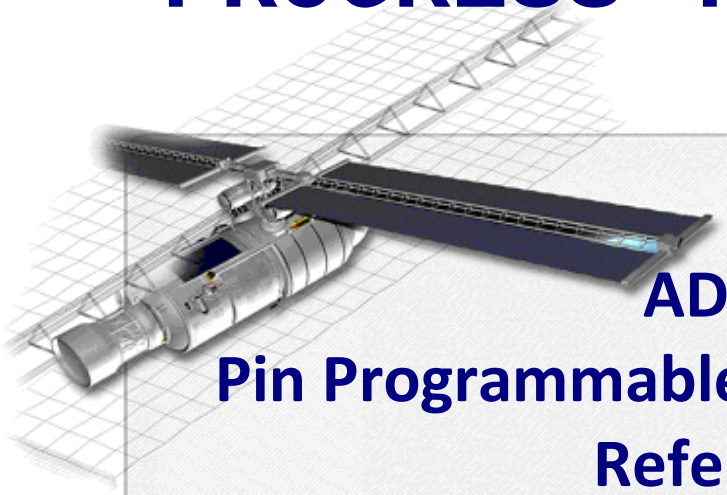
TOTAL IONIZING DOSE PROGRESS TEST REPORT



AD584
Pin Programmable Precision Voltage Reference
DC0125A
From
Analog Devices

TRAD/TE/AD584SH/0125A/ESA/MV/1410		Labège, May 22nd, 2015
TRAD Tests & radiations afaq ISO 9001 Qualité AFNOR CERTIFICATION		TRAD, Bât Gallium 907, Voie l'Occitane - 31670 LABEGE France ☏: 05 61 00 95 60 Fax: 05 61 00 95 61 Email: trad@trad.fr Web Site: www.trad.fr SIRET 397 862 038 00056 - TVA FR59397862038
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M. VAILLÉ **22/05/2015**	**P. GARCIA** **12/06/2015**	**N. SUKHASEUM** **12/06/2015**
Revision: 0	Creation of the document	
Revision: 1	Addition of table of test parameters	
To: **ESA** **Mr Christian POIVEY**		Project/Program: Ref:

CONTENTS

1. INTRODUCTION

This progress report describes the testing and characterization of the **AD584SH** manufactured by **Analog Devices**. Testing began on January 5, 2015 and ended on February 24, 2015.

2. PART INFORMATION

2.1. Identification

Part designation	AD584SH
Manufacturer	Analog Devices
Part function	Pin Programmable Precision Voltage Reference

2.2. Procurement information

Package	TO-99
Date Code	0125A
Charge No	94579
Number of tested parts	30 irradiated samples (Biased OFF) + 1 reference sample

3. COMMENTS

The irradiation test on **30 AD584SH**, a **Pin Programmable Precision Voltage Reference** from **Analog Devices** is using gamma rays from Cobalt 60 source, at low dose rate (210 rad(Si)/h).

For easier result visualisation, measurements and graphs have been separated per lot.

The black curve with no drift is the DUT reference (not irradiated).

After the 168h/100°C annealing step, a drift appears on most of measurements and some of those parameters become out of specification.

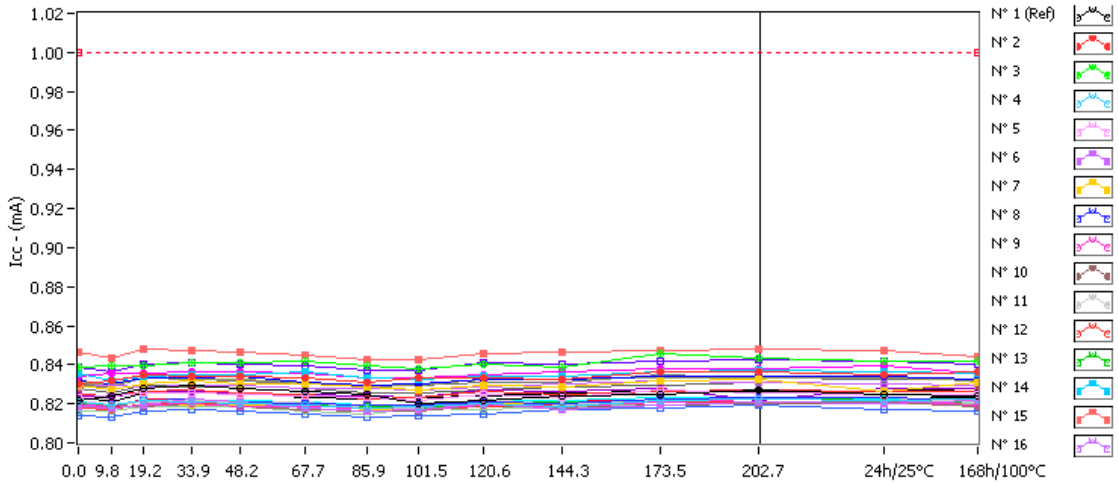
4. TEST PARAMETERS

Parameters	Symbols	Test conditions
Ta=25°C, Vin=15V, IL=0, unless otherwise specified		
Quiescent Current	**ICC**	Vin=38V; VO=10V
Output VOltage	**VOUT1**	VO=10V
	VOUT2	VO=7.5V
	VOUT3	VO=5.0V
	VOUT4	VO=2.5V
Line Regulation	**VRLINE1**	12.5V<Vin<15V; VO=10V
	VRLINE2	15V<Vin<30V; VO=10V
Load Regulation	**VRLOAD1**	0mA<IL<5mA; VO=10V
	VRLOAD2	0mA<IL<5mA; VO=7.5V
	VRLOAD3	0mA<IL<5mA; VO=5.0V
	VRLOAD4	0mA<IL<5mA; VO=2.5V
Output Short Circuit Current	**IOS**	VO=10V

5. APPENDIX 1 MEASURED PARAMETERS

1. Icc

Ta=25°C; Vin=38V; IL=0mA; VO=10V

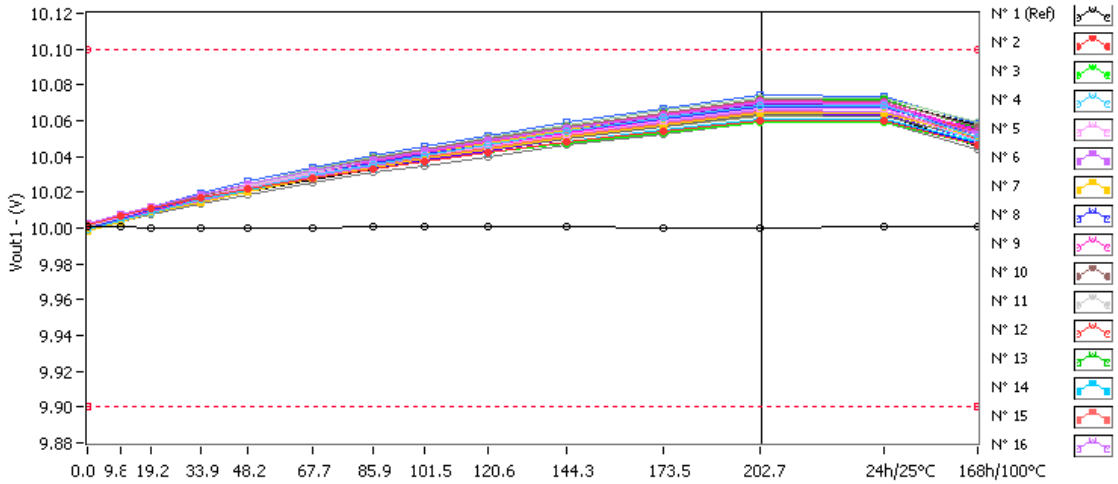


Icc . (mA) **Max = 1.0**

	0.0 krad(Si)	9.8 krad(Si)	19.2 krad(Si)	33.9 krad(Si)	48.2 krad(Si)	67.7 krad(Si)	85.9 krad(Si)	101.5 krad(Si)	120.6 krad(Si)	144.3 krad(Si)	173.5 krad(Si)	202.7 krad(Si)	24h/25°C	168h/100°C
N° 1 (Ref)	0.8213	0.8243	0.8277	0.8296	0.8278	0.8260	0.8249	0.8204	0.8216	0.8237	0.8245	0.8272	0.8249	0.8239
N° 2	0.8305	0.8314	0.8352	0.8340	0.8339	0.8333	0.8312	0.8331	0.8333	0.8324	0.8364	0.8366	0.8350	0.8362
N° 3	0.8389	0.8393	0.8398	0.8411	0.8409	0.8416	0.8391	0.8377	0.8404	0.8385	0.8456	0.8434	0.8419	0.8422
N° 4	0.8208	0.8192	0.8218	0.8206	0.8199	0.8192	0.8178	0.8185	0.8205	0.8188	0.8219	0.8225	0.8220	0.8221
N° 5	0.8235	0.8237	0.8254	0.8258	0.8250	0.8241	0.8229	0.8218	0.8246	0.8230	0.8270	0.8259	0.8246	0.8251
N° 6	0.8190	0.8174	0.8195	0.8228	0.8207	0.8177	0.8164	0.8171	0.8202	0.8172	0.8196	0.8210	0.8201	0.8219
N° 7	0.8292	0.8273	0.8301	0.8318	0.8301	0.8304	0.8283	0.8270	0.8296	0.8286	0.8321	0.8323	0.8262	0.8306
N° 8	0.8212	0.8195	0.8217	0.8223	0.8213	0.8204	0.8197	0.8193	0.8206	0.8201	0.8222	0.8232	0.8233	0.8216
N° 9	0.8200	0.8177	0.8194	0.8204	0.8189	0.8189	0.8176	0.8170	0.8194	0.8187	0.8209	0.8225	0.8218	0.8197
N° 10	0.8182	0.8197	0.8183	0.8198	0.8187	0.8169	0.8163	0.8161	0.8195	0.8175	0.8193	0.8200	0.8210	0.8184
N° 11	0.8213	0.8196	0.8207	0.8218	0.8211	0.8205	0.8179	0.8181	0.8224	0.8195	0.8218	0.8234	0.8236	0.8208
N° 12	0.8249	0.8241	0.8262	0.8275	0.8255	0.8247	0.8226	0.8233	0.8263	0.8251	0.8266	0.8275	0.8263	0.8260
N° 13	0.8203	0.8183	0.8221	0.8224	0.8210	0.8205	0.8186	0.8176	0.8206	0.8206	0.8214	0.8231	0.8218	0.8209
N° 14	0.8356	0.8321	0.8341	0.8348	0.8347	0.8366	0.8330	0.8324	0.8339	0.8341	0.8366	0.8370	0.8362	0.8353
N° 15	0.8461	0.8435	0.8481	0.8472	0.8461	0.8450	0.8429	0.8424	0.8455	0.8465	0.8475	0.8483	0.8470	0.8442
N° 16	0.8287	0.8292	0.8287	0.8293	0.8294	0.8278	0.8281	0.8270	0.8287	0.8300	0.8314	0.8311	0.8305	0.8291
N° 17	0.8182	0.8176	0.8192	0.8197	0.8197	0.8201	0.8171	0.8169	0.8202	0.8201	0.8210	0.8221	0.8215	0.8194
N° 18	0.8343	0.8358	0.8360	0.8365	0.8363	0.8360	0.8334	0.8335	0.8352	0.8364	0.8377	0.8377	0.8395	0.8357
N° 19	0.8243	0.8233	0.8264	0.8260	0.8257	0.8249	0.8244	0.8229	0.8270	0.8265	0.8277	0.8216	0.8276	0.8278
N° 20	0.8163	0.8160	0.8186	0.8184	0.8183	0.8164	0.8150	0.8180	0.8169	0.8182	0.8196	0.8198	0.8202	0.8200
N° 21	0.8205	0.8188	0.8217	0.8218	0.8220	0.8209	0.8191	0.8188	0.8219	0.8217	0.8229	0.8230	0.8222	0.8227
N° 22	0.8181	0.8167	0.8200	0.8203	0.8203	0.8182	0.8176	0.8174	0.8187	0.8193	0.8208	0.8212	0.8211	0.8203
N° 23	0.8279	0.8253	0.8295	0.8288	0.8291	0.8276	0.8259	0.8259	0.8273	0.8284	0.8293	0.8312	0.8300	0.8293
N° 24	0.8142	0.8135	0.8165	0.8170	0.8165	0.8146	0.8131	0.8137	0.8149	0.8168	0.8178	0.8191	0.8173	0.8166
N° 25	0.8193	0.8180	0.8223	0.8218	0.8213	0.8210	0.8191	0.8180	0.8203	0.8218	0.8221	0.8228	0.8219	0.8213
N° 26	0.8315	0.8300	0.8332	0.8335	0.8340	0.8310	0.8291	0.8304	0.8322	0.8322	0.8339	0.8339	0.8342	0.8326
N° 27	0.8307	0.8293	0.8335	0.8323	0.8328	0.8311	0.8286	0.8296	0.8325	0.8324	0.8333	0.8335	0.8332	0.8319
N° 28	0.8295	0.8283	0.8331	0.8323	0.8319	0.8302	0.8291	0.8295	0.8311	0.8311	0.8346	0.8331	0.8325	0.8325
N° 29	0.8389	0.8363	0.8405	0.8410	0.8404	0.8397	0.8370	0.8370	0.8407	0.8405	0.8421	0.8425	0.8417	0.8404
N° 30	0.8238	0.8206	0.8259	0.8252	0.8259	0.8235	0.8225	0.8230	0.8242	0.8254	0.8263	0.8263	0.8261	0.8283
N° 31	0.8198	0.8180	0.8222	0.8213	0.8219	0.8206	0.8185	0.8185	0.8207	0.8207	0.8220	0.8233	0.8226	0.8231

