



ESA-QCA9915T-C

RADIATION TEST SUMMARY

PART TYPE : 2N6798

DESCRIPTION : N-CHANNEL MOSFET

REPORT NO. : RD 154

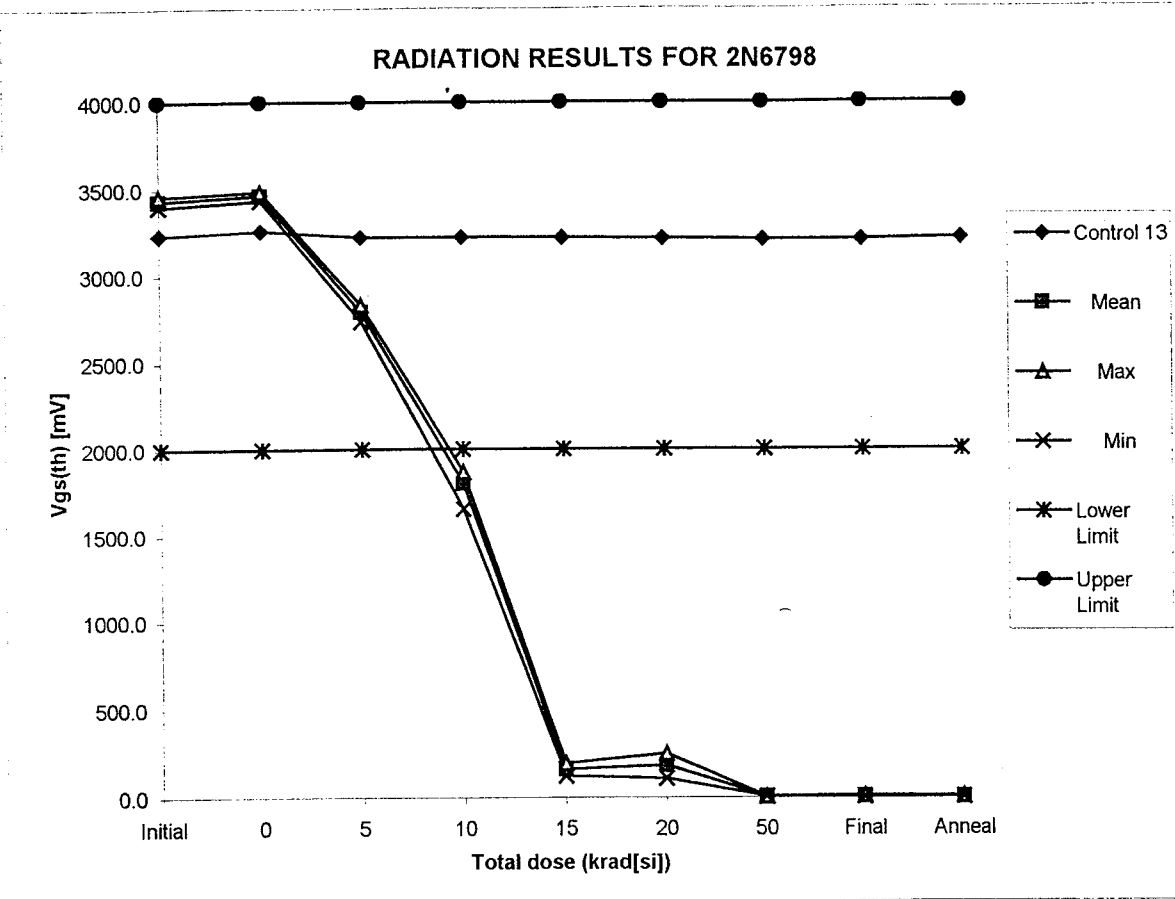
PARAMETERS PLOTTED :

Vgs(th)
BV(dss)
IDSS

NOTE :

The results for I_{gss} , and $R_{ds(on)}$ showed no significant change and hence plots were not considered necessary.

