	POL6A pre NDD	POL6A post NDD	Delta
1	102	176.982	177.262	-0.279
1	105	174.638	174.959	-0.321
1	106	178.245	178.589	-0.343
1	107	175.487	176.134	-0.647
1	108	175.949	176.366	-0.417
5	117	177.212	178.120	-0.908
5	118	174.412	174.724	-0.312
5	119	175.007	175.169	-0.162
5	120	178.177	178.525	-0.348
5	121	177.887	178.408	-0.521
10	109	176.889	177.635	-0.746
10	110	177.237	177.989	-0.752
10	112	179.533	179.725	-0.192
10	115	176.293	177.183	-0.890
10	116	176.646	177.256	-0.610
	Max	179.533	179.725	-0.162
	Average	176.706	177.203	-0.497
	Min	174.412	174.724	-0.908
	Std Dev	1.445	1.471	0.247



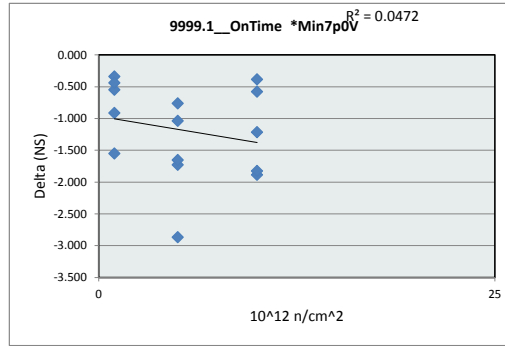
		7999.1_OnTime *Min3v		
		1	5	10
Test Site		ETS364		
Tester		EF823401		
Test Number		NS		
Max Limit		221	NS	
Min Limit		30	NS	
10 ¹² n/cm ²		1	5	10
LL		30.000	30.000	30.000
Min		174.959	174.724	177.183
Average		176.662	176.989	177.958
Max		178.589	178.525	179.725
UL		221.000	221.000	221.000



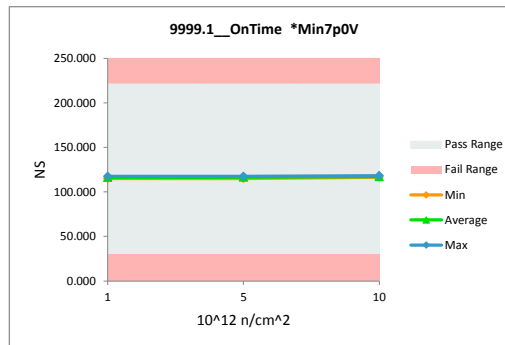
NDD Report
TPS50601A-SP

		9999.1_OnTime *Min7p0V	
		1	1
Test Site		ETS364	ETS364
Tester		EF823401	EF823401
Test Number		NS	NS
Unit		221	221
Max Limit		30	30
Min Limit			

10^12 n/cm^2	Serial #	POL6A pre NDD	POL6A post NDD	Delta
1	102	115.066	116.619	-1.553
1	105	114.556	115.105	-0.549
1	106	117.152	117.493	-0.341
1	107	114.963	115.878	-0.915
1	108	115.590	116.030	-0.440
5	117	114.316	117.184	-2.868
5	118	113.219	114.950	-1.731
5	119	114.478	115.243	-0.765
5	120	116.412	117.450	-1.038
5	121	115.719	117.373	-1.654
10	109	116.477	116.865	-0.388
10	110	115.881	117.098	-1.217
10	112	116.352	118.240	-1.888
10	115	114.742	116.568	-1.825
10	116	116.035	116.616	-0.581
	Max	117.152	118.240	-0.341
	Average	115.397	116.581	-1.184
	Min	113.219	114.950	-2.868
	Std Dev	1.041	0.968	0.724



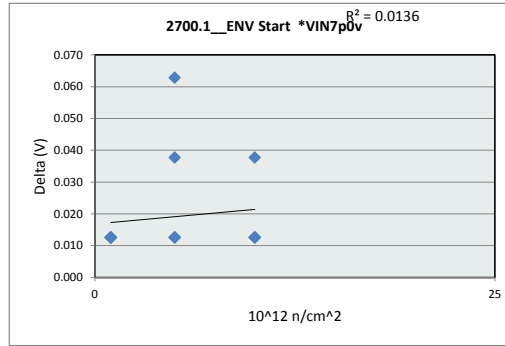
		9999.1_OnTime *Min7p0V		
		1	5	10
Test Site		ETS364		
Tester		EF823401		
Test Number		NS		
Max Limit		221	NS	
Min Limit		30	NS	
10^12 n/cm^2		1	5	10
LL		30.000	30.000	30.000
Min		115.105	114.950	116.568
Average		116.225	116.440	117.077
Max		117.493	117.450	118.240
UL		221.000	221.000	221.000