2. Vout1

Ta=25°C; Vin=15V; IL=0mA; VO=10V

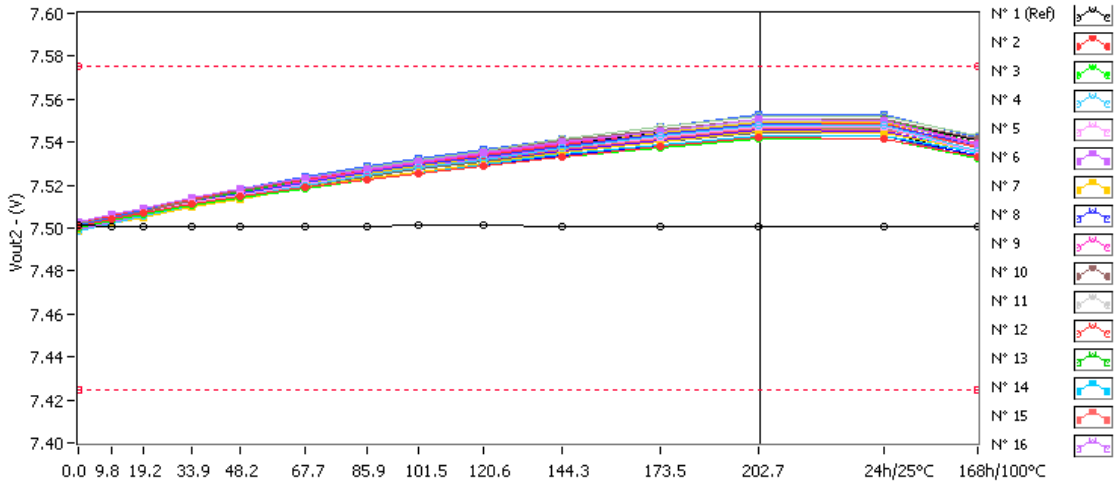


Vout1 . (V) **Min = 9.9 Max = 10.1**

	0.0 krad(Si)	9.8 krad(Si)	19.2 krad(Si)	33.9 krad(Si)	48.2 krad(Si)	67.7 krad(Si)	85.9 krad(Si)	101.5 krad(Si)	120.6 krad(Si)	144.3 krad(Si)	173.5 krad(Si)	202.7 krad(Si)	24h/25°C	168h/100°C
N° 1 (Ref)	10.00086	10.00053	10.00014	9.99993	10.00012	10.00032	10.00046	10.00060	10.00081	10.00056	10.00041	10.00019	10.00044	10.00052
N° 2	10.00151	10.00658	10.01058	10.01669	10.02182	10.02795	10.03338	10.03706	10.04208	10.04815	10.05428	10.06008	10.05978	10.04690
N° 3	10.00183	10.00637	10.01063	10.01649	10.02155	10.02767	10.03301	10.03719	10.04184	10.04768	10.05357	10.05950	10.05929	10.04645
N° 4	9.99948	10.00413	10.00874	10.01584	10.02196	10.02948	10.03587	10.04072	10.04653	10.05391	10.06158	10.06865	10.06819	10.05032
N° 5	10.00172	10.00621	10.01068	10.01728	10.02301	10.03002	10.03588	10.04037	10.04582	10.05278	10.05978	10.06663	10.06634	10.04871
N° 6	10.00258	10.00742	10.01198	10.01860	10.02484	10.03197	10.03837	10.04319	10.04871	10.05593	10.06266	10.06991	10.06957	10.05273
N° 7	9.99864	10.00364	10.00804	10.01470	10.02068	10.02783	10.03390	10.03855	10.04391	10.05070	10.05777	10.06421	10.06388	10.05105
N° 8	10.00039	10.00522	10.00979	10.01673	10.02276	10.03023	10.03630	10.04123	10.04641	10.05380	10.06115	10.06791	10.06742	10.05269
N° 9	9.99995	10.00471	10.00944	10.01660	10.02302	10.03081	10.03723	10.04235	10.04819	10.05566	10.06350	10.07062	10.07021	10.05427
N° 10	10.00023	10.00529	10.01059	10.01790	10.02444	10.03237	10.03885	10.04376	10.04952	10.05690	10.06448	10.07145	10.07086	10.05686
N° 11	10.00044	10.00563	10.01040	10.01749	10.02377	10.03142	10.03793	10.04296	10.04867	10.05621	10.06390	10.07098	10.07048	10.05381
N° 12	10.00196	10.00649	10.01101	10.01770	10.02344	10.03035	10.03623	10.04071	10.04579	10.05279	10.06016	10.06667	10.06639	10.04956
N° 13	10.00141	10.00623	10.01088	10.01806	10.02445	10.03210	10.03854	10.04350	10.04936	10.05672	10.06460	10.07176	10.07150	10.05540
N° 14	10.00058	10.00556	10.00986	10.01604	10.02131	10.02760	10.03327	10.03750	10.04255	10.04855	10.05510	10.06105	10.06068	10.04853
N° 15	10.00094	10.00605	10.01040	10.01695	10.02257	10.02936	10.03509	10.03949	10.04478	10.05122	10.05839	10.06491	10.06458	10.05229
N° 16	9.99845	10.00344	10.00836	10.01527	10.02116	10.02856	10.03453	10.03934	10.04501	10.05173	10.05897	10.06578	10.06544	10.05365
N° 17	9.99958	10.00428	10.00905	10.01622	10.02252	10.03003	10.03674	10.04182	10.04773	10.05515	10.06310	10.07043	10.06992	10.05442
N° 18	10.00135	10.00621	10.01098	10.01764	10.02339	10.03041	10.03648	10.04114	10.04666	10.05335	10.06075	10.06766	10.06699	10.05540
N° 19	9.99953	10.00493	10.00968	10.01695	10.02315	10.03075	10.03709	10.04204	10.04757	10.05475	10.06232	10.06902	10.06847	10.05519
N° 20	9.99969	10.00521	10.01022	10.01790	10.02445	10.03265	10.03938	10.04404	10.05039	10.05788	10.06571	10.07298	10.07246	10.05924
N° 21	10.00120	10.00580	10.01026	10.01708	10.02286	10.03001	10.03596	10.04053	10.04597	10.05277	10.06018	10.06704	10.06667	10.04808
N° 22	10.00174	10.00638	10.01089	10.01792	10.02391	10.03162	10.03798	10.04274	10.04861	10.05555	10.06303	10.07009	10.06968	10.05344
N° 23	10.00110	10.00576	10.00992	10.01639	10.02180	10.02864	10.03442	10.03878	10.04396	10.05009	10.05686	10.06306	10.06281	10.04947
N° 24	10.00202	10.00716	10.01202	10.01954	10.02604	10.03418	10.04090	10.04595	10.05192	10.05906	10.06689	10.07428	10.07381	10.05836
N° 25	10.00084	10.00555	10.00991	10.01678	10.02267	10.02987	10.03594	10.04060	10.04615	10.05294	10.06052	10.06746	10.06706	10.04974
N° 26	10.00131	10.00636	10.01051	10.01664	10.02175	10.02825	10.03361	10.03756	10.04248	10.04851	10.05492	10.06086	10.06048	10.04743
N° 27	10.00071	10.00575	10.00989	10.01655	10.02200	10.02885	10.03470	10.03886	10.04381	10.05010	10.05686	10.06291	10.06250	10.04967
N° 28	9.99924	10.00368	10.00741	10.01370	10.01897	10.02541	10.03091	10.03492	10.03992	10.04621	10.05269	10.05927	10.05890	10.04362
N° 29	9.99961	10.00465	10.00893	10.01538	10.02104	10.02778	10.03373	10.03816	10.04333	10.04994	10.05719	10.06381	10.06339	10.04940
N° 30	9.99927	10.00393	10.00807	10.01471	10.02030	10.02739	10.03313	10.03764	10.04312	10.04980	10.05712	10.06381	10.06339	10.04523
N° 31	9.99982	10.00527	10.00998	10.01751	10.02377	10.03155	10.03818	10.04317	10.04904	10.05624	10.06420	10.07125	10.07088	10.05724