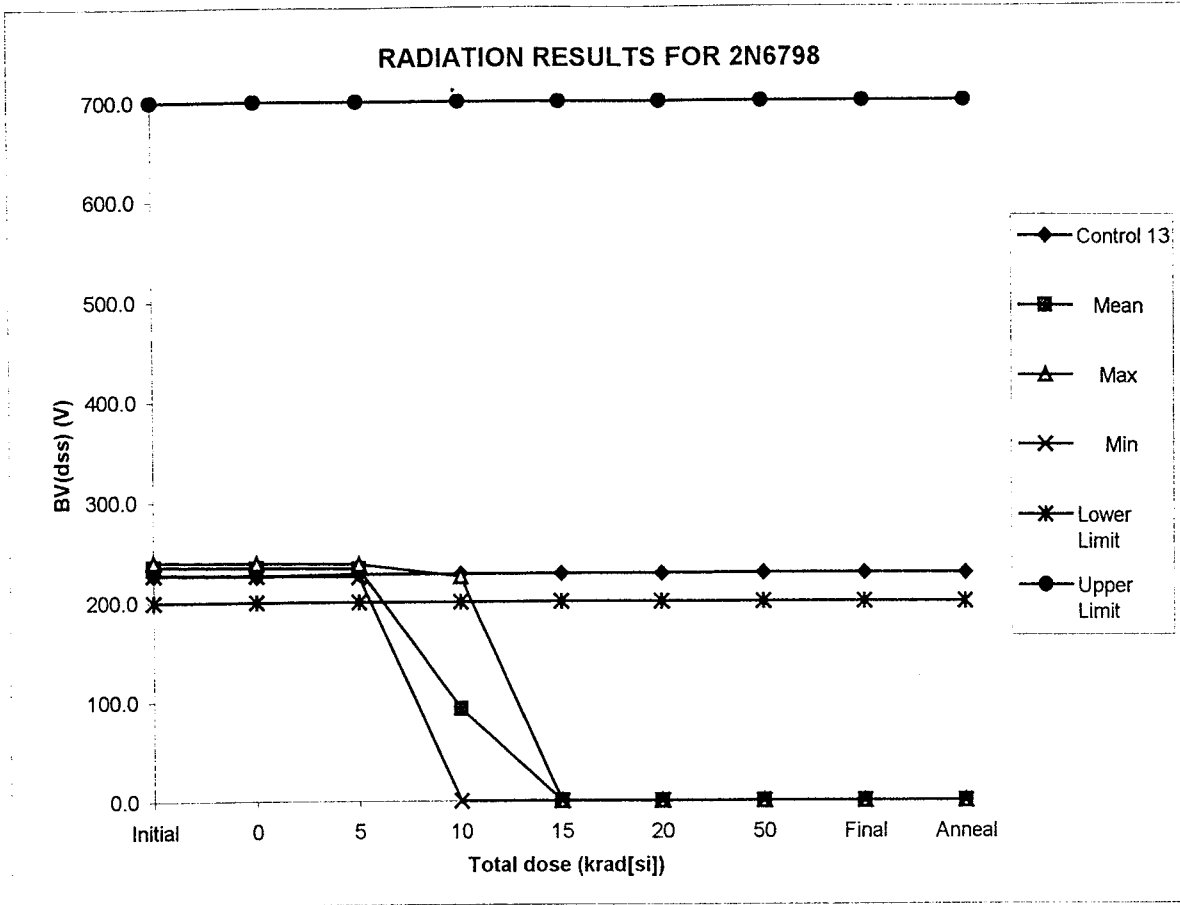
Specification no. PO-PL-IGG-PL-0005 Iss.3 Appendix 1.



Dose (kRad)	Control 13 (mV)	Mean (mV)	Max (mV)	Min (mV)	Lower Limit (mV)	Upper Limit (mV)	Std.Dev.
Initial	3231.9	3430.8	3457.4	3398.5	2000	4000	24.28
0	3258.6	3459.9	3484.3	3430.5	2000	4000	22.15
5	3220.6	2790.4	2831.1	2734.0	2000	4000	41.53
10	3219.6	1800.0	1867.5	1651.3	2000	4000	100.11
15	3218.0	156.9	192.9	121.7	2000	4000	32.23
20	3213.9	182.4	245.7	107.9	2000	4000	62.02
50	3206.0	3.8	4.1	3.5	2000	4000	0.25
Final	3206.5	3.7	6.3	0.6	2000	4000	2.38
Anneal	3212.2	1.6	3.4	0.1	2000	4000	1.59

