



RADIATION TEST SUMMARY

PART TYPE : IRFY9130

DESCRIPTION : P-CHANNEL MOSFET

REPORT NO. : RD158

PARAMETERS PLOTTED :

Vgs(th)
RDS(on)

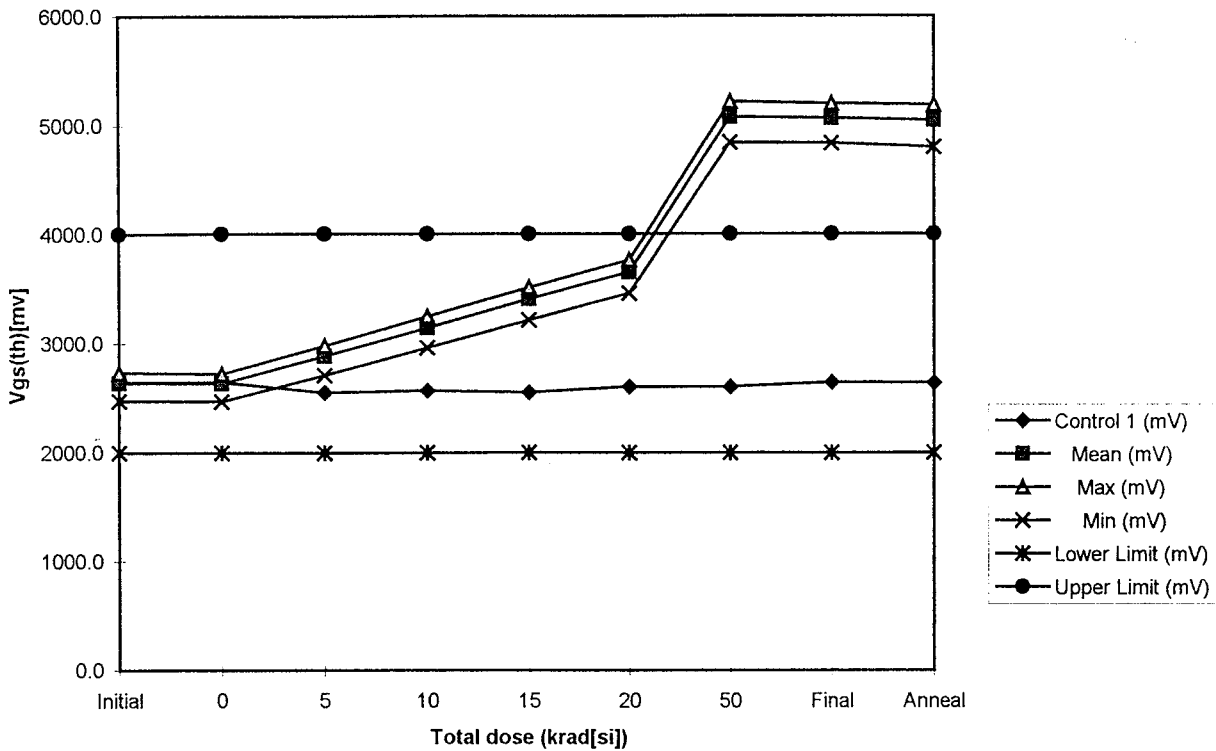
NOTE :

The results for I_{gss} and I_{dss} showed no significant change and hence plots were not considered necessary.