3. Vout2

Ta=25°C; Vin=15V; IL=0mA; VO=7.5V

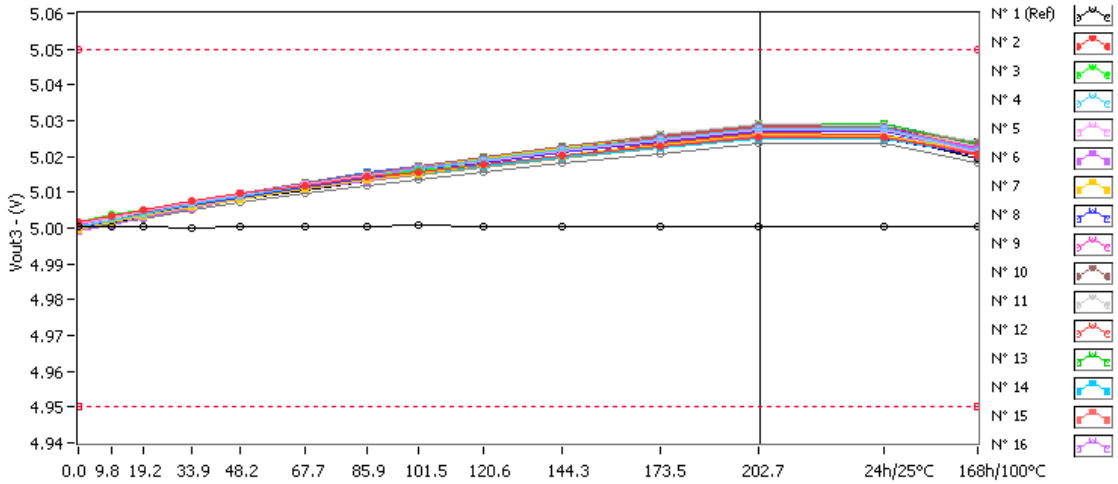


Vout2 . (V) **Min = 7.425 Max = 7.575**

	0.0 krad(Si)	9.8 krad(Si)	19.2 krad(Si)	33.9 krad(Si)	48.2 krad(Si)	67.7 krad(Si)	85.9 krad(Si)	101.5 krad(Si)	120.6 krad(Si)	144.3 krad(Si)	173.5 krad(Si)	202.7 krad(Si)	24h/25°C	168h/100°C
N° 1 (Ref)	7.50120	7.50095	7.50067	7.50055	7.50066	7.50082	7.50102	7.50112	7.50117	7.50098	7.50087	7.50072	7.50090	7.50094
N° 2	7.50042	7.50395	7.50672	7.51100	7.51460	7.51893	7.52280	7.52541	7.52901	7.53340	7.53786	7.54210	7.54183	7.53324
N° 3	7.50035	7.50352	7.50648	7.51058	7.51415	7.51847	7.52229	7.52524	7.52858	7.53282	7.53712	7.54141	7.54132	7.53270
N° 4	7.49893	7.50214	7.50535	7.51029	7.51458	7.51989	7.52440	7.52786	7.53199	7.53727	7.54286	7.54800	7.54768	7.53569
N° 5	7.50081	7.50394	7.50705	7.51166	7.51568	7.52065	7.52484	7.52801	7.53199	7.53701	7.54214	7.54720	7.54699	7.53508
N° 6	7.50271	7.50605	7.50923	7.51384	7.51825	7.52326	7.52779	7.53121	7.53517	7.54036	7.54524	7.55050	7.55027	7.53900
N° 7	7.49835	7.50180	7.50486	7.50952	7.51371	7.51874	7.52306	7.52635	7.53019	7.53501	7.54014	7.54485	7.54466	7.53618
N° 8	7.50061	7.50395	7.50714	7.51198	7.51619	7.52147	7.52580	7.52928	7.53296	7.53824	7.54356	7.54848	7.54816	7.53840
N° 9	7.50036	7.50366	7.50694	7.51194	7.51644	7.52191	7.52647	7.53010	7.53426	7.53961	7.54529	7.55049	7.55023	7.53959
N° 10	7.50056	7.50407	7.50774	7.51285	7.51742	7.52302	7.52760	7.53110	7.53521	7.54050	7.54598	7.55103	7.55065	7.54136
N° 11	7.50029	7.50389	7.50720	7.51213	7.51654	7.52192	7.52653	7.53010	7.53418	7.53959	7.54518	7.55035	7.55000	7.53878
N° 12	7.50259	7.50573	7.50888	7.51355	7.51758	7.52248	7.52665	7.52985	7.53352	7.53854	7.54395	7.54874	7.54855	7.53720
N° 13	7.50076	7.50410	7.50733	7.51234	7.51681	7.52219	7.52676	7.53025	7.53445	7.53972	7.54539	7.55061	7.55044	7.53972
N° 14	7.50030	7.50376	7.50675	7.51107	7.51478	7.51924	7.52324	7.52628	7.52992	7.53420	7.53896	7.54329	7.54300	7.53504
N° 15	7.50091	7.50444	7.50747	7.51205	7.51597	7.52077	7.52480	7.52796	7.53174	7.53635	7.54155	7.54627	7.54608	7.53831
N° 16	7.49948	7.50294	7.50635	7.51117	7.51532	7.52053	7.52476	7.52817	7.53224	7.53704	7.54229	7.54723	7.54703	7.53818
N° 17	7.49916	7.50241	7.50573	7.51072	7.51515	7.52040	7.52516	7.52879	7.53298	7.53833	7.54404	7.54942	7.54904	7.53915
N° 18	7.50092	7.50429	7.50759	7.51225	7.51628	7.52122	7.52549	7.52882	7.53273	7.53753	7.54289	7.54786	7.54745	7.53921
N° 19	7.49901	7.50275	7.50605	7.51109	7.51546	7.52080	7.52530	7.52882	7.53275	7.53787	7.54335	7.54822	7.54780	7.53908
N° 20	7.50039	7.50421	7.50768	7.51301	7.51760	7.52338	7.52813	7.53141	7.53594	7.54128	7.54690	7.55214	7.55185	7.54307
N° 21	7.50061	7.50380	7.50691	7.51167	7.51575	7.52077	7.52501	7.52825	7.53220	7.53710	7.54254	7.54760	7.54723	7.53477
N° 22	7.50049	7.50371	7.50685	7.51174	7.51595	7.52139	7.52589	7.52924	7.53347	7.53844	7.54387	7.54900	7.54873	7.53789
N° 23	7.50072	7.50394	7.50684	7.51135	7.51514	7.51999	7.52408	7.52716	7.53088	7.53531	7.54021	7.54457	7.54455	7.53569
N° 24	7.50159	7.50513	7.50851	7.51375	7.51831	7.52403	7.52881	7.53237	7.53663	7.54174	7.54744	7.55279	7.55246	7.54217
N° 25	7.50165	7.50491	7.50796	7.51273	7.51687	7.52196	7.52627	7.52957	7.53357	7.53846	7.54395	7.54902	7.54875	7.53710
N° 26	7.50076	7.50426	7.50716	7.51144	7.51503	7.51963	7.52343	7.52626	7.52979	7.53413	7.53882	7.54315	7.54291	7.53411
N° 27	7.50220	7.50570	7.50859	7.51325	7.51708	7.52191	7.52609	7.52903	7.53260	7.53716	7.54204	7.54650	7.54620	7.53768
N° 28	7.50049	7.50357	7.50618	7.51058	7.51429	7.51883	7.52277	7.52561	7.52921	7.53371	7.53845	7.54326	7.54298	7.53270
N° 29	7.50011	7.50359	7.50659	7.51110	7.51504	7.51981	7.52401	7.52715	7.53085	7.53562	7.54083	7.54565	7.54537	7.53598
N° 30	7.49938	7.50262	7.50551	7.51015	7.51408	7.51908	7.52318	7.52640	7.53035	7.53517	7.54053	7.54544	7.54520	7.53294
N° 31	7.49943	7.50320	7.50648	7.51171	7.51610	7.52159	7.52628	7.52978	7.53397	7.53908	7.54486	7.55000	7.54975	7.54072

4. Vout3

Ta=25°C; Vin=15V; IL=0mA; VO=5.0V

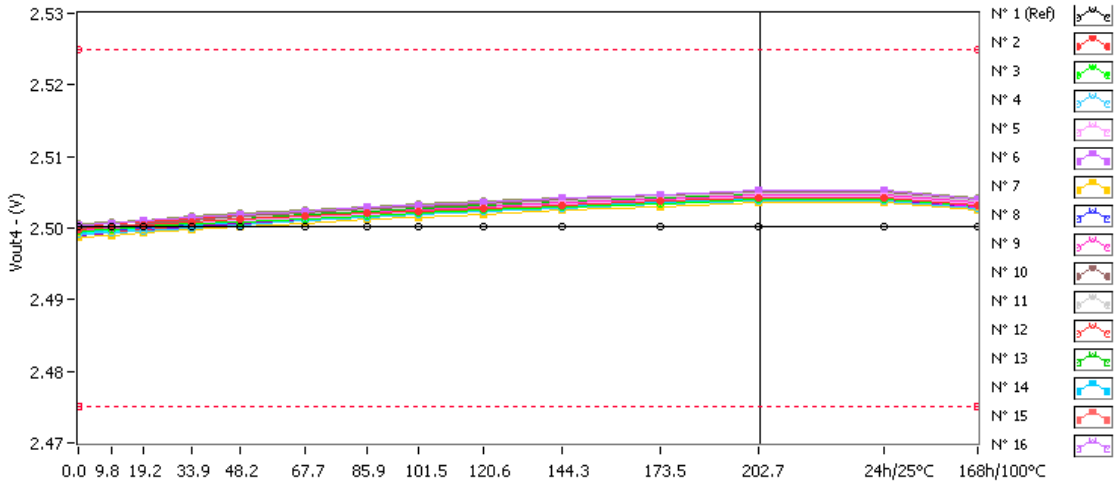


Vout3 . (V) **Min = 4.95 Max = 5.05**

	0.0 krad(Si)	9.8 krad(Si)	19.2 krad(Si)	33.9 krad(Si)	48.2 krad(Si)	67.7 krad(Si)	85.9 krad(Si)	101.5 krad(Si)	120.6 krad(Si)	144.3 krad(Si)	173.5 krad(Si)	202.7 krad(Si)	24h/25°C	168h/100°C
N° 1 (Ref)	5.00059	5.00044	5.00027	5.00020	5.00027	5.00038	5.00057	5.00063	5.00058	5.00046	5.00042	5.00031	5.00042	5.00046
N° 2	5.00164	5.00359	5.00512	5.00751	5.00953	5.01199	5.01417	5.01568	5.01775	5.02026	5.02283	5.02535	5.02531	5.02057
N° 3	5.00188	5.00363	5.00528	5.00755	5.00956	5.01201	5.01417	5.01587	5.01780	5.02022	5.02276	5.02531	5.02523	5.02058
N° 4	5.00028	5.00204	5.00382	5.00656	5.00895	5.01194	5.01448	5.01644	5.01882	5.02179	5.02498	5.02793	5.02777	5.02144
N° 5	5.00116	5.00288	5.00461	5.00718	5.00942	5.01223	5.01459	5.01642	5.01870	5.02159	5.02458	5.02754	5.02743	5.02103
N° 6	5.00092	5.00276	5.00452	5.00710	5.00956	5.01241	5.01494	5.01686	5.01918	5.02210	5.02489	5.02797	5.02785	5.02180
N° 7	4.99965	5.00157	5.00325	5.00583	5.00818	5.01105	5.01348	5.01535	5.01754	5.02034	5.02326	5.02601	5.02588	5.02141
N° 8	4.99995	5.00178	5.00355	5.00624	5.00863	5.01157	5.01402	5.01599	5.01833	5.02116	5.02423	5.02707	5.02691	5.02162
N° 9	4.99981	5.00162	5.00343	5.00619	5.00870	5.01178	5.01436	5.01642	5.01877	5.02181	5.02506	5.02806	5.02790	5.02226
N° 10	5.00026	5.00220	5.00422	5.00706	5.00962	5.01277	5.01535	5.01734	5.01965	5.02268	5.02581	5.02872	5.02851	5.02359
N° 11	5.00077	5.00273	5.00456	5.00731	5.00976	5.01279	5.01540	5.01742	5.01974	5.02281	5.02602	5.02898	5.02881	5.02286
N° 12	5.00028	5.00199	5.00375	5.00635	5.00859	5.01134	5.01368	5.01552	5.01761	5.02049	5.02363	5.02643	5.02632	5.02028
N° 13	5.00090	5.00270	5.00452	5.00731	5.00981	5.01283	5.01539	5.01743	5.01976	5.02278	5.02609	5.02907	5.02895	5.02323
N° 14	5.00049	5.00241	5.00407	5.00648	5.00856	5.01108	5.01336	5.01509	5.01717	5.01968	5.02245	5.02502	5.02492	5.02059
N° 15	5.00035	5.00230	5.00397	5.00652	5.00870	5.01138	5.01365	5.01544	5.01759	5.02026	5.02320	5.02593	5.02582	5.02131
N° 16	4.99905	5.00097	5.00285	5.00554	5.00786	5.01080	5.01318	5.01512	5.01743	5.02016	5.02315	5.02602	5.02590	5.02273
N° 17	5.00038	5.00216	5.00399	5.00675	5.00922	5.01223	5.01486	5.01693	5.01931	5.02237	5.02567	5.02873	5.02857	5.02246
N° 18	5.00060	5.00246	5.00427	5.00686	5.00910	5.01189	5.01431	5.01619	5.01842	5.02114	5.02423	5.02707	5.02683	5.02320
N° 19	5.00018	5.00226	5.00407	5.00688	5.00932	5.01233	5.01487	5.01686	5.01910	5.02201	5.02513	5.02798	5.02784	5.02313
N° 20	4.99984	5.00196	5.00387	5.00685	5.00942	5.01267	5.01537	5.01727	5.01981	5.02281	5.02604	5.02904	5.02886	5.02416
N° 21	5.00065	5.00241	5.00415	5.00680	5.00908	5.01191	5.01432	5.01621	5.01843	5.02125	5.02442	5.02732	5.02718	5.02055
N° 22	5.00111	5.00288	5.00460	5.00733	5.00968	5.01274	5.01530	5.01721	5.01959	5.02242	5.02553	5.02848	5.02834	5.02257
N° 23	5.00075	5.00253	5.00413	5.00663	5.00877	5.01150	5.01382	5.01561	5.01773	5.02024	5.02309	5.02574	5.02564	5.02087
N° 24	5.00035	5.00230	5.00417	5.00708	5.00962	5.01283	5.01553	5.01753	5.01997	5.02287	5.02611	5.02918	5.02900	5.02355
N° 25	5.00025	5.00205	5.00373	5.00637	5.00868	5.01156	5.01401	5.01586	5.01814	5.02095	5.02409	5.02700	5.02687	5.02067
N° 26	5.00101	5.00294	5.00454	5.00692	5.00894	5.01153	5.01371	5.01531	5.01732	5.01981	5.02252	5.02507	5.02493	5.02022
N° 27	4.99979	5.00173	5.00333	5.00593	5.00807	5.01081	5.01319	5.01485	5.01690	5.01950	5.02231	5.02490	5.02473	5.02025
N° 28	4.99942	5.00114	5.00259	5.00504	5.00712	5.00970	5.01192	5.01355	5.01558	5.01816	5.02090	5.02367	5.02356	5.01805
N° 29	4.99990	5.00183	5.00349	5.00599	5.00820	5.01086	5.01324	5.01501	5.01710	5.01982	5.02282	5.02558	5.02546	5.02046
N° 30	4.99974	5.00153	5.00314	5.00572	5.00792	5.01074	5.01307	5.01492	5.01717	5.01996	5.02305	5.02593	5.02580	5.01923
N° 31	5.00051	5.00259	5.00440	5.00732	5.00977	5.01285	5.01550	5.01751	5.01990	5.02282	5.02608	5.02901	5.02889	5.02414