Lot size for statistics : 4 devices

RD 154 Date code 9518D

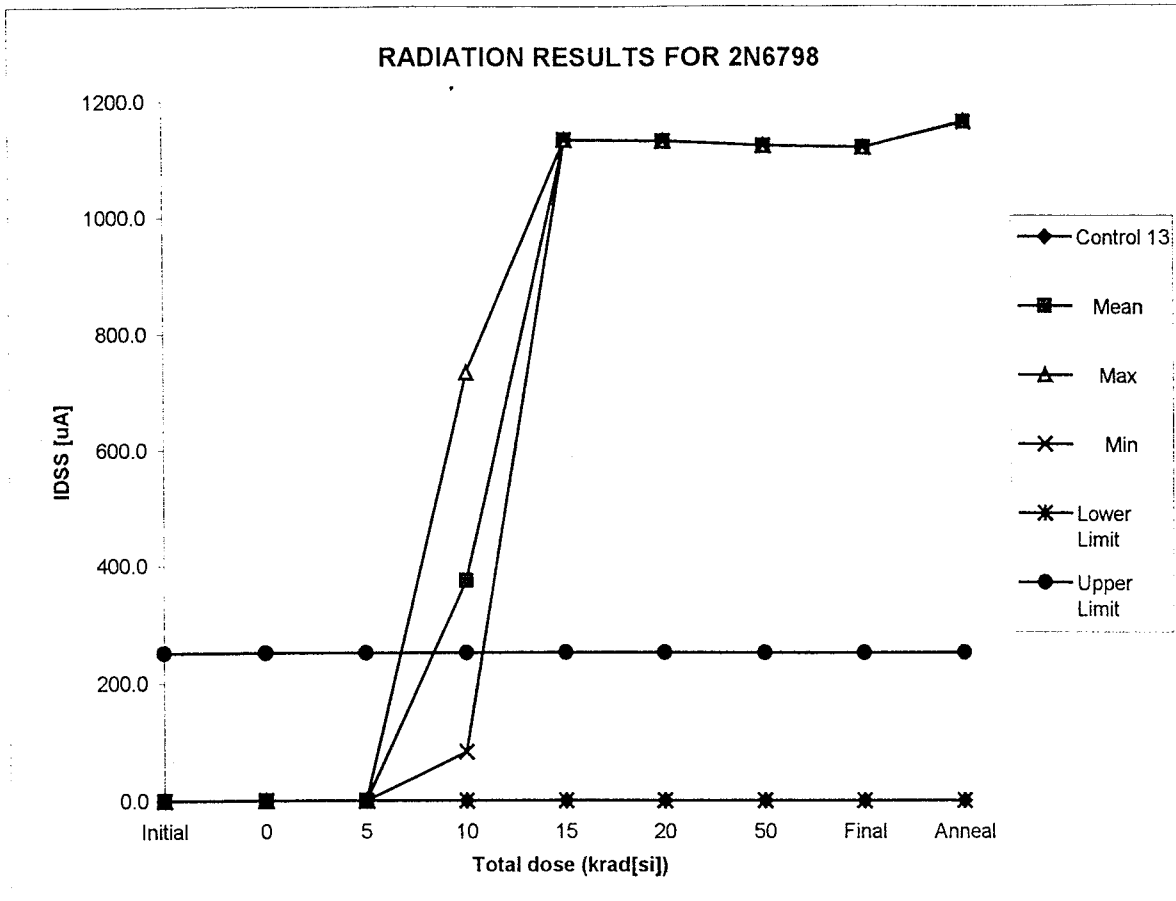


Dose (kRad)	Control 13 (V)	Mean (V)	Max (V)	Min (V)	Lower Limit (V)	Upper Limit (V)	Std.Dev.
Initial	227.2	235.5	239.8	227.8	200	700	5.29
0	225.8	234.2	238.5	226.4	200	700	5.32
5	227.7	233.2	237.6	225.5	200	700	5.29
10	227.8	92.7	225.2	0.3	200	700	111.41
15	227.7	0.3	0.3	0.3	200	700	0.00
20	228.0	0.3	0.3	0.1	200	700	0.10
50	228.5	0.2	0.3	0.1	200	700	0.08
Final	228.3	0.2	0.3	0.2	200	700	0.05
Anneal	228.1	0.3	0.3	0.2	200	700	0.05

NOTE :- Upper limit of 700 V is for ATE reference only !