Specification: PO-PL-IGG-PL-0026 Issue 1, Appendix 1



Radiation Results for IRFY9130



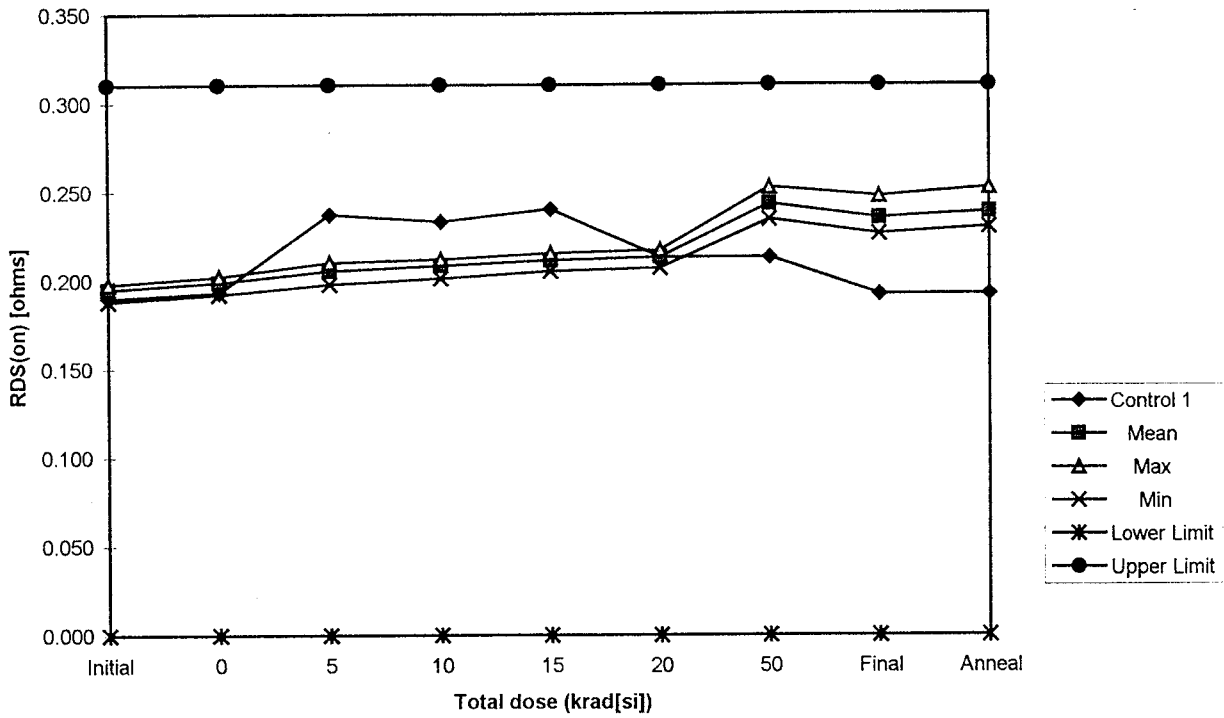
Dose (kRad)	Control 1 (mV)	Mean (mV)	Max (mV)	Min (mV)	Lower Limit (mV)	Upper Limit (mV)	Std.Dev.
Initial	2642.8	2636.6	2729.6	2470.5	2000	4000	117.96
0	2643.7	2631.5	2720.6	2464.3	2000	4000	117.84
5	2547.1	2881.2	2977.9	2705.8	2000	4000	125.60
10	2564.7	3139.9	3245.6	2956.8	2000	4000	132.58
15	2546.3	3402.2	3508.1	3212.0	2000	4000	137.87
20	2602.1	3650.2	3758.8	3455.4	2000	4000	142.10
50	2602.6	5077.0	5213.4	4838.1	2000	4000	177.21
Final	2644.3	5061.4	5195.8	4835.3	2000	4000	169.63
Anneal	2638.4	5046.4	5186.3	4799.8	2000	4000	179.99

Lot size for statistics : 4 devices

RD 158 Date Code: 9519B



Radiation Results for IRFY9130



Dose (kRad)	Control 1 (ohms)	Mean (ohms)	Max (ohms)	Min (ohms)	Lower Limit (ohms)	Upper Limit (ohms)	Std.Dev.
Initial	0.190	0.195	0.198	0.188	0.000	0.310	0.00
0	0.193	0.199	0.202	0.192	0.000	0.310	0.00
5	0.237	0.205	0.210	0.198	0.000	0.310	0.01
10	0.233	0.208	0.212	0.201	0.000	0.310	0.00
15	0.240	0.211	0.215	0.205	0.000	0.310	0.00
20	0.213	0.213	0.217	0.207	0.000	0.310	0.00
50	0.213	0.243	0.252	0.234	0.000	0.310	0.01
Final	0.192	0.235	0.247	0.226	0.000	0.310	0.01
Anneal	0.192	0.239	0.252	0.230	0.000	0.310	0.01