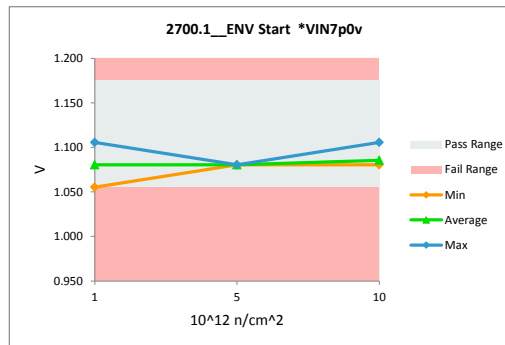
NDD Report
TPS50601A-SP

		2700.1_ENV Start *VIN7p0v	
Test Site		1	1
Tester		ETS364	ETS364
Test Number		EF823401	EF823401
Unit		V	V
Max Limit		1.175	1.175
Min Limit		1.055	1.055

10^12 n/cm^2	Serial #	POL6A pre NDD	POL6A post NDD	Delta
1	102	1.093	1.080	0.013
1	105	1.068	1.055	0.013
1	106	1.118	1.105	0.013
1	107	1.068	1.055	0.013
1	108	1.118	1.105	0.013
5	117	1.093	1.080	0.013
5	118	1.093	1.080	0.013
5	119	1.143	1.080	0.063
5	120	1.093	1.080	0.013
5	121	1.118	1.080	0.038
10	109	1.118	1.105	0.013
10	110	1.118	1.080	0.038
10	112	1.093	1.080	0.013
10	115	1.093	1.080	0.013
10	116	1.093	1.080	0.013
	Max	1.143	1.105	0.063
	Average	1.101	1.082	0.019
	Min	1.068	1.055	0.013
	Std Dev	0.021	0.015	0.015



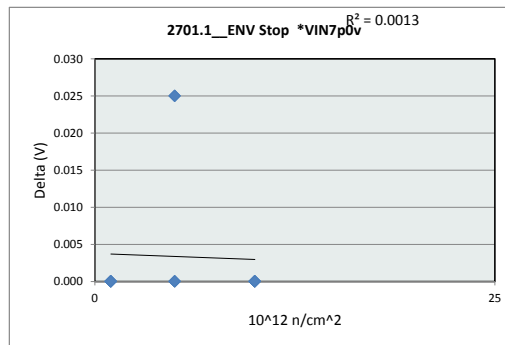
		2700.1_ENV Start *VIN7p0v		
Test Site		1		
Tester		ETS364		
Test Number		EF823401		
Max Limit		1.175	V	
Min Limit		1.055	V	
10^12 n/cm^2		1	5	10
LL		1.055	1.055	1.055
Min		1.055	1.080	1.080
Average		1.080	1.080	1.085
Max		1.106	1.080	1.106
UL		1.175	1.175	1.175



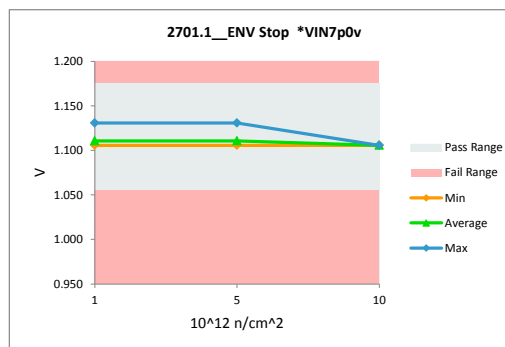
NDD Report TPS50601A-SP

2701.1_ENV Stop *VIN7p0v		
Test Site	1	1
Tester	ETS364	ETS364
Test Number	EF823401	EF823401
Unit	V	V
Max Limit	1.175	1.175
Min Limit	1.055	1.055

10^12 n/cm^2	Serial #	POL6A pre NDD	POL6A post NDD	Delta
1	102	1.106	1.106	0.000
1	105	1.106	1.106	0.000
1	106	1.131	1.131	0.000
1	107	1.106	1.106	0.000
1	108	1.106	1.106	0.000
5	117	1.131	1.106	0.025
5	118	1.106	1.106	0.000
5	119	1.131	1.131	0.000
5	120	1.131	1.106	0.025
5	121	1.106	1.106	0.000
10	109	1.106	1.106	0.000
10	110	1.106	1.106	0.000
10	112	1.106	1.106	0.000
10	115	1.106	1.106	0.000
10	116	1.106	1.106	0.000
Max		1.131	1.131	0.025
Average		1.112	1.109	0.003
Min		1.106	1.106	0.000
Std Dev		0.011	0.009	0.009