5. Vout4

Ta=25°C; Vin=15V; IL=0mA; VO=2.5V

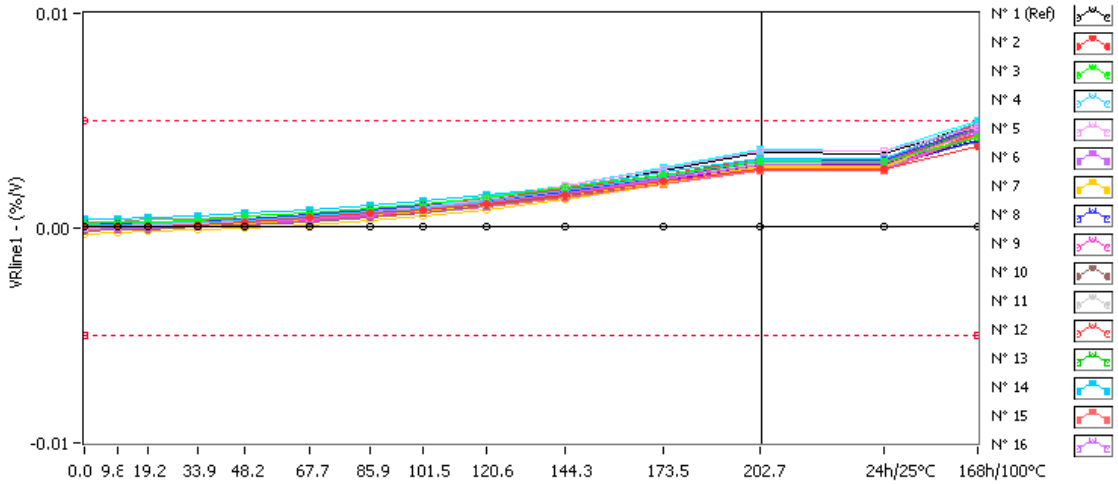


Vout4 . (V) **Min = 2.475 Max = 2.525**

	0.0 krad(Si)	9.8 krad(Si)	19.2 krad(Si)	33.9 krad(Si)	48.2 krad(Si)	67.7 krad(Si)	85.9 krad(Si)	101.5 krad(Si)	120.6 krad(Si)	144.3 krad(Si)	173.5 krad(Si)	202.7 krad(Si)	24h/25°C	168h/100°C
N° 1 (Ref)	2.50028	2.50022	2.50015	2.50012	2.50016	2.50020	2.50027	2.50029	2.50028	2.50023	2.50021	2.50019	2.50021	2.50023
N° 2	2.49983	2.50016	2.50040	2.50082	2.50118	2.50163	2.50207	2.50234	2.50275	2.50324	2.50371	2.50419	2.50420	2.50327
N° 3	2.49959	2.49988	2.50016	2.50055	2.50090	2.50135	2.50179	2.50211	2.50249	2.50298	2.50347	2.50396	2.50397	2.50307
N° 4	2.49905	2.49932	2.49961	2.50008	2.50050	2.50102	2.50150	2.50186	2.50229	2.50281	2.50336	2.50385	2.50385	2.50266
N° 5	2.49959	2.49985	2.50015	2.50060	2.50099	2.50151	2.50195	2.50229	2.50271	2.50327	2.50382	2.50437	2.50437	2.50327
N° 6	2.50039	2.50069	2.50098	2.50142	2.50187	2.50241	2.50289	2.50324	2.50367	2.50422	2.50470	2.50524	2.50523	2.50409
N° 7	2.49870	2.49901	2.49929	2.49973	2.50016	2.50071	2.50119	2.50154	2.50194	2.50247	2.50300	2.50350	2.50350	2.50258
N° 8	2.49951	2.49981	2.50011	2.50058	2.50101	2.50156	2.50203	2.50240	2.50284	2.50335	2.50388	2.50437	2.50437	2.50336
N° 9	2.49964	2.49993	2.50022	2.50069	2.50113	2.50169	2.50219	2.50257	2.50298	2.50353	2.50409	2.50461	2.50460	2.50350
N° 10	2.49998	2.50029	2.50064	2.50115	2.50162	2.50221	2.50270	2.50306	2.50348	2.50403	2.50457	2.50506	2.50504	2.50401
N° 11	2.49993	2.50025	2.50056	2.50103	2.50147	2.50202	2.50252	2.50289	2.50332	2.50387	2.50444	2.50494	2.50493	2.50374
N° 12	2.50030	2.50056	2.50086	2.50131	2.50169	2.50216	2.50259	2.50293	2.50333	2.50386	2.50444	2.50496	2.50495	2.50394
N° 13	2.49973	2.50001	2.50032	2.50081	2.50126	2.50180	2.50229	2.50267	2.50310	2.50366	2.50425	2.50476	2.50476	2.50363
N° 14	2.49941	2.49975	2.50003	2.50046	2.50082	2.50129	2.50175	2.50209	2.50248	2.50298	2.50350	2.50399	2.50400	2.50317
N° 15	2.49961	2.49993	2.50020	2.50063	2.50102	2.50147	2.50189	2.50220	2.50260	2.50310	2.50362	2.50411	2.50411	2.50342
N° 16	2.49950	2.49980	2.50013	2.50061	2.50102	2.50157	2.50202	2.50239	2.50282	2.50332	2.50385	2.50437	2.50436	2.50330
N° 17	2.49942	2.49969	2.49999	2.50046	2.50089	2.50143	2.50193	2.50231	2.50274	2.50331	2.50388	2.50442	2.50440	2.50332
N° 18	2.49949	2.49978	2.50008	2.50053	2.50092	2.50143	2.50188	2.50224	2.50265	2.50315	2.50371	2.50422	2.50418	2.50304
N° 19	2.49903	2.49938	2.49967	2.50017	2.50062	2.50118	2.50167	2.50204	2.50243	2.50297	2.50351	2.50402	2.50401	2.50303
N° 20	2.49994	2.50030	2.50061	2.50114	2.50162	2.50225	2.50278	2.50313	2.50358	2.50412	2.50467	2.50517	2.50516	2.50409
N° 21	2.49936	2.49964	2.49994	2.50041	2.50081	2.50131	2.50177	2.50211	2.50253	2.50304	2.50363	2.50414	2.50413	2.50287
N° 22	2.49921	2.49948	2.49976	2.50023	2.50065	2.50122	2.50171	2.50206	2.50249	2.50300	2.50355	2.50406	2.50406	2.50297
N° 23	2.49967	2.49997	2.50023	2.50066	2.50105	2.50156	2.50201	2.50235	2.50276	2.50325	2.50376	2.50426	2.50426	2.50332
N° 24	2.49928	2.49960	2.49990	2.50041	2.50088	2.50148	2.50199	2.50236	2.50279	2.50331	2.50386	2.50439	2.50437	2.50327
N° 25	2.50043	2.50072	2.50098	2.50144	2.50185	2.50237	2.50282	2.50318	2.50359	2.50411	2.50467	2.50518	2.50517	2.50403
N° 26	2.49965	2.49995	2.50023	2.50064	2.50100	2.50148	2.50189	2.50219	2.50257	2.50305	2.50357	2.50405	2.50404	2.50310
N° 27	2.50057	2.50090	2.50116	2.50164	2.50203	2.50256	2.50303	2.50334	2.50373	2.50424	2.50475	2.50523	2.50523	2.50433
N° 28	2.49993	2.50021	2.50043	2.50088	2.50125	2.50174	2.50217	2.50246	2.50282	2.50331	2.50381	2.50434	2.50433	2.50337
N° 29	2.49972	2.50003	2.50030	2.50073	2.50113	2.50159	2.50203	2.50236	2.50273	2.50323	2.50377	2.50427	2.50426	2.50332
N° 30	2.49922	2.49951	2.49977	2.50022	2.50061	2.50114	2.50157	2.50192	2.50234	2.50287	2.50343	2.50396	2.50396	2.50278
N° 31	2.49951	2.49987	2.50016	2.50069	2.50113	2.50172	2.50223	2.50261	2.50304	2.50357	2.50415	2.50465	2.50466	2.50359