Lot size for statistics : 4 devices

RD 154 Date code 9518D



Dose (kRad)	Control 13 (uA)	Mean (uA)	Max (uA)	Min (uA)	Lower Limit (uA)	Upper Limit (uA)	Std.Dev.
Initial	0.0	0.0	0.0	0.0	0	250	0.00
0	0.0	0.0	0.0	0.0	0	250	0.00
5	0.0	0.0	0.0	0.0	0	250	0.00
10	0.0	373.5	731.0	83.0	0	250	274.28
15	0.0	1133.0	1133.0	1133.0	0	250	0.00
20	0.0	1130.0	1130.0	1130.0	0	250	0.00
50	0.0	1123.0	1123.0	1123.0	0	250	0.00
Final	0.0	1119.0	1119.0	1119.0	0	250	0.00
Anneal	0.0	1164.0	1165.0	1163.0	0	250	0.82

Lot size for statistics : 4 devices

RD 154 Date code 9518D

SZ-TESTSYSTEME Family Testadaptor TA07F 16.10.94 / 14:42:55

2N6798 PO-PL-IG6-PL-0005 ISS.3 / 1.0 SMR 24/10/95

Socket adapter type: SA07.03

Fets per device : 1 (N)

Pin assignment : 1

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=====
 1. V(BR)DSS          200.0 ... 700.0 V
Switch : off         | Pin assignment : 1
ID           0.250 mA |
-----
 2. VGS              2000.0 ... 4000.0 mV
Switch : off         | Pin assignment : 1
ID           1.000 mA |
-----
 3. IGSS (FWD)       ( 0.0 )... 100.0 nA
Switch : off         | Pin assignment : 1
VGS          20.000 V | Add. time      0 ms |
-----
 4. IGSS (REV)       ( 0.0 )... 100.0 nA
Switch : off         | Pin assignment : 1
VGS          20.000 V | Add. time      0 ms |
-----
 5. IDSS             ( 0.0 )... 250.0 uA
Switch : off         | Pin assignment : 1
VDS          200.000 V | Add. time      0 ms |
-----
 6. RDS on           ( 0.000 )... 0.400 Ohm
Switch : off         | Pin assignment : 1
VGS          10.000 V | ID            3500.000 mA |
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=====
Results file : RIR_62741_EMS_@_IGG from: 20.02.70 / 11:20:56
Operator : Steve Young.
Part number : 2N6798.
Lot number : RIR 62741.
Order number : Date Code 9518D.
Vendor : I.R.
: 4 pcs S/No's 30,45,51,57 + Control S/No 13.
: TEST #3 INITIAL EMS @ IGG
: 2N6798 PO-PL-IGG-PL-0005 ISS.3 / 1.0 SMR 24/10/95
=====

Test steps

1.	V(BR)DSS	200.0	...	700.0	V
2.	VGS	2000.0	...	4000.0	mV
3.	IGSS (FWD)	(0.0)	...	100.0	nA
4.	IGSS (REV)	(0.0)	...	100.0	nA
5.	IDSS	(0)	...	250	uA
6.	RDS on	(0.000)	...	0.400	Ohm

	13	30	45	2	51	57
1.1 [V]	227.2	237.0	237.5	239.8	227.8	
2.1 [mV]	3231.9	3457.4	3434.4	3433.0	3398.5	
3.1 [nA]	0.9	1.0	1.0	1.0	1.0	
4.1 [nA]	0.9	0.9	0.9	0.9	0.9	
5.1 [uA]	0	0	0	0	0	
6.1 [Ohm]	0.244	0.254	0.253	0.252	0.236	

=====
Results file : RIR_62741_EMS_@_ERA from: 20.02.70 / 20:52:49
Operator : Steve Young.
Part number : 2N6798.
Lot number : RIR 62741.
Order number : Date Code 95180.
Vendor : I.R.
: 4 pcs S/No's 30,45,51,57 + Control S/No 13.
: TEST #4 INITIAL EMS @ ERA
: 2N6798 PO-PL-IG6-PL-0005 ISS.3 / 1.0 SMR 24/10/95
=====

Test steps

1.	V(BR)DSS	200.0	...	700.0	V
2.	VGS	2000.0	...	4000.0	mV
3.	IGSS (FWD)	(0.0)	...	100.0	nA
4.	IGSS (REV)	(0.0)	...	100.0	nA
5.	IDSS	(0)	...	250	uA
6.	RDS on	(0.000)	...	0.400	Ohm

	13	30	45	4 51	57
1.1 [V]	225.8	235.7	236.0	238.5	226.4
2.1 [mV]	3258.6	3484.3	3461.9	3462.7	3430.5
3.1 [nA]	0.8	0.9	0.9	0.9	0.9
4.1 [nA]	0.8	0.8	0.8	0.8	0.8
5.1 [uA]	0	0	0	0	0
6.1 [Ohm]	0.236	0.246	0.249	0.245	0.229