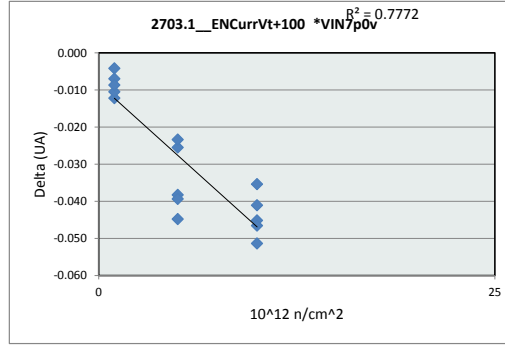
2701.1_ENV Stop *VIN7p0v			
Test Site	1		
Tester	ETS364		
Test Number	EF823401		
Max Limit	1.175	V	
Min Limit	1.055	V	
10^12 n/cm^2	1	5	10
LL	1.055	1.055	1.055
Min	1.106	1.106	1.106
Average	1.111	1.111	1.106
Max	1.131	1.131	1.106
UL	1.175	1.175	1.175



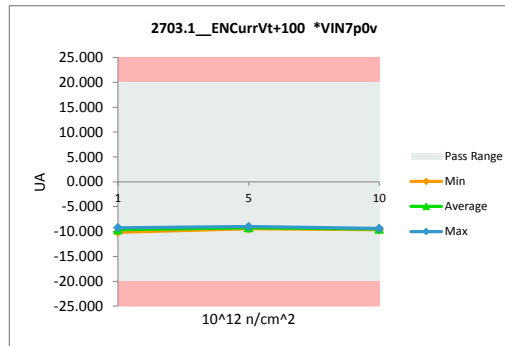
NDD Report
TPS50601A-SP

2703.1_ENCrrVt+100 *VIN7p0v		
Test Site	1	1
Tester	ETS364	ETS364
Test Number	EF823401	EF823401
Unit	UA	UA
Max Limit	20	20
Min Limit	-20	-20

10^12 n/cm^2	Serial #	POL6A pre NDD	POL6A post NDD	Delta
1	102	-10.142	-10.130	-0.012
1	105	-9.981	-9.974	-0.007
1	106	-9.274	-9.270	-0.004
1	107	-9.530	-9.520	-0.010
1	108	-9.444	-9.435	-0.009
5	117	-9.049	-9.011	-0.038
5	118	-9.443	-9.417	-0.026
5	119	-9.422	-9.377	-0.045
5	120	-9.226	-9.187	-0.039
5	121	-9.394	-9.370	-0.023
10	109	-9.442	-9.397	-0.045
10	110	-9.715	-9.664	-0.051
10	112	-9.577	-9.531	-0.047
10	115	-9.625	-9.584	-0.041
10	116	-9.490	-9.454	-0.035
	Max	-9.049	-9.011	-0.004
	Average	-9.517	-9.488	-0.029
	Min	-10.142	-10.130	-0.051
	Std Dev	0.276	0.280	0.017



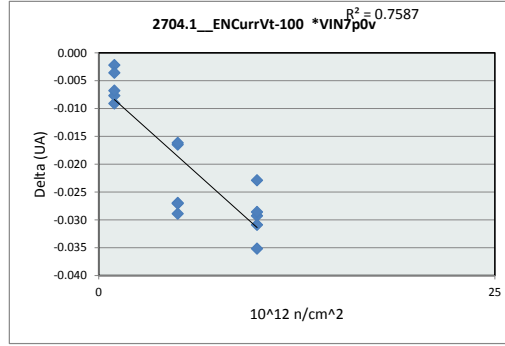
2703.1_ENCrrVt+100 *VIN7p0v			
Test Site	1		
Tester	ETS364		
Test Number	EF823401		
Max Limit	20	UA	
Min Limit	-20	UA	
10^12 n/cm^2	1	5	10
LL	-20.000	-20.000	-20.000
Min	-10.130	-9.417	-9.664
Average	-9.666	-9.273	-9.526
Max	-9.270	-9.011	-9.397
UL	20.000	20.000	20.000



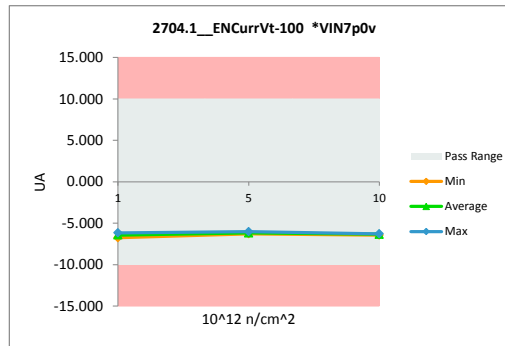
NDD Report
TPS50601A-SP

2704.1_ENCrrVt-100 *VIN7p0		
Test Site	1	1
Tester	ETS364	ETS364
Test Number	EF823401	EF823401
Unit	UA	UA
Max Limit	10	10
Min Limit	-10	-10