6. VRline1

Ta=25°C; 12.5V<Vin<15V; VO=10V

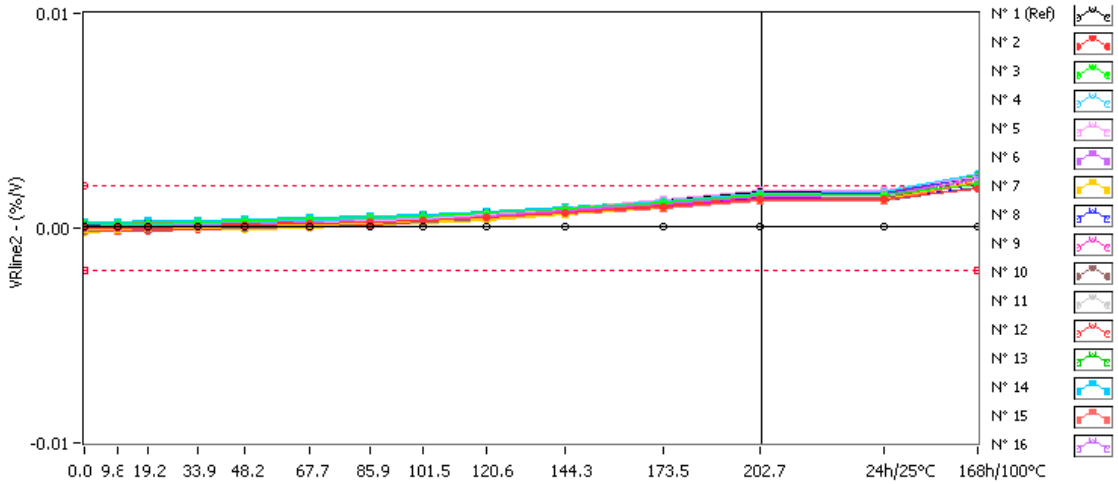


VRline1 . (%/V) **Min = -0.005 Max = 0.005**

	0.0 krad(Si)	9.8 krad(Si)	19.2 krad(Si)	33.9 krad(Si)	48.2 krad(Si)	67.7 krad(Si)	85.9 krad(Si)	101.5 krad(Si)	120.6 krad(Si)	144.3 krad(Si)	173.5 krad(Si)	202.7 krad(Si)	24h/25°C	168h/100°C
N° 1 (Ref)	6.75E-5	4.10E-5	9.74E-5	7.82E-5	4.74E-5	8.48E-5	6.61E-5	4.48E-5	4.96E-5	4.00E-5	5.26E-5	6.50E-5	4.43E-5	6.64E-5
N° 2	4.21E-5	5.33E-5	7.50E-5	1.72E-4	3.01E-4	4.60E-4	6.97E-4	8.43E-4	1.13E-3	1.56E-3	2.16E-3	2.77E-3	2.78E-3	3.78E-3
N° 3	2.23E-4	2.65E-4	3.13E-4	3.87E-4	5.43E-4	7.04E-4	9.03E-4	1.14E-3	1.39E-3	1.88E-3	2.48E-3	3.13E-3	3.07E-3	4.23E-3
N° 4	1.10E-4	1.65E-4	2.07E-4	2.95E-4	3.82E-4	5.31E-4	7.53E-4	9.44E-4	1.24E-3	1.78E-3	2.43E-3	3.19E-3	3.21E-3	4.93E-3
N° 5	1.07E-5	5.18E-5	1.37E-4	2.02E-4	3.39E-4	5.15E-4	7.93E-4	9.95E-4	1.34E-3	2.00E-3	2.75E-3	3.61E-3	3.60E-3	4.71E-3
N° 6	2.69E-5	1.76E-6	3.47E-5	1.59E-4	2.69E-4	4.31E-4	6.03E-4	8.77E-4	1.17E-3	1.61E-3	2.28E-3	2.93E-3	3.03E-3	4.52E-3
N° 7	2.24E-5	3.87E-5	8.48E-5	1.60E-4	2.43E-4	4.36E-4	6.09E-4	7.94E-4	1.13E-3	1.54E-3	2.14E-3	2.86E-3	2.91E-3	4.52E-3
N° 8	1.77E-4	2.24E-4	2.11E-4	2.82E-4	4.25E-4	6.22E-4	8.30E-4	1.06E-3	1.28E-3	1.71E-3	2.41E-3	3.13E-3	3.18E-3	4.72E-3
N° 9	-3.02E-5	-3.52E-6	3.33E-5	1.51E-4	2.29E-4	3.53E-4	5.78E-4	8.13E-4	1.10E-3	1.64E-3	2.29E-3	3.11E-3	3.09E-3	4.80E-3
N° 10	-1.57E-4	-8.45E-5	-5.10E-5	7.28E-5	1.20E-4	2.75E-4	4.90E-4	6.89E-4	1.05E-3	1.50E-3	2.15E-3	2.88E-3	2.90E-3	4.65E-3
N° 11	5.22E-5	3.06E-5	7.18E-5	1.60E-4	2.69E-4	4.35E-4	6.19E-4	8.02E-4	1.18E-3	1.64E-3	2.28E-3	3.01E-3	3.13E-3	4.79E-3
N° 12	-1.13E-4	-6.96E-5	-3.58E-5	5.76E-5	1.69E-4	3.15E-4	5.82E-4	7.80E-4	1.08E-3	1.62E-3	2.38E-3	3.09E-3	3.17E-3	4.34E-3
N° 13	1.57E-5	6.16E-5	1.34E-4	1.87E-4	2.70E-4	4.32E-4	6.34E-4	8.34E-4	1.14E-3	1.62E-3	2.30E-3	2.97E-3	3.02E-3	4.71E-3
N° 14	4.13E-4	4.40E-4	5.07E-4	5.74E-4	6.74E-4	8.63E-4	1.06E-3	1.26E-3	1.55E-3	1.90E-3	2.58E-3	3.27E-3	3.25E-3	4.68E-3
N° 15	-8.74E-5	-8.78E-5	-1.76E-5	4.40E-5	1.63E-4	3.41E-4	5.62E-4	7.43E-4	9.77E-4	1.39E-3	2.02E-3	2.64E-3	2.68E-3	4.37E-3
N° 16	-8.15E-5	-4.06E-5	6.08E-6	6.16E-5	1.57E-4	3.30E-4	5.37E-4	7.07E-4	1.00E-3	1.44E-3	2.05E-3	2.75E-3	2.77E-3	4.42E-3
N° 17	-2.71E-4	-2.04E-4	-1.42E-4	-9.87E-5	7.84E-6	1.53E-4	3.76E-4	5.46E-4	8.44E-4	1.34E-3	2.03E-3	2.80E-3	2.84E-3	4.29E-3
N° 18	1.31E-5	4.61E-5	1.05E-4	2.09E-4	2.72E-4	4.04E-4	6.32E-4	8.14E-4	1.08E-3	1.46E-3	2.11E-3	2.74E-3	2.75E-3	4.60E-3
N° 19	5.81E-5	8.10E-5	1.15E-4	2.33E-4	2.87E-4	4.85E-4	6.73E-4	8.10E-4	1.11E-3	1.53E-3	2.24E-3	2.86E-3	2.92E-3	4.62E-3
N° 20	3.04E-5	1.29E-4	1.49E-4	2.22E-4	3.25E-4	4.97E-4	6.25E-4	8.08E-4	1.15E-3	1.57E-3	2.13E-3	2.81E-3	2.83E-3	4.55E-3
N° 21	4.29E-5	9.54E-5	1.38E-4	2.49E-4	3.52E-4	5.72E-4	8.01E-4	1.01E-3	1.45E-3	1.99E-3	2.82E-3	3.63E-3	3.63E-3	5.00E-3
N° 22	1.65E-4	2.11E-4	2.37E-4	3.20E-4	4.57E-4	5.86E-4	8.52E-4	1.07E-3	1.32E-3	1.81E-3	2.49E-3	3.22E-3	3.23E-3	4.85E-3
N° 23	6.27E-5	5.81E-5	1.19E-4	1.97E-4	3.22E-4	4.79E-4	6.66E-4	8.57E-4	1.14E-3	1.57E-3	2.09E-3	2.85E-3	2.85E-3	4.20E-3
N° 24	1.02E-5	4.32E-6	6.22E-5	1.72E-4	2.70E-4	4.84E-4	6.38E-4	8.51E-4	1.19E-3	1.61E-3	2.29E-3	2.96E-3	3.12E-3	4.79E-3
N° 25	-1.60E-5	1.34E-5	3.58E-5	1.40E-4	2.60E-4	4.37E-4	6.37E-4	8.55E-4	1.17E-3	1.61E-3	2.29E-3	3.10E-3	3.11E-3	4.59E-3
N° 26	3.60E-5	5.09E-5	1.09E-4	2.14E-4	3.08E-4	4.87E-4	7.24E-4	9.37E-4	1.18E-3	1.64E-3	2.24E-3	2.86E-3	2.88E-3	4.05E-3
N° 27	2.94E-4	3.10E-4	3.90E-4	4.23E-4	5.36E-4	7.37E-4	9.28E-4	1.14E-3	1.40E-3	1.85E-3	2.47E-3	3.11E-3	3.19E-3	4.66E-3
N° 28	2.85E-5	7.60E-5	1.18E-4	1.96E-4	3.27E-4	4.69E-4	6.89E-4	9.18E-4	1.17E-3	1.61E-3	2.25E-3	2.89E-3	2.97E-3	4.04E-3
N° 29	1.37E-4	1.48E-4	1.66E-4	2.46E-4	3.56E-4	5.37E-4	6.63E-4	9.17E-4	1.18E-3	1.64E-3	2.25E-3	2.84E-3	2.82E-3	4.08E-3
N° 30	3.63E-5	3.78E-5	1.15E-4	1.99E-4	3.33E-4	5.35E-4	7.32E-4	1.02E-3	1.34E-3	1.86E-3	2.66E-3	3.49E-3	3.47E-3	4.85E-3
N° 31	-2.93E-5	-9.92E-6	4.94E-5	8.49E-5	2.28E-4	3.83E-4	5.53E-4	7.39E-4	1.02E-3	1.48E-3	2.04E-3	2.78E-3	2.77E-3	4.61E-3