Lot size for statistics : 4 devices

RD 158 Date Code: 9519B

SZ-TESTSYSTEME Family Testadaptor TA07F 24.04.92 / 08:45:13

IRFY9130 PO-PL-IG6-PL-0026 ISS 1 / V1.0 21st Dec 95 SMR

Socket adapter type: SA 07.01

Fets per device : 1 (P)

Pin assignment : 1

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=====
 1. -V(BR)DSS          100.0 ... 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 )... 250 uA
Switch : off          | Pin assignment : 1
-VDS          100.000 V | Add. time      0 ms |
-----
 6. RDS on            ( 0.000)... 0.310 Ohm
Switch : off          | Pin assignment : 1
-VGS          10.000 V | -ID           6500.000 mA |
=====
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SZ-TESTSYSTEME Statistics 03 Vers. 2.15 for TA07F
IRFY9130_RD158_INIT @_IG6 / V1.0 21st Dec 95 SMR

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Results file : IRFY9130_RD158_INIT @_IG6 from: 08.01.96 / 15:01:34
Operator : S.M.RALPHS
Part number : IRFY9130
Lot number : D/C 9519B
Order number : 62749 RD158
Vendor : IR
: S/NOS.03,04,05,06 CONTROL S/NO.01
: TEST #3:INIT.ELEC.MEAS. @ IG6
: IRFY9130 PO-PL-IG6-PL-0026 ISS 1 / V1.0 21st Dec 95 SMR

Test steps

1. -V(BR)DSS	100.0	...	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)...		0.310	Ohm

	1	3	4	5	6
1.1 [V]	110.0	125.0	110.5	111.7	122.8
2.1 [mV]	2642.8	2470.5	2635.3	2710.8	2729.6
3.1 [nA]	1.3	1.4	1.3	1.3	1.3
4.1 [nA]	1.2	1.3	1.3	1.3	1.3
5.1 [uA]	0	3	0	0	0
6.1 [Ohm]	0.190	0.198	0.188	0.196	0.198

SZ-TESTSYSTEME Statistics 03 Vers. 2.15 for TA07F
IRFY9130_RD158_INIT_@_IG6 / V1.0 21st Dec 95 SMR

=====

Results file : IRFY9130_RD158_INIT_@_ERA from: 26.02.70 / 20:18:06
Operator : Steve Young.
Part number : IRFY9130
Lot number : D/C 9519B
Order number : 62749 RD158
Vendor : IR
: S/NOS.03,04,05,06 CONTROL S/NO.01
: TEST #4:INIT.ELEC.MEAS. @ ERA
: IRFY9130 PO-PL-IG6-PL-0026 ISS 1 / V1.0 21st Dec 95 SMR

Test steps

1. -V(BR)DSS	100.0	...	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)...		0.310	Ohm

	1	3	4	5	6
1.1 [V]	110.3	125.3	110.6	111.9	123.0
2.1 [mV]	2643.7	2464.3	2533.8	2707.4	2720.6
3.1 [nA]	1.3	1.3	1.3	1.3	1.3
4.1 [nA]	1.2	1.2	1.2	1.2	1.2
5.1 [uA]	0	3	0	0	0
6.1 [Ohm]	0.193	0.200	0.192	0.201	0.202

SZ-TESTSYSTEME Statistics 03 Vers. 2.15 for TA07F
IRFY9130_RD158_INIT@_I66 / V1.0 21st Dec 95 SMR