10^12 n/cm^2	Serial #	POL6A pre NDD	POL6A post NDD	Delta
1	102	-6.758	-6.749	-0.009
1	105	-6.644	-6.642	-0.002
1	106	-6.155	-6.151	-0.004
1	107	-6.303	-6.296	-0.008
1	108	-6.273	-6.266	-0.007
5	117	-6.054	-6.027	-0.027
5	118	-6.278	-6.261	-0.016
5	119	-6.298	-6.269	-0.029
5	120	-6.147	-6.120	-0.027
5	121	-6.270	-6.254	-0.016
10	109	-6.315	-6.286	-0.029
10	110	-6.469	-6.434	-0.035
10	112	-6.346	-6.315	-0.031
10	115	-6.405	-6.377	-0.029
10	116	-6.294	-6.271	-0.023
	Max	-6.054	-6.027	-0.002
	Average	-6.334	-6.315	-0.019
	Min	-6.758	-6.749	-0.035
	Std Dev	0.181	0.184	0.011



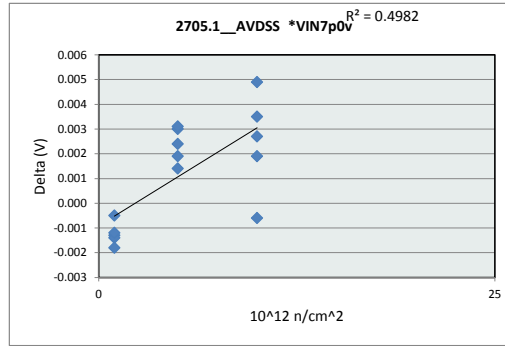
2704.1_ENCrrVt-100 *VIN7			
Test Site	1		
Tester	ETS364		
Test Number	EF823401		
Max Limit	10	5	10
Min Limit	-10	-5	-10
10^12 n/cm^2	1	5	10
LL	-10.000	-10.000	-10.000
Min	-6.749	-6.269	-6.434
Average	-6.421	-6.186	-6.337
Max	-6.151	-6.027	-6.271
UL	10.000	10.000	10.000



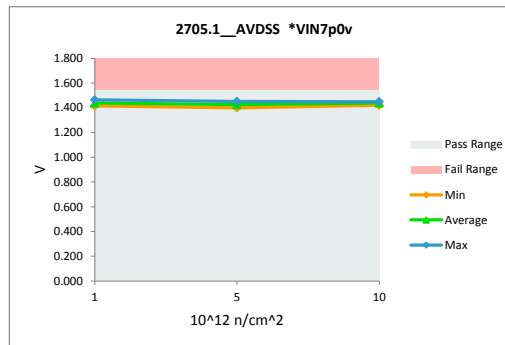
NDD Report
TPS50601A-SP

2705.1_AVSS *VIN7p0v		
Test Site	1	1
Tester	ETS364	ETS364
Test Number	EF823401	EF823401
Unit	V	V
Max Limit	1.54	1.54
Min Limit	0	0

10 ¹² n/cm ²	Serial #	POL6A pre NDD	POL6A post NDD	Delta
1	102	1.413	1.415	-0.001
1	105	1.457	1.458	-0.001
1	106	1.421	1.423	-0.002
1	107	1.462	1.463	-0.001
1	108	1.429	1.430	0.000
5	117	1.453	1.451	0.002
5	118	1.442	1.439	0.003
5	119	1.400	1.399	0.001
5	120	1.422	1.419	0.002
5	121	1.423	1.420	0.003
10	109	1.443	1.438	0.005
10	110	1.423	1.419	0.003
10	112	1.447	1.445	0.002
10	115	1.445	1.442	0.003
10	116	1.449	1.449	-0.001
Max		1.462	1.463	0.005
Average		1.435	1.434	0.001
Min		1.400	1.399	-0.002
Std Dev		0.018	0.018	0.002



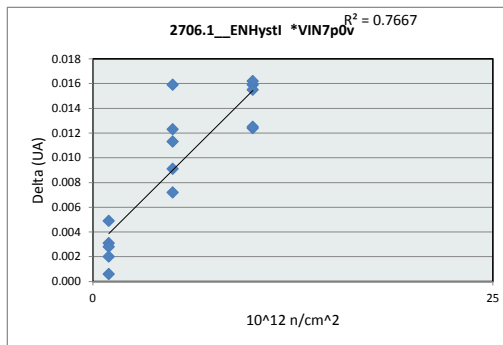
2705.1_AVSS *VIN7p0v			
Test Site	1		
Tester	ETS364		
Test Number	EF823401		
Max Limit	1.54	V	
Min Limit	0	V	
10 ¹² n/cm ²	1	5	10
LL	0.000	0.000	0.000
Min	1.415	1.399	1.419
Average	1.438	1.426	1.439
Max	1.463	1.451	1.449
UL	1.540	1.540	1.540