=====

Results file : RIR_62741_EMS_@_5_KRAD from: 20.02.70 / 21:14:12
Operator : Steve Young,
Part number : 2N6798.
Lot number : RIR 62741.
Order number : Date Code 95180.
Vendor : I.R.
: 4 pcs S/No's 30,45,51,57 + Control S/No 13.
: TEST #7(i) EMS @ 5 Krad
: 2N6798 PO-PL-IGG-PL-0005 ISS.3 / 1.0 SMR 24/10/95

Test steps

1.	V(BR)DSS	200.0	...	700.0	V
2.	VGS	2000.0	...	4000.0	mV
3.	IGSS (FWD)	(0.0)	...	100.0	nA
4.	IGSS (REV)	(0.0)	...	100.0	nA
5.	IDSS	(0)	...	250	uA
6.	RDS on	(0.000)	...	0.400	Ohm

	13	30	45	6	51	57
1.1 [V]	227.7	234.6	235.0	237.6	225.5	
2.1 [mV]	3220.6	2831.1	2787.8	2808.6	2734.0	
3.1 [nA]	1.1	1.1	1.1	1.1	1.1	
4.1 [nA]	1.1	1.1	1.1	1.1	1.0	
5.1 [uA]	0	0	0	0	0	
6.1 [Ohm]	0.246	0.241	0.241	0.239	0.225	

SZ-TESTSYSTEME Statistics 03 Vers. 2.15 for TA07F
RIR_62741_EMS_@_IG6 / 1.0 SMR 24/10/95

=====
Date: 20.02.70 from: 20.02.70 / 21:41:27

Operator: M. J. Young

Test number: 20000000

Test name: RIR_62741_EMS_@_IG6

=====
Results file : RIR_62741_EMS_@_10_KRAD from: 20.02.70 / 21:41:27
Operator : Steve Young.
Part number : 2N6798.
Lot number : RIR 62741.
Order number : Date Code 95180.
Vendor : I.R.
: 4 pcs S/No's 30,45,51,57 + Control S/No 13.
: TEST #7(ii) EMS @ 10 Krad
: 2N6798 P0-PL-IGG-PL-0005 ISS.3 / 1.0 SMR 24/10/95

Test steps

1.	V(BR)DSS	200.0	...	700.0	V
2.	VGS	2000.0	...	4000.0	mV
3.	IGSS (FWD)	(0.0)	...	100.0	nA
4.	IGSS (REV)	(0.0)	...	100.0	nA
5.	IDSS	(0)	...	250	uA
6.	RDS on	(0.000)	...	0.400	Ohm

	13	30	45	8	51	57
1.1 [V]	227.8	0.3	144.6	0.8	225.2	
2.1 [mV]	3219.6	1651.3	1867.5	1833.4	1847.8	
3.1 [nA]	1.2	1.1	1.1	1.1	1.1	
4.1 [nA]	1.1	1.1	1.1	1.1	1.1	
5.1 [uA]	0	731	265	415	83	
6.1 [Ohm]	0.246	0.237	0.234	0.237	0.220	

=====
Results file : RIR_62741_EMS_@_15_KRAD from: 20.02.70 / 22:12:25
Operator : Steve Young.
Part number : 2N6798.
Lot number : RIR 62741.
Order number : Date Code 9518D.
Vendor : I.R.
: 4 pcs S/No's 30,45,51,57 + Control S/No 13.
: TEST #7(iii) EMS @ 15 Krad
: 2N6798 PO-PL-IGG-PL-0005 ISS.3 / 1.0 SMR 24/10/95

Test steps

1.	V(BR)DSS	200.0	...	700.0	V
2.	VGS	2000.0	...	4000.0	mV
3.	IGSS (FWD)	(0.0)	...	100.0	nA
4.	IGSS (REV)	(0.0)	...	100.0	nA
5.	IDSS	(0)	...	250	uA
6.	RDS on	(0.000)	...	0.400	Ohm

	13	30	45	51	57
1.1 [V]	227.7	0.3	0.3	0.3	0.3
2.1 [mV]	3218.0	139.4	192.9	173.5	121.7
3.1 [nA]	1.2	1.1	1.1	1.1	1.1
4.1 [nA]	1.2	1.2	1.2	1.2	1.2
5.1 [uA]	0	1133	1133	1133	1133
6.1 [Ohm]	0.248	0.232	0.232	0.235	0.220