7. VRline2

Ta=25°C; 15V<Vin<30V; VO=10V

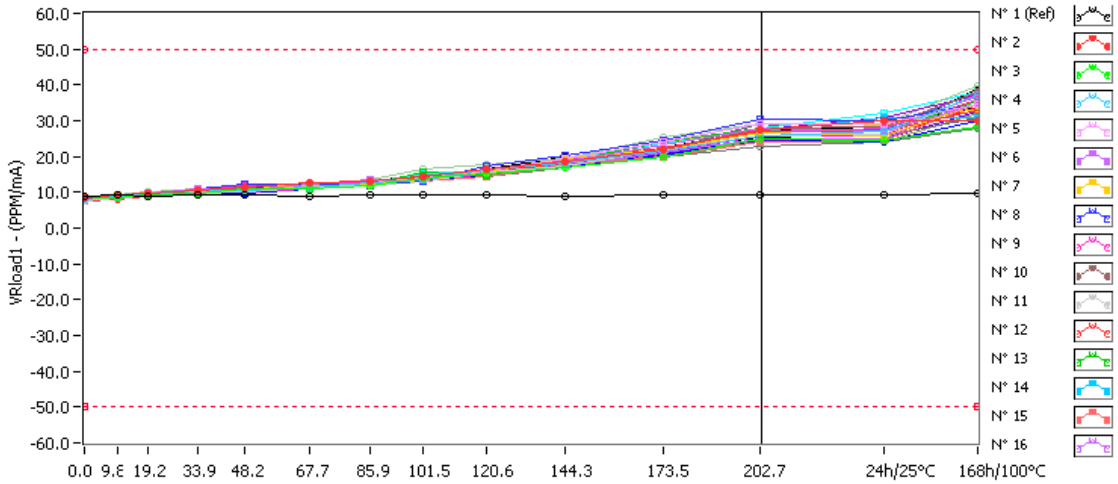


VRline2 . (%/V) **Min = -0.002 Max = 0.002**

	0.0 krad(Si)	9.8 krad(Si)	19.2 krad(Si)	33.9 krad(Si)	48.2 krad(Si)	67.7 krad(Si)	85.9 krad(Si)	101.5 krad(Si)	120.6 krad(Si)	144.3 krad(Si)	173.5 krad(Si)	202.7 krad(Si)	24h/25°C	168h/100°C
N° 1 (Ref)	6.31E-5	6.39E-5	6.03E-5	6.66E-5	6.56E-5	6.76E-5	6.13E-5	6.11E-5	6.37E-5	6.19E-5	6.38E-5	6.62E-5	5.85E-5	6.00E-5
N° 2	-1.31E-5	-7.65E-6	2.50E-5	6.87E-5	1.16E-4	2.00E-4	2.87E-4	3.81E-4	5.13E-4	7.23E-4	1.00E-3	1.33E-3	1.33E-3	1.84E-3
N° 3	1.81E-4	1.91E-4	2.25E-4	2.67E-4	3.20E-4	3.98E-4	4.80E-4	5.73E-4	7.11E-4	9.19E-4	1.21E-3	1.52E-3	1.53E-3	2.06E-3
N° 4	9.53E-5	1.28E-4	1.54E-4	1.98E-4	2.48E-4	3.24E-4	4.13E-4	5.18E-4	6.72E-4	9.20E-4	1.26E-3	1.65E-3	1.67E-3	2.56E-3
N° 5	-1.21E-5	3.28E-6	3.74E-5	8.02E-5	1.43E-4	2.39E-4	3.43E-4	4.57E-4	6.41E-4	9.32E-4	1.32E-3	1.75E-3	1.77E-3	2.37E-3
N° 6	3.05E-5	5.46E-5	8.23E-5	1.28E-4	1.74E-4	2.54E-4	3.48E-4	4.45E-4	5.97E-4	8.29E-4	1.15E-3	1.50E-3	1.52E-3	2.28E-3
N° 7	-5.83E-5	-4.12E-5	-1.02E-5	2.36E-5	6.75E-5	1.46E-4	2.40E-4	3.23E-4	4.57E-4	6.68E-4	9.74E-4	1.33E-3	1.33E-3	2.18E-3
N° 8	1.32E-4	1.54E-4	1.81E-4	2.21E-4	2.81E-4	3.53E-4	4.41E-4	5.33E-4	6.82E-4	9.04E-4	1.23E-3	1.59E-3	1.60E-3	2.40E-3
N° 9	-2.75E-5	1.39E-6	2.46E-5	6.09E-5	1.15E-4	1.90E-4	2.88E-4	3.95E-4	5.46E-4	7.70E-4	1.14E-3	1.50E-3	1.53E-3	2.42E-3
N° 10	-1.13E-4	-9.45E-5	-7.74E-5	-3.49E-5	2.33E-5	9.04E-5	1.82E-4	2.75E-4	4.34E-4	6.63E-4	9.89E-4	1.36E-3	1.38E-3	2.29E-3
N° 11	-4.50E-5	-2.07E-5	5.63E-6	5.12E-5	9.85E-5	1.78E-4	2.70E-4	3.61E-4	5.20E-4	7.62E-4	1.11E-3	1.50E-3	1.51E-3	2.41E-3
N° 12	-1.68E-4	-1.51E-4	-1.28E-4	-7.26E-5	-2.92E-5	5.96E-5	1.71E-4	2.77E-4	4.40E-4	7.06E-4	1.07E-3	1.46E-3	1.48E-3	2.11E-3
N° 13	3.11E-5	4.83E-5	7.80E-5	1.18E-4	1.65E-4	2.46E-4	3.43E-4	4.32E-4	5.86E-4	8.06E-4	1.15E-3	1.52E-3	1.54E-3	2.44E-3
N° 14	2.84E-4	2.98E-4	3.23E-4	3.68E-4	4.18E-4	4.94E-4	5.79E-4	6.63E-4	8.01E-4	1.00E-3	1.30E-3	1.62E-3	1.63E-3	2.30E-3
N° 15	-1.21E-4	-1.08E-4	-8.03E-5	-3.39E-5	1.09E-5	9.20E-5	1.83E-4	2.72E-4	4.21E-4	6.26E-4	9.21E-4	1.24E-3	1.26E-3	2.12E-3
N° 16	-1.09E-4	-8.61E-5	-6.83E-5	-2.57E-5	1.48E-5	8.64E-5	1.80E-4	2.74E-4	4.10E-4	6.19E-4	9.38E-4	1.28E-3	1.27E-3	2.19E-3
N° 17	-1.94E-4	-1.70E-4	-1.48E-4	-1.03E-4	-6.62E-5	3.09E-5	1.24E-4	2.17E-4	3.78E-4	6.13E-4	9.74E-4	1.34E-3	1.36E-3	2.18E-3
N° 18	1.67E-5	3.04E-5	5.40E-5	9.86E-5	1.42E-4	2.20E-4	2.99E-4	3.90E-4	5.31E-4	7.35E-4	1.04E-3	1.37E-3	1.38E-3	2.31E-3
N° 19	8.27E-7	1.12E-5	4.09E-5	7.48E-5	1.27E-4	2.04E-4	2.94E-4	3.89E-4	5.35E-4	7.33E-4	1.06E-3	1.42E-3	1.43E-3	2.31E-3
N° 20	3.49E-6	1.88E-5	4.46E-5	8.02E-5	1.38E-4	2.02E-4	2.88E-4	3.82E-4	5.14E-4	7.24E-4	1.03E-3	1.37E-3	1.38E-3	2.30E-3
N° 21	-5.05E-5	-3.27E-5	-1.13E-5	3.98E-5	1.01E-4	1.92E-4	3.08E-4	4.26E-4	6.12E-4	8.85E-4	1.31E-3	1.73E-3	1.75E-3	2.47E-3
N° 22	9.77E-5	1.25E-4	1.49E-4	2.29E-4	2.39E-4	3.23E-4	4.18E-4	5.08E-4	6.63E-4	9.03E-4	1.24E-3	1.60E-3	1.61E-3	2.45E-3
N° 23	-8.14E-5	-6.17E-5	-4.33E-5	3.95E-6	4.48E-5	1.14E-4	2.00E-4	2.83E-4	4.23E-4	6.28E-4	9.23E-4	1.23E-3	1.24E-3	1.93E-3
N° 24	-3.90E-5	-2.53E-5	-6.61E-6	4.28E-5	9.46E-5	1.70E-4	2.66E-4	3.54E-4	5.12E-4	7.51E-4	1.09E-3	1.47E-3	1.48E-3	2.41E-3
N° 25	-8.95E-5	-7.43E-5	-4.68E-5	-2.83E-6	3.80E-5	1.25E-4	2.10E-4	3.10E-4	4.58E-4	7.08E-4	1.05E-3	1.41E-3	1.43E-3	2.20E-3
N° 26	-2.67E-5	-1.31E-5	9.28E-6	5.35E-5	1.09E-4	1.80E-4	2.68E-4	3.64E-4	5.11E-4	7.12E-4	1.01E-3	1.33E-3	1.36E-3	1.92E-3
N° 27	2.11E-4	2.25E-4	2.55E-4	2.96E-4	3.46E-4	4.21E-4	5.12E-4	5.98E-4	7.52E-4	9.43E-4	1.26E-3	1.59E-3	1.59E-3	2.33E-3
N° 28	-4.78E-5	-1.14E-5	1.30E-5	5.87E-5	1.07E-4	1.79E-4	2.68E-4	3.58E-4	5.00E-4	6.99E-4	9.95E-4	1.31E-3	1.33E-3	1.88E-3
N° 29	6.62E-5	7.53E-5	1.05E-4	1.41E-4	1.98E-4	2.82E-4	3.63E-4	4.49E-4	5.91E-4	7.86E-4	1.08E-3	1.41E-3	1.43E-3	2.05E-3
N° 30	-1.21E-5	7.04E-6	3.37E-5	8.49E-5	1.44E-4	2.24E-4	3.31E-4	4.53E-4	6.15E-4	8.86E-4	1.27E-3	1.69E-3	1.71E-3	2.42E-3
N° 31	-1.40E-5	4.27E-7	2.09E-5	6.61E-5	1.10E-4	1.92E-4	2.72E-4	3.66E-4	5.00E-4	7.22E-4	1.04E-3	1.39E-3	1.40E-3	2.35E-3

8. VRload1

Ta=25°C; Vin=15V; 0mA<IL<5mA; VO=10V

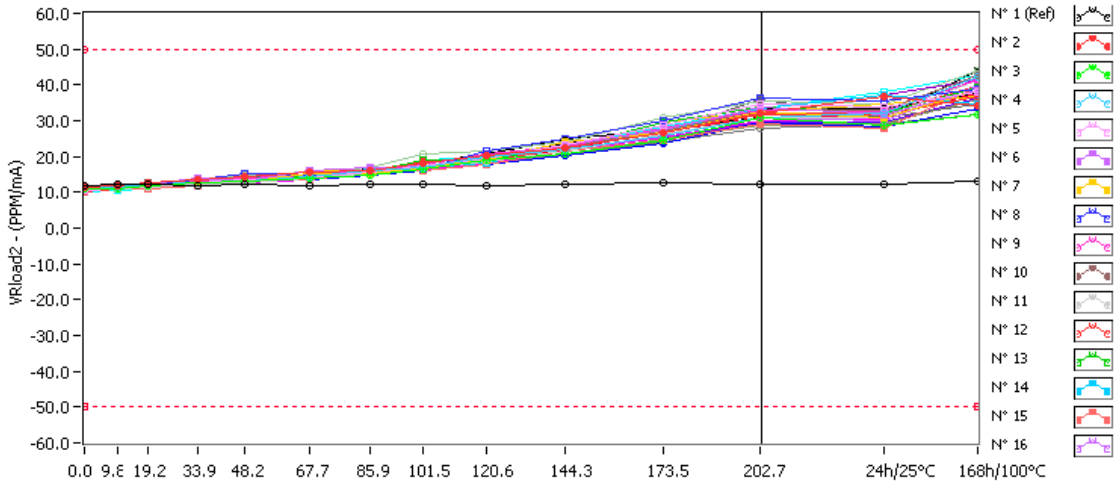


VRload1 . (PPM/mA) **Min = -50.0 Max = 50.0**

	0.0 krad(Si)	9.8 krad(Si)	19.2 krad(Si)	33.9 krad(Si)	48.2 krad(Si)	67.7 krad(Si)	85.9 krad(Si)	101.5 krad(Si)	120.6 krad(Si)	144.3 krad(Si)	173.5 krad(Si)	202.7 krad(Si)	24h/25°C	168h/100°C
N° 1 (Ref)	8.765	9.318	9.042	9.302	9.412	8.930	9.395	9.409	9.091	8.848	9.328	9.166	9.314	9.829
N° 2	8.659	9.246	9.538	10.726	11.241	12.573	12.929	14.576	16.459	18.656	21.979	27.262	30.090	30.174
N° 3	8.276	8.605	9.146	9.786	10.879	11.181	11.749	13.823	15.029	17.098	19.685	24.912	24.320	28.293
N° 4	8.221	8.740	9.204	10.571	10.409	11.281	12.704	13.593	16.637	18.180	21.569	25.654	27.236	37.356
N° 5	7.845	8.639	9.030	10.202	10.570	11.330	12.798	13.992	15.985	19.511	23.963	29.092	29.304	34.474
N° 6	8.296	8.889	9.513	11.031	10.428	12.323	13.385	13.526	15.887	18.506	23.374	27.941	27.199	34.665
N° 7	8.352	9.207	9.626	9.939	10.598	11.711	12.165	13.576	15.681	19.613	22.086	26.639	25.692	34.661
N° 8	8.548	8.839	9.407	10.794	12.270	12.087	12.349	13.158	17.326	20.420	24.604	30.318	30.175	34.827
N° 9	8.424	9.052	9.555	10.594	11.733	12.212	12.806	14.242	16.216	18.913	22.175	26.809	27.777	36.908
N° 10	8.290	8.923	9.552	10.825	10.842	11.557	12.683	13.720	15.931	18.688	22.010	28.028	28.214	38.155
N° 11	7.682	8.421	9.488	9.877	10.311	11.281	11.759	13.171	15.475	17.498	21.926	25.952	26.231	37.003
N° 12	7.587	8.193	8.738	9.827	10.382	11.254	12.780	13.427	15.758	18.011	22.312	27.111	26.878	32.945
N° 13	8.081	8.589	9.344	10.196	10.409	11.176	12.392	15.473	14.855	18.404	23.971	28.017	27.025	35.388
N° 14	8.629	9.333	9.652	10.451	10.947	11.199	12.975	13.525	15.205	18.206	22.601	27.162	30.889	30.747
N° 15	7.757	8.475	9.087	9.827	10.434	10.830	12.163	12.895	14.487	17.789	19.957	24.115	24.424	34.760
N° 16	8.357	8.615	9.628	10.334	10.661	11.621	12.306	13.563	15.042	17.492	21.125	24.960	25.126	36.047
N° 17	7.956	8.692	8.898	10.239	10.478	12.702	12.297	13.446	15.249	18.564	23.895	27.425	28.709	33.173
N° 18	8.157	8.371	8.960	10.048	10.328	10.815	12.467	13.941	14.735	17.614	20.941	25.784	25.857	37.731
N° 19	8.573	9.137	9.813	11.077	11.356	11.856	12.292	14.551	16.050	18.240	21.850	27.534	30.861	37.354
N° 20	8.602	9.375	10.042	10.938	11.783	12.298	13.662	16.420	17.669	19.573	25.355	29.092	29.071	39.546
N° 21	7.497	8.279	9.149	9.652	10.181	11.280	12.842	15.230	16.094	19.316	23.594	27.817	32.243	37.975
N° 22	8.305	8.858	9.546	10.463	10.886	12.004	12.746	14.884	16.193	18.929	22.540	26.890	26.918	35.894
N° 23	8.381	9.065	9.327	10.295	11.361	11.575	12.242	14.554	16.615	18.014	21.462	29.359	25.923	30.786
N° 24	8.002	8.560	9.628	10.527	10.415	11.267	12.120	13.516	15.862	19.588	22.500	27.115	27.459	38.088
N° 25	8.209	8.865	9.491	10.339	10.506	11.532	12.563	13.951	15.158	17.929	21.858	25.871	25.980	33.704
N° 26	8.161	8.529	8.787	9.716	9.795	10.949	12.147	13.342	14.648	17.163	20.078	24.896	23.965	29.821
N° 27	8.723	9.049	9.904	10.485	11.124	11.317	12.226	13.414	15.317	17.556	20.392	24.039	24.089	31.967
N° 28	8.392	8.855	9.949	10.330	10.576	12.377	12.316	13.646	14.564	17.107	19.907	22.807	24.009	28.042
N° 29	8.201	8.980	9.448	10.118	10.486	11.680	12.008	13.700	15.101	17.353	20.552	24.446	25.055	32.478
N° 30	7.961	8.865	9.480	9.951	10.808	11.660	13.290	14.689	15.742	19.129	22.330	27.612	28.452	33.708
N° 31	8.404	9.141	9.812	10.534	10.657	11.502	12.166	14.424	16.511	19.926	22.019	25.383	26.355	38.941