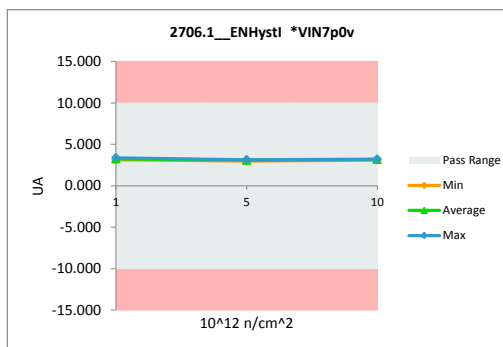
NDD Report
TPS50601A-SP

		2706.1_ENHystI	*VIN7p0v
Test Site		1	1
Tester		ETS364	ETS364
Test Number		EF823401	EF823401
Unit		UA	UA
Max Limit		10	10
Min Limit		-10	-10

10^12 n/cm^2	Serial #	POL6A pre NDD	POL6A post NDD	Delta
1	102	3.384	3.381	0.003
1	105	3.336	3.332	0.005
1	106	3.119	3.118	0.001
1	107	3.227	3.224	0.003
1	108	3.171	3.169	0.002
5	117	2.995	2.984	0.011
5	118	3.165	3.156	0.009
5	119	3.123	3.107	0.016
5	120	3.079	3.067	0.012
5	121	3.124	3.117	0.007
10	109	3.127	3.111	0.016
10	110	3.246	3.230	0.016
10	112	3.231	3.215	0.016
10	115	3.220	3.207	0.012
10	116	3.195	3.183	0.013
Max		3.384	3.381	0.016
Average		3.183	3.173	0.009
Min		2.995	2.984	0.001
Std Dev		0.098	0.100	0.006



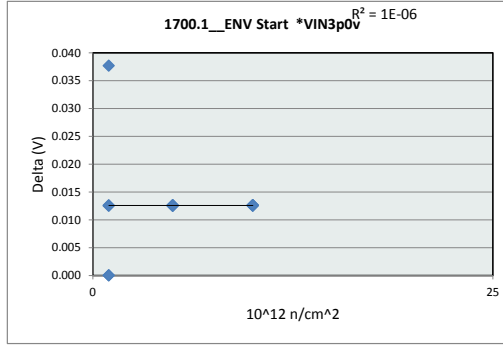
		2706.1_ENHystI	*VIN7p0v
Test Site		1	
Tester		ETS364	
Test Number		EF823401	
Max Limit		10	UA
Min Limit		-10	UA
10^12 n/cm^2	1	5	10
LL	-10.000	-10.000	-10.000
Min	3.118	2.984	3.111
Average	3.245	3.086	3.189
Max	3.381	3.156	3.230
UL	10.000	10.000	10.000



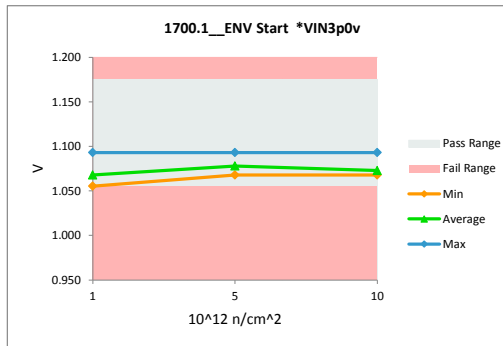
NDD Report
TPS50601A-SP

		1700.1_ENV Start *VIN3p0v	
Test Site		1	1
Tester		ETS364	ETS364
Test Number		EF823401	EF823401
Unit		V	V
Max Limit		1.175	1.175
Min Limit		1.055	1.055

10^12 n/cm^2	Serial #	POL6A pre NDD	POL6A post NDD	Delta
1	102	1.080	1.068	0.013
1	105	1.055	1.055	0.000
1	106	1.105	1.068	0.038
1	107	1.055	1.055	0.000
1	108	1.105	1.093	0.012
5	117	1.080	1.068	0.013
5	118	1.080	1.068	0.013
5	119	1.105	1.093	0.012
5	120	1.080	1.068	0.013
5	121	1.105	1.093	0.012
10	109	1.105	1.093	0.012
10	110	1.080	1.068	0.013
10	112	1.080	1.068	0.013
10	115	1.080	1.068	0.013
10	116	1.080	1.068	0.013
	Max	1.105	1.093	0.038
	Average	1.085	1.073	0.013
	Min	1.055	1.055	0.000
	Std Dev	0.017	0.013	0.008