=====
Results file : RIR_62741_EMS_@_20_KRAD from: 20.02.70 / 22:42:33
Operator : Steve Young.
Part number : 2N6798.
Lot number : RIR 62741.
Order number : Date Code 95180.
Vendor : I.R.
: 4 pcs S/No's 30,45,51,57 + Control S/No 13.
: TEST #7(iv) EMS @ 20 Krad
: 2N6798 PO-PL-IGG-PL-0005 ISS.3 / 1.0 SMR 24/10/95
=====

Test steps

1.	V(BR)DSS	200.0	...	700.0	V
2.	VGS	2000.0	...	4000.0	mV
3.	IGSS (FWD)	(0.0)	...	100.0	nA
4.	IGSS (REV)	(0.0)	...	100.0	nA
5.	IDSS	(0)	...	250	uA
6.	RDS on	(0.000)	...	0.400	Ohm

=====
Results file : RIR_62741_EMS@_50_KRAD from: 20.02.70 / 23:13:56
Operator : Steve Young.
Part number : 2N6798.
Lot number : RIR 62741.
Order number : Date Code 9518D.
Vendor : I.R.
: 4 pcs S/No's 30,45,51,57 + Control S/No 13.
: TEST #7(v) EMS @ 50 Krad
: 2N6798 PO-PL-IGG-PL-0005 ISS.3 / 1.0 SMR 24/10/95
=====

Test steps

1.	V(BR)DSS	200.0	...	700.0	V
2.	VGS	2000.0	...	4000.0	mV
3.	IGSS (FWD)	(0.0)	...	100.0	nA
4.	IGSS (REV)	(0.0)	...	100.0	nA
5.	IDSS	(0)	...	250	uA
6.	RDS on	(0.000)	...	0.400	Ohm

=====

	13	30	45	14	51	57
1.1 [V]	228.5	0.3	0.2	0.2	0.2	0.1
2.1 [mV]	3206.0	4.1	3.5	3.8	3.9	3.9
3.1 [nA]	1.4	1.3	1.3	1.3	1.3	1.3
4.1 [nA]	1.4	1.4	1.4	1.4	1.4	1.4
5.1 [uA]	0	1123	1123	1123	1123	1123
6.1 [Ohm]	0.257	0.228	0.236	0.238	0.238	0.220

=====
Results file : RIR_62741_END_POINT_EMS from: 22.02.70 / 01:02:24
Operator : Steve Young.
Part number : 2N6798.
Lot number : RIR 62741.
Order number : Date Code 95180.
Vendor : I.R.
: 4 pcs S/No's 30,45,51,57 + Control S/No 13.
: TEST #8 END POINT EMS.
: 2N6798 PO-PL-IGG-PL-0005 ISS.3 / 1.0 SMR 24/10/95
=====

Test steps

1.	V(BR)DSS	200.0	...	700.0	V
2.	VGS	2000.0	...	4000.0	mV
3.	IGSS (FWD)	(0.0)	...	100.0	nA
4.	IGSS (REV)	(0.0)	...	100.0	nA
5.	IDSS	(0)	...	250	uA
6.	RDS on	(0.000)	...	0.400	Ohm

	13	30	45	51	56	57
1.1 [V]	228.3	0.3	0.2	0.2	0.2	0.2
2.1 [mV]	3206.5	0.6	3.3	6.3	4.4	
3.1 [nA]	1.3	1.3	1.3	1.3	1.3	
4.1 [nA]	1.3	1.4	1.4	1.3	1.4	
5.1 [uA]	0	1119	1119	1119	1119	
6.1 [Ohm]	0.252	0.252	0.253	0.255	0.234	

	13		30		45		51	18	57	
1.1 [V]	228.1		0.3	FI	0.2	FI	0.3	FI	0.3	FI
2.1 [mV]	3212.2		0.1	FI	0.4	FI	2.4	FI	3.4	FI
3.1 [nA]	1.2		1.1		1.1		1.1		1.1	
4.1 [nA]	1.2		1.1		1.2		1.2		1.2	
5.1 [uA]	0		1165	FI	1164	FI	1164	FI	1163	FI
6.1 [Ohm]	0.248		0.254		0.256		0.252		0.237	