9. VRload2

Ta=25°C; Vin=15V; 0mA<IL<5mA; VO=7.5V

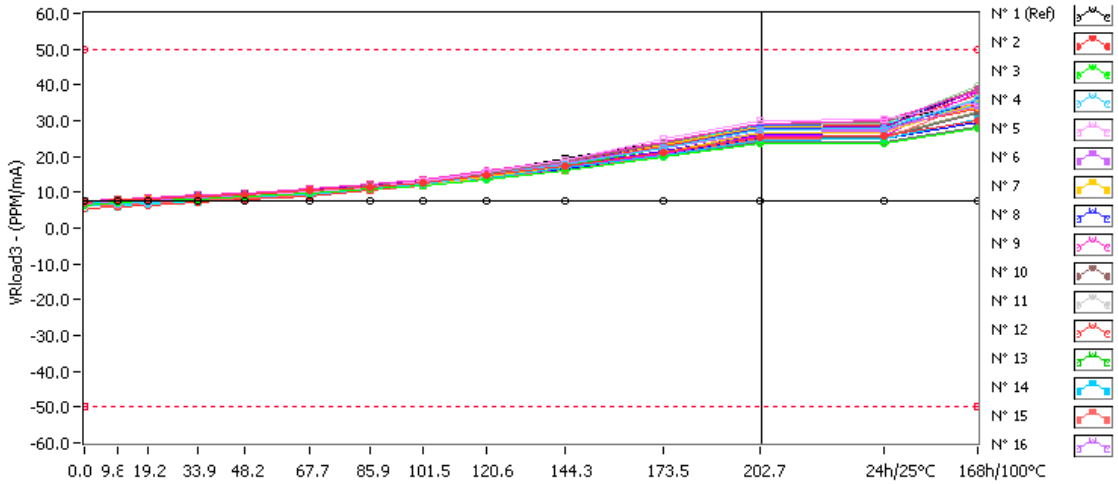


VRload2 . (PPM/mA) **Min = -50.0 Max = 50.0**

	0.0 krad(Si)	9.8 krad(Si)	19.2 krad(Si)	33.9 krad(Si)	48.2 krad(Si)	67.7 krad(Si)	85.9 krad(Si)	101.5 krad(Si)	120.6 krad(Si)	144.3 krad(Si)	173.5 krad(Si)	202.7 krad(Si)	24h/25°C	168h/100°C
N° 1 (Ref)	11.804	12.277	12.254	11.926	12.424	12.009	12.414	12.451	12.026	12.156	12.699	12.226	12.206	13.083
N° 2	11.288	11.952	12.503	13.355	14.212	15.514	15.975	18.300	20.295	22.278	26.437	32.228	36.831	34.104
N° 3	10.999	11.158	11.811	12.478	13.217	13.763	14.855	16.626	18.865	20.697	24.478	30.867	28.655	31.891
N° 4	10.918	11.480	12.078	12.607	13.143	14.530	15.905	16.763	20.069	21.980	25.671	30.929	32.079	42.338
N° 5	10.592	11.149	12.059	12.810	13.608	14.066	15.671	17.442	19.602	23.203	28.798	34.457	33.794	38.066
N° 6	10.934	11.319	12.297	13.897	13.275	15.941	16.885	17.136	19.699	23.191	27.374	33.845	31.646	38.542
N° 7	10.927	11.762	12.170	12.809	13.064	15.017	15.024	17.097	19.047	24.102	26.574	32.535	30.908	38.653
N° 8	11.080	11.438	12.280	13.428	15.190	14.792	15.562	16.529	21.515	24.917	30.203	36.207	35.599	38.855
N° 9	11.445	11.962	12.556	13.160	14.001	14.839	16.025	17.755	20.607	22.917	27.694	32.851	32.394	41.504
N° 10	11.021	11.548	12.311	13.221	13.295	14.475	15.777	16.947	19.361	22.798	27.247	33.116	32.868	42.596
N° 11	10.593	10.951	11.392	12.272	12.754	14.095	15.309	16.746	18.779	21.341	26.036	30.881	30.740	41.547
N° 12	10.292	11.061	11.385	12.360	12.826	13.890	15.303	16.907	18.736	22.397	26.856	32.177	31.593	36.733
N° 13	10.605	11.449	11.995	12.752	13.421	14.412	15.749	18.831	18.945	22.490	29.700	33.625	32.319	39.238
N° 14	11.329	12.024	12.461	13.468	13.831	14.413	16.298	16.691	18.256	22.813	26.890	33.437	37.207	34.512
N° 15	10.092	10.946	11.185	11.949	13.077	13.684	15.623	16.041	17.616	21.614	24.474	29.212	27.929	39.390
N° 16	11.179	11.662	12.152	13.181	13.681	14.985	15.750	16.758	18.484	21.728	25.652	30.776	30.095	39.656
N° 17	10.535	11.056	11.821	12.325	12.899	16.091	15.652	16.577	19.386	22.539	29.516	32.732	34.516	36.661
N° 18	10.728	10.994	11.538	12.256	12.830	13.599	15.912	16.594	18.086	21.729	25.534	29.851	30.254	41.922
N° 19	11.288	11.775	12.502	13.280	14.031	14.864	15.881	17.424	19.562	22.699	26.886	33.497	37.271	41.522
N° 20	11.002	11.823	12.472	13.551	14.766	15.615	16.896	20.723	21.721	24.150	30.875	35.496	34.661	43.918
N° 21	10.136	10.642	11.189	12.452	12.786	13.990	15.581	18.829	19.877	23.110	28.505	33.554	37.952	42.774
N° 22	11.242	11.680	12.369	13.311	13.824	14.846	16.124	18.786	19.840	22.469	27.193	31.661	32.102	39.650
N° 23	11.367	11.732	12.617	12.937	14.174	14.512	15.547	18.401	20.371	22.194	26.848	36.048	31.055	34.753
N° 24	10.649	11.222	11.950	12.746	13.111	14.149	15.256	16.742	19.039	24.167	26.714	32.134	32.130	42.062
N° 25	11.091	11.778	12.229	13.224	14.010	14.569	15.518	17.312	18.621	22.103	26.920	30.923	31.169	37.483
N° 26	10.719	10.645	11.406	12.114	12.937	13.530	14.625	16.199	17.853	20.418	23.850	29.741	28.293	33.498
N° 27	11.487	12.019	12.645	13.206	13.720	14.556	15.401	16.914	18.614	20.839	24.763	28.688	29.016	35.760
N° 28	11.250	11.610	12.691	12.977	13.479	15.886	15.543	17.376	18.239	20.646	24.043	28.025	29.042	31.770
N° 29	11.056	11.372	12.002	12.693	13.430	14.233	15.348	16.641	18.783	20.892	25.134	29.710	29.592	36.465
N° 30	11.079	11.309	12.214	12.993	13.593	14.836	16.290	17.480	19.598	23.667	27.448	33.363	33.554	37.549
N° 31	11.077	11.540	12.345	13.299	13.908	14.278	15.293	18.251	20.693	24.995	27.396	30.882	31.311	43.792

10. VRload3

Ta=25°C; Vin=15V; 0mA<IL<5mA; VO=5.0V

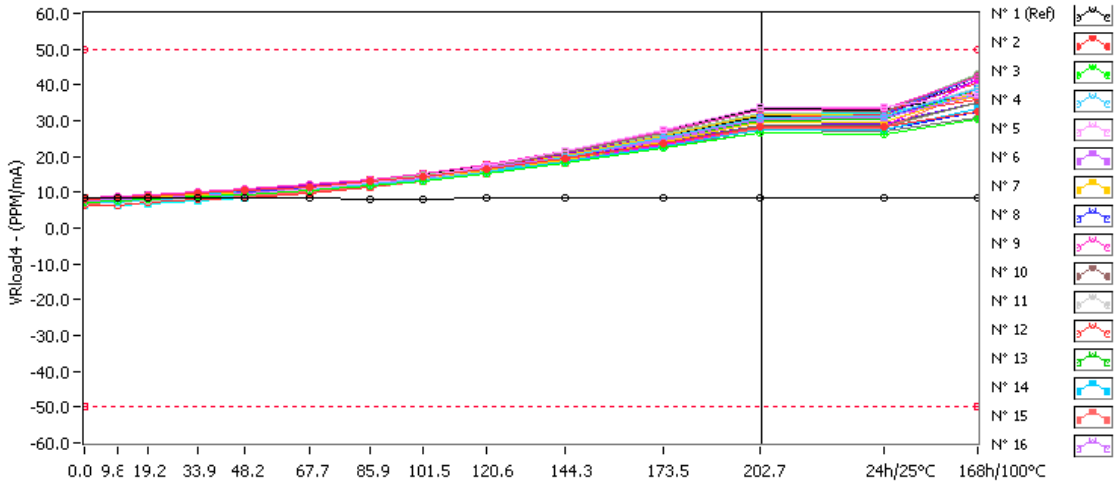


VRload3 . (PPM/mA) **Min = -50.0 Max = 50.0**

	0.0 krad(Si)	9.8 krad(Si)	19.2 krad(Si)	33.9 krad(Si)	48.2 krad(Si)	67.7 krad(Si)	85.9 krad(Si)	101.5 krad(Si)	120.6 krad(Si)	144.3 krad(Si)	173.5 krad(Si)	202.7 krad(Si)	24h/25°C	168h/100°C
N° 1 (Ref)	7.566	7.672	7.669	7.661	7.632	7.483	7.530	7.538	7.528	7.698	7.646	7.646	7.693	7.536
N° 2	7.352	7.818	8.153	8.804	9.383	10.459	11.264	12.827	14.589	17.504	21.337	25.449	25.739	30.066
N° 3	6.532	7.093	7.468	8.169	8.731	9.691	10.813	11.843	13.643	16.246	19.889	23.766	23.792	27.770
N° 4	6.326	6.843	7.350	7.981	8.817	9.384	11.134	12.303	14.678	17.910	22.549	27.656	28.040	35.867
N° 5	6.233	6.781	7.375	8.233	8.936	10.106	11.580	13.182	15.575	18.984	24.766	30.073	30.437	35.116
N° 6	6.752	7.271	7.743	8.426	8.931	10.002	11.587	13.033	14.848	18.131	22.344	27.579	27.550	34.299
N° 7	6.841	7.197	7.920	8.466	9.082	9.843	11.283	12.293	14.400	17.271	21.321	26.501	26.536	35.161
N° 8	6.841	7.276	7.813	8.698	9.207	10.319	11.264	12.707	14.952	17.718	22.379	27.869	27.734	35.684
N° 9	7.599	7.968	8.529	9.179	9.876	11.114	12.095	13.635	15.968	19.083	23.887	29.193	29.998	38.607
N° 10	6.649	7.197	7.905	8.372	9.175	10.024	11.840	12.709	15.250	18.762	23.531	29.087	29.589	39.082
N° 11	6.255	6.760	7.242	8.017	8.806	9.477	10.800	11.995	14.516	17.866	22.187	27.654	27.679	36.127
N° 12	5.488	6.088	6.511	7.335	8.092	8.818	10.723	12.136	14.242	17.991	22.858	28.095	28.091	33.232
N° 13	6.523	6.834	7.369	8.334	8.790	9.618	11.269	12.160	14.615	17.495	22.554	27.599	27.680	36.328
N° 14	7.252	7.567	7.908	8.602	9.195	10.584	11.205	12.486	14.137	16.845	20.449	24.473	25.061	30.544
N° 15	6.161	6.491	6.996	7.705	8.328	9.425	10.693	11.790	13.733	16.228	20.453	25.130	25.109	35.582
N° 16	7.198	7.440	8.118	8.761	9.148	10.173	11.452	12.718	14.594	17.721	22.337	26.756	27.227	36.231
N° 17	6.140	6.637	7.229	8.008	8.699	9.818	10.908	12.361	14.603	17.941	23.038	28.333	28.036	33.822
N° 18	6.321	6.709	7.109	7.742	8.408	9.266	10.929	11.763	13.654	16.900	20.890	25.638	25.656	38.225
N° 19	7.250	7.787	8.213	8.623	9.568	10.511	11.915	13.365	15.293	18.518	23.364	28.248	28.310	38.300
N° 20	7.296	7.608	8.151	8.937	9.523	10.884	11.893	13.148	15.360	18.839	23.935	29.079	29.162	39.913
N° 21	5.623	6.026	6.617	7.362	7.975	9.387	10.581	12.127	14.916	18.219	23.356	28.979	29.115	34.170
N° 22	7.298	7.582	8.384	9.064	9.490	10.907	12.338	13.413	15.808	19.137	23.627	28.947	28.909	37.343
N° 23	7.488	7.886	8.414	9.380	9.648	10.579	11.818	12.654	14.583	17.532	21.147	25.418	25.310	31.945
N° 24	6.204	6.709	7.324	8.023	8.579	9.791	11.500	12.902	14.611	18.645	23.325	28.705	29.249	38.914
N° 25	6.975	7.586	8.237	8.871	9.579	10.498	11.780	13.395	14.963	18.132	23.131	28.054	28.106	34.680
N° 26	6.450	6.832	7.231	8.086	8.522	9.236	10.740	11.987	14.202	16.497	20.577	24.951	24.931	29.724
N° 27	7.019	7.489	8.141	8.440	9.136	9.956	10.952	12.431	14.660	17.261	20.976	25.569	25.628	32.451
N° 28	7.072	7.608	8.050	8.709	9.184	10.252	11.114	12.297	14.116	16.559	20.005	24.178	24.124	28.176
N° 29	7.033	7.411	7.976	8.443	9.057	10.137	11.349	12.531	14.499	17.278	21.412	26.205	25.973	32.062
N° 30	7.288	7.525	8.032	8.813	9.273	10.594	12.135	13.560	15.675	19.349	24.263	29.261	29.808	34.535
N° 31	7.217	7.650	8.119	8.752	9.368	10.275	11.603	12.922	15.204	18.310	22.985	27.831	28.199	38.704