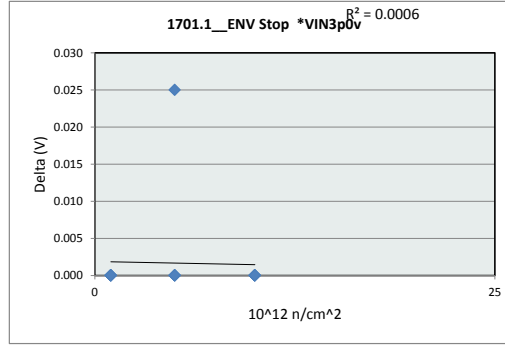
		1700.1_ENV Start *VIN3p0v		
Test Site		1		
Tester		ETS364		
Test Number		EF823401		
Max Limit		1.175	V	
Min Limit		1.055	V	
10^12 n/cm^2		1	5	10
LL		1.055	1.055	1.055
Min		1.055	1.068	1.068
Average		1.068	1.078	1.073
Max		1.093	1.093	1.093
UL		1.175	1.175	1.175



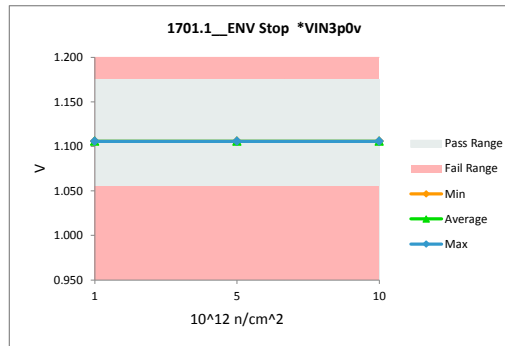
NDD Report
TPS50601A-SP

1701.1_ENV Stop *VIN3p0v		
Test Site	1	1
Tester	ETS364	ETS364
Test Number	EF823401	EF823401
Unit	V	V
Max Limit	1.175	1.175
Min Limit	1.055	1.055

10^12 n/cm^2	Serial #	POL6A pre NDD	POL6A post NDD	Delta
1	102	1.106	1.106	0.000
1	105	1.106	1.106	0.000
1	106	1.106	1.106	0.000
1	107	1.106	1.106	0.000
1	108	1.106	1.106	0.000
5	117	1.106	1.106	0.000
5	118	1.106	1.106	0.000
5	119	1.131	1.106	0.025
5	120	1.106	1.106	0.000
5	121	1.106	1.106	0.000
10	109	1.106	1.106	0.000
10	110	1.106	1.106	0.000
10	112	1.106	1.106	0.000
10	115	1.106	1.106	0.000
10	116	1.106	1.106	0.000
	Max	1.131	1.106	0.025
	Average	1.107	1.106	0.002
	Min	1.106	1.106	0.000
	Std Dev	0.006	0.000	0.006



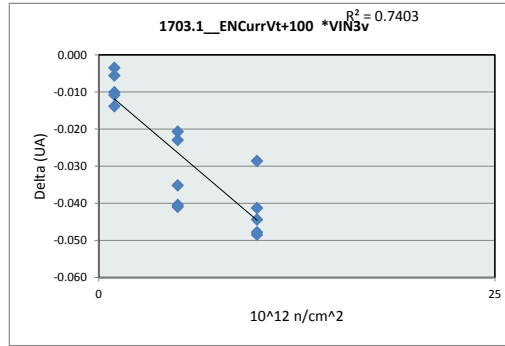
1701.1_ENV Stop *VIN3p0v			
Test Site	1		
Tester	ETS364		
Test Number	EF823401		
Max Limit	1.175	V	
Min Limit	1.055	V	
10^12 n/cm^2	1	5	10
LL	1.055	1.055	1.055
Min	1.106	1.106	1.106
Average	1.106	1.106	1.106
Max	1.106	1.106	1.106
UL	1.175	1.175	1.175



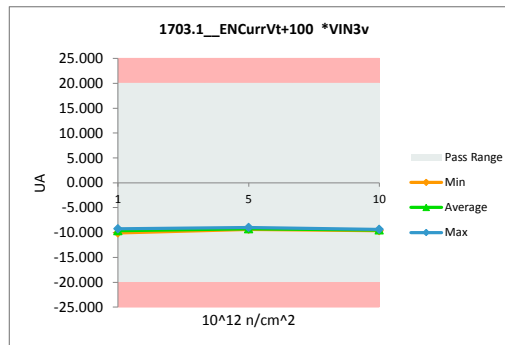
NDD Report
TPS50601A-SP

		1703.1_ENCrrVt+100 *VIN3v	
		1	1
Test Site		ETS364	ETS364
Tester		EF823401	EF823401
Test Number		UA	UA
Unit		20	20
Max Limit		-20	-20
Min Limit			

10 ¹² n/cm ²	Serial #	POL6A pre NDD	POL6A post NDD	Delta
1	102	-10.103	-10.090	-0.014
1	105	-9.948	-9.943	-0.006
1	106	-9.248	-9.244	-0.003
1	107	-9.501	-9.491	-0.010
1	108	-9.408	-9.397	-0.011
5	117	-9.022	-8.982	-0.040
5	118	-9.411	-9.388	-0.023
5	119	-9.400	-9.359	-0.041
5	120	-9.200	-9.165	-0.035
5	121	-9.366	-9.345	-0.021
10	109	-9.409	-9.365	-0.044
10	110	-9.693	-9.644	-0.049
10	112	-9.544	-9.496	-0.048
10	115	-9.589	-9.547	-0.041
10	116	-9.465	-9.437	-0.029
	Max	-9.022	-8.982	-0.003
	Average	-9.487	-9.459	-0.028
	Min	-10.103	-10.090	-0.049
	Std Dev	0.273	0.277	0.016



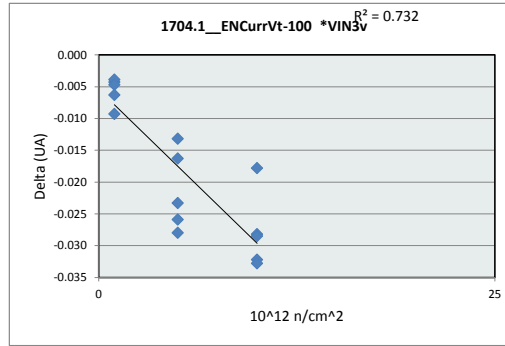
		1703.1_ENCrrVt+100 *VIN3v		
		1	5	10
Test Site		ETS364		
Tester		EF823401		
Test Number		UA		
Max Limit		20	UA	
Min Limit		-20	UA	
10 ¹² n/cm ²		1	5	10
LL		-20.000	-20.000	-20.000
Min		-10.090	-9.388	-9.644
Average		-9.633	-9.248	-9.498
Max		-9.244	-8.982	-9.365
UL		20.000	20.000	20.000



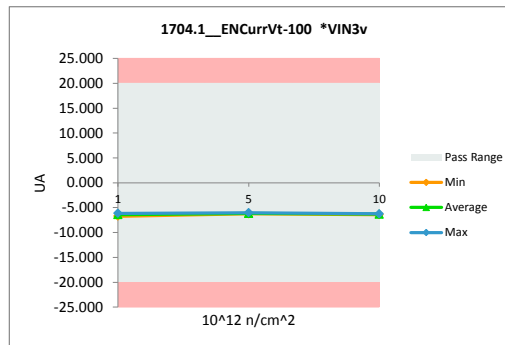
NDD Report
TPS50601A-SP

1704.1_ENCrrVt-100 *VIN3v		
Test Site	1	1
Tester	ETS364	ETS364
Test Number	EF823401	EF823401
Unit	UA	UA
Max Limit	20	20
Min Limit	-20	-20

10 ¹² n/cm ²	Serial #	POL6A pre NDD	POL6A post NDD	Delta
1	102	-6.728	-6.719	-0.009
1	105	-6.620	-6.616	-0.004
1	106	-6.134	-6.130	-0.004
1	107	-6.279	-6.274	-0.005
1	108	-6.245	-6.238	-0.006
5	117	-6.031	-6.005	-0.026
5	118	-6.253	-6.237	-0.016
5	119	-6.280	-6.252	-0.028
5	120	-6.124	-6.101	-0.023
5	121	-6.247	-6.234	-0.013
10	109	-6.289	-6.261	-0.028
10	110	-6.448	-6.416	-0.032
10	112	-6.319	-6.286	-0.033
10	115	-6.377	-6.348	-0.029
10	116	-6.274	-6.257	-0.018
	Max	-6.031	-6.005	-0.004
	Average	-6.310	-6.292	-0.018
	Min	-6.728	-6.719	-0.033
	Std Dev	0.180	0.182	0.011



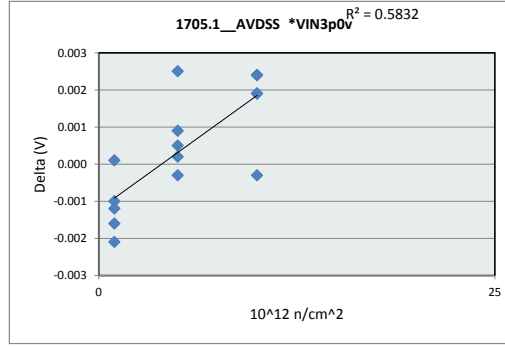
1704.1_ENCrrVt-100 *VIN3v			
Test Site	1		
Tester	ETS364		
Test Number	EF823401		
Max Limit	20	UA	
Min Limit	-20	UA	
10 ¹² n/cm ²	1	5	10
LL	-20.000	-20.000	-20.000
Min	-6.719	-6.252	-6.416
Average	-6.395	-6.166	-6.314
Max	-6.130	-6.005	-6.257
UL	20.000	20.000	20.000