11. VRload4

Ta=25°C; Vin=15V; 0mA<IL<5mA; VO=2.5V

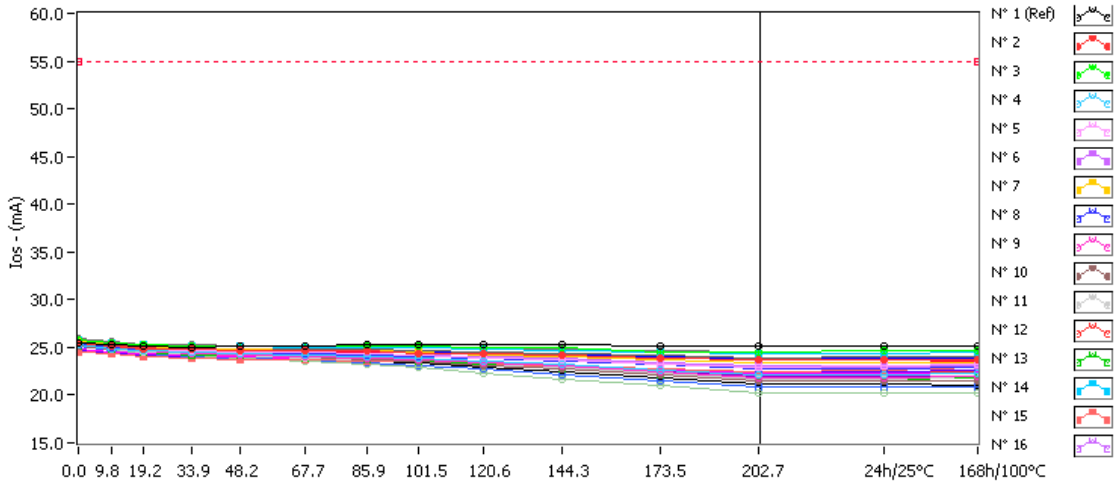


VRload4 . (PPM/mA) **Min = -50.0 Max = 50.0**

	0.0 krad(Si)	9.8 krad(Si)	19.2 krad(Si)	33.9 krad(Si)	48.2 krad(Si)	67.7 krad(Si)	85.9 krad(Si)	101.5 krad(Si)	120.6 krad(Si)	144.3 krad(Si)	173.5 krad(Si)	202.7 krad(Si)	24h/25°C	168h/100°C
N° 1 (Ref)	8.322	8.484	8.546	8.624	8.569	8.466	8.209	8.232	8.281	8.391	8.442	8.500	8.466	8.492
N° 2	8.188	8.443	8.817	9.618	10.477	11.548	12.975	14.471	16.432	19.352	23.761	28.343	28.463	32.740
N° 3	7.357	7.674	8.047	8.717	9.416	10.620	11.871	13.103	15.362	18.118	22.340	26.484	26.375	30.549
N° 4	7.079	7.310	7.905	8.393	9.301	10.473	12.217	13.567	15.779	19.946	25.340	30.679	31.211	38.892
N° 5	7.083	7.413	7.888	8.627	9.409	10.885	12.645	14.247	17.356	21.372	27.291	33.766	33.713	37.567
N° 6	7.556	7.941	8.424	9.075	9.818	10.810	12.406	14.099	16.700	19.803	25.037	30.387	30.705	37.305
N° 7	7.694	7.871	8.394	9.197	9.695	10.823	12.128	13.498	16.024	18.838	24.118	29.379	29.492	38.189
N° 8	7.693	7.920	8.460	9.067	9.980	11.128	12.396	14.286	16.616	19.837	25.100	30.679	30.703	38.730
N° 9	8.460	8.731	9.317	10.079	10.910	12.171	13.524	15.095	17.895	21.375	26.992	32.843	33.325	42.147
N° 10	7.459	7.761	8.073	8.810	9.767	10.910	12.460	14.313	16.797	20.987	26.555	32.778	32.554	42.516
N° 11	7.147	7.165	7.702	8.511	9.103	10.667	11.969	13.460	16.507	19.733	25.407	30.948	31.151	39.228
N° 12	6.333	6.361	7.049	7.900	8.516	9.781	11.561	13.381	15.944	19.634	25.291	31.050	31.488	36.054
N° 13	6.990	7.395	7.876	8.480	9.341	10.446	12.083	13.508	15.983	20.050	25.131	30.183	30.484	39.024
N° 14	7.989	8.197	8.679	9.313	10.070	11.066	12.356	13.619	15.688	18.712	22.819	27.535	27.514	33.447
N° 15	6.817	7.154	7.635	8.388	8.962	10.222	11.499	12.941	15.168	18.332	22.983	27.751	27.735	38.827
N° 16	7.890	8.235	8.628	9.219	10.318	10.951	12.480	14.154	16.317	19.779	24.505	29.955	30.244	39.467
N° 17	7.037	7.440	7.902	8.468	9.617	10.611	11.899	13.782	16.404	20.168	25.632	31.648	31.642	36.854
N° 18	6.790	7.193	7.597	8.163	9.018	9.798	11.670	13.057	15.141	18.491	23.041	28.474	28.421	41.546
N° 19	8.074	8.472	9.016	9.659	10.569	11.770	13.062	14.432	17.393	20.632	25.950	31.545	31.490	41.269
N° 20	7.831	8.237	8.827	9.420	10.266	11.653	13.133	14.754	17.111	21.289	26.316	32.254	32.400	43.069
N° 21	6.186	6.477	6.931	7.644	8.639	9.850	11.667	13.458	16.149	19.851	25.866	31.970	32.089	37.339
N° 22	8.250	8.499	9.018	9.829	10.668	12.021	13.342	15.205	17.741	21.219	26.284	32.324	32.578	40.547
N° 23	8.500	8.589	9.223	9.890	10.404	11.608	12.780	14.415	16.211	19.251	23.621	28.702	28.612	34.903
N° 24	6.881	7.057	7.863	8.396	9.054	10.468	12.183	13.718	16.549	20.236	25.816	32.307	32.071	42.252
N° 25	8.086	8.270	9.066	9.500	10.311	11.648	13.116	14.677	17.013	20.801	25.875	31.490	31.190	37.952
N° 26	6.995	7.298	7.736	8.433	9.229	10.188	11.766	13.275	15.255	18.640	22.843	27.380	27.638	32.504
N° 27	7.923	8.262	8.728	9.142	10.064	10.925	12.275	13.956	15.952	19.179	23.546	28.345	28.144	35.263
N° 28	8.102	8.442	8.908	9.525	10.149	10.957	12.467	13.693	15.651	18.447	22.679	26.738	26.871	30.755
N° 29	7.808	7.896	8.609	9.204	9.984	11.138	12.576	13.984	16.166	19.381	24.180	28.690	28.995	34.882
N° 30	8.091	8.346	8.892	9.783	10.267	11.745	13.209	14.988	17.686	21.713	27.178	33.194	33.006	37.751
N° 31	7.806	8.128	8.628	9.197	10.005	11.270	12.844	14.088	16.768	20.177	25.546	31.143	31.485	42.233

12. Ios

Ta=25°C; Vin=15V; IL=0mA; VO=10V



Ios . (mA) **Max = 55.0**

	0.0 krad(Si)	9.8 krad(Si)	19.2 krad(Si)	33.9 krad(Si)	48.2 krad(Si)	67.7 krad(Si)	85.9 krad(Si)	101.5 krad(Si)	120.6 krad(Si)	144.3 krad(Si)	173.5 krad(Si)	202.7 krad(Si)	24h/25°C	168h/100°C
N° 1 (Ref)	25.386	25.232	25.095	25.036	25.097	25.187	25.346	25.373	25.317	25.236	25.187	25.102	25.191	25.217
N° 2	25.389	25.153	24.878	24.775	24.693	24.605	24.595	24.424	24.317	24.219	23.859	23.667	23.751	23.783
N° 3	25.712	25.489	25.377	25.211	25.179	25.085	25.144	25.140	24.953	24.945	24.557	24.569	24.622	24.666
N° 4	25.237	24.897	24.632	24.446	24.331	24.163	24.020	23.800	23.496	23.243	22.663	22.159	22.209	22.366
N° 5	25.405	25.115	24.867	24.674	24.549	24.463	24.351	24.241	23.944	23.781	23.270	22.965	23.029	23.213
N° 6	25.382	25.096	24.874	24.576	24.545	24.503	24.402	24.242	23.965	23.862	23.453	23.088	23.136	23.058
N° 7	25.619	25.311	25.063	24.833	24.777	24.678	24.600	24.484	24.256	24.080	23.682	23.375	23.414	23.424
N° 8	25.311	25.040	24.774	24.576	24.463	24.352	24.199	24.066	23.822	23.614	23.168	22.780	22.784	22.899
N° 9	25.255	24.890	24.657	24.394	24.266	24.053	23.885	23.701	23.328	23.014	22.405	21.858	21.876	21.999
N° 10	25.215	24.781	24.619	24.334	24.171	23.981	23.743	23.529	23.078	22.741	22.094	21.518	21.498	21.553
N° 11	25.168	24.788	24.528	24.277	24.124	23.950	23.774	23.581	23.158	22.882	22.249	21.681	21.686	21.909
N° 12	25.492	25.143	24.905	24.650	24.612	24.492	24.415	24.251	23.958	23.794	23.375	23.032	23.095	23.299
N° 13	25.207	24.858	24.518	24.261	24.140	23.905	23.743	23.549	23.177	22.797	22.190	21.577	21.643	21.791
N° 14	25.722	25.474	25.263	25.145	25.081	24.959	25.020	24.972	24.833	24.734	24.507	24.367	24.419	24.475
N° 15	24.521	24.296	24.023	23.898	23.793	23.670	23.608	23.506	23.259	23.091	22.764	22.514	22.532	22.882
N° 16	25.465	25.104	24.934	24.736	24.599	24.496	24.295	24.214	23.928	23.667	23.243	22.911	22.921	22.922
N° 17	25.299	24.907	24.661	24.424	24.227	23.996	23.869	23.664	23.252	22.909	22.301	21.732	21.735	21.938
N° 18	24.883	24.539	24.355	24.164	24.017	23.871	23.755	23.612	23.352	23.098	22.674	22.291	22.255	22.286
N° 19	25.459	25.056	24.775	24.549	24.394	24.203	23.988	23.833	23.421	23.084	22.535	22.043	22.035	21.979
N° 20	25.184	24.745	24.419	24.123	23.861	23.552	23.239	22.875	22.367	21.731	20.966	20.307	20.297	20.190
N° 21	25.422	25.160	24.890	24.702	24.562	24.448	24.359	24.230	23.908	23.688	23.282	22.913	22.951	23.133
N° 22	25.240	24.921	24.622	24.423	24.257	24.133	23.986	23.790	23.510	23.185	22.679	22.194	22.246	22.420
N° 23	25.598	25.300	25.024	24.911	24.818	24.774	24.774	24.686	24.503	24.359	24.158	23.901	23.980	24.030
N° 24	25.100	24.730	24.408	24.106	23.912	23.687	23.464	23.133	22.732	22.184	21.463	20.834	20.874	20.935
N° 25	25.660	25.351	25.024	24.886	24.760	24.640	24.582	24.486	24.239	23.966	23.650	23.323	23.366	23.521
N° 26	25.489	25.214	24.970	24.831	24.704	24.730	24.729	24.582	24.394	24.288	24.019	23.848	23.861	23.949
N° 27	25.512	25.234	24.942	24.856	24.764	24.733	24.753	24.610	24.401	24.298	24.061	23.885	23.928	23.984
N° 28	25.871	25.601	25.291	25.234	25.167	25.201	25.161	25.097	24.941	24.849	24.595	24.534	24.589	24.638
N° 29	24.667	24.402	24.141	23.952	23.860	23.724	23.647	23.530	23.274	23.094	22.763	22.457	22.524	22.617
N° 30	25.688	25.399	25.055	24.905	24.747	24.715	24.618	24.475	24.277	24.027	23.706	23.385	23.415	23.526
N° 31	25.155	24.822	24.473	24.252	24.017	23.791	23.570	23.324	22.920	22.480	21.795	21.172	21.202	21.053