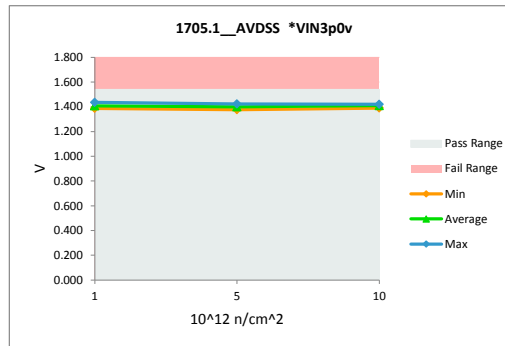
NDD Report
TPS50601A-SP

1705.1_AVDSS *VIN3p0v		
Test Site	1	1
Tester	ETS364	ETS364
Test Number	EF823401	EF823401
Unit	V	V
Max Limit	1.54	1.54
Min Limit	0	0

10^12 n/cm^2	Serial #	POL6A pre NDD	POL6A post NDD	Delta
1	102	1.387	1.388	-0.001
1	105	1.419	1.421	-0.002
1	106	1.393	1.394	-0.001
1	107	1.433	1.435	-0.002
1	108	1.400	1.400	0.000
5	117	1.424	1.423	0.001
5	118	1.413	1.410	0.003
5	119	1.377	1.377	0.001
5	120	1.393	1.394	0.000
5	121	1.394	1.394	0.000
10	109	1.411	1.409	0.002
10	110	1.391	1.390	0.002
10	112	1.418	1.416	0.002
10	115	1.416	1.414	0.002
10	116	1.419	1.419	0.000
Max		1.433	1.435	0.003
Average		1.406	1.405	0.000
Min		1.377	1.377	-0.002
Std Dev		0.016	0.016	0.002



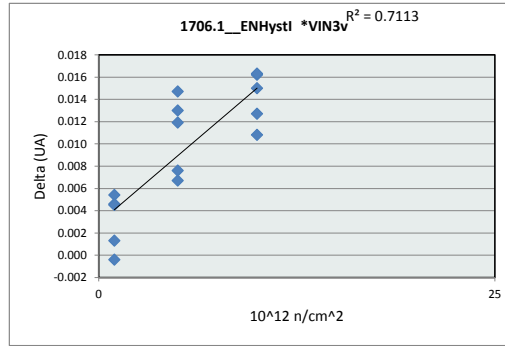
1705.1_AVDSS *VIN3p0v			
Test Site	1		
Tester	ETS364		
Test Number	EF823401		
Max Limit	1.54	V	
Min Limit	0	V	
10^12 n/cm^2	1	5	10
LL	0.000	0.000	0.000
Min	1.388	1.377	1.390
Average	1.407	1.400	1.409
Max	1.435	1.423	1.419
UL	1.540	1.540	1.540



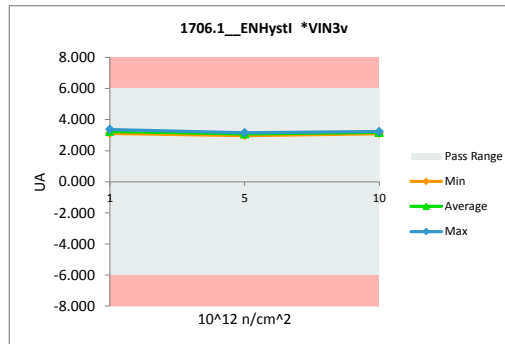
NDD Report
TPS50601A-SP

1706.1_ENHystI *VIN3v		
Test Site	1	1
Tester	ETS364	ETS364
Test Number	EF823401	EF823401
Unit	UA	UA
Max Limit	6	6
Min Limit	-6	-6

10^12 n/cm^2	Serial #	POL6A pre NDD	POL6A post NDD	Delta
1	102	3.375	3.371	0.005
1	105	3.328	3.327	0.001
1	106	3.114	3.114	0.000
1	107	3.223	3.217	0.005
1	108	3.163	3.159	0.004
5	117	2.991	2.977	0.015
5	118	3.158	3.151	0.007
5	119	3.119	3.106	0.013
5	120	3.076	3.064	0.012
5	121	3.119	3.111	0.008
10	109	3.120	3.104	0.016
10	110	3.245	3.229	0.016
10	112	3.225	3.210	0.015
10	115	3.212	3.199	0.013
10	116	3.191	3.180	0.011
	Max	3.375	3.371	0.016
	Average	3.177	3.168	0.009
	Min	2.991	2.977	0.000
	Std Dev	0.097	0.099	0.005



1706.1_ENHystI *VIN3v			
Test Site	1		
Tester	ETS364		
Test Number	EF823401		
Max Limit	6	UA	
Min Limit	-6	UA	
10^12 n/cm^2	1	5	10
LL	-6.000	-6.000	-6.000
Min	3.114	2.977	3.104
Average	3.238	3.082	3.184
Max	3.371	3.151	3.229
UL	6.000	6.000	6.000



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