=====
Results file : IRFY9130_RD158_EMS@_5_KRAD from: 26.02.70 / 20:51:49
Operator : Steve Young.
Part number : IRFY9130
Lot number : D/C 9519B
Order number : 62749 RD158
Vendor : IR
: S/NOS.03,04,05,06 CONTROL S/NO.01
: TEST #7(1) EMS @ 5 KRAD
: IRFY9130 P0-PL-I66-PL-0026 ISS 1 / V1.0 21st Dec 95 SMR
=====

Test steps

1. -V(BR)DSS	100.0	...	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)...		0.310	Ohm

	1	3	4	5	6
1.1 [V]	113.5	125.7	111.0	112.2	123.3
2.1 [mV]	2547.1	2705.8	2875.0	2965.9	2977.9
3.1 [nA]	1.3	1.3	1.2	1.2	1.2
4.1 [nA]	1.3	1.2	1.2	1.1	1.2
5.1 [uA]	0	4	0	0	0
6.1 [Ohm]	0.237	0.210	0.198	0.205	0.208

SZ-TESTSYSTEME Statistics 03 Vers. 2.15 for TA07F
IRFY9130_RD158_INIT@_I66 / V1.0 21st Dec 95 SMR

=====
Results file : IRFY9130_RD158_EMS@_10_KRAD from: 26.02.70 / 21:07:14
Operator : Steve Young.
Part number : IRFY9130
Lot number : D/C 95198
Order number : 62749 RD158
Vendor : IR
: S/N05.03,04,05,06 CONTROL S/NO.01
: TEST #7(ii) EMS @ 10 KRAD
: IRFY9130 P0-PL-I66-PL-0026 ISS 1 / V1.0 21st Dec 95 SMR
=====

Test steps

1.	-V(BR)DSS	100.0	...	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)	...	0.310	Ohm

	1	3	4	5	6
1.1 [V]	113.2	125.8	111.1	112.2	123.3
2.1 [mV]	2564.7	2956.8	3128.4	3228.8	3245.6
3.1 [nA]	1.2	1.2	1.1	1.2	1.2
4.1 [nA]	1.2	1.1	1.1	1.1	1.1
5.1 [uA]	0	4	1	1	1
6.1 [Ohm]	0.233	0.212	0.201	0.209	0.211

SZ-TESTSYSTEME Statistics 03 Vers. 2.15 for TA07F
IRFY9130_RD158_INIT_IGG / V1.0 21st Dec 95 SMR

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=====
Results file   : IRFY9130_RD158_EMS @_15_KRAD   from: 26.02.70 / 21:33:36
Operator      : Steve Young.
Part number   : IRFY9130
Lot number    : D/C 9519B
Order number  : 62749 RD158
Vendor       : IR
              : S/N05.03,04,05,06 CONTROL S/NO.01
              : TEST #7(iii) EMS @ 15 KRAD
              : IRFY9130 PO-PL-IGG-PL-0026 ISS 1 / V1.0 21st Dec 95 SMR
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Test steps

1.	-V(BR)DSS	100.0	...	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)	...	0.310	Ohm

	1	3	4	5	6
1.1 [V]	113.5	125.7	111.2	112.1	123.3
2.1 [mV]	2546.3	3212.0	3389.3	3499.5	3508.1
3.1 [nA]	1.4	1.3	1.2	1.2	1.2
4.1 [nA]	1.3	1.2	1.2	1.2	1.2
5.1 [uA]	0	5	1	1	1
6.1 [Ohm]	0.240	0.215	0.205	0.211	0.213

SZ-TESTSYSTEME Statistics 03 Vers. 2.15 for TA07F
IRFY9130_RD158_INIT @_IGG / V1.0 21st Dec 95 SMR

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=====
Results file   : IRFY9130_RD158_EMS @_20_KRAD   from: 26.02.70 / 22:05:26
Operator      : Steve Young.
Part number   : IRFY9130
Lot number    : D/C 9519B
Order number  : 62749 RD158
Vendor       : IR
              : S/NOS.03,04,05,06 CONTROL S/NO.01
              : TEST #7(iv) EMS @ 20 KRAD
              : IRFY9130 PO-PL-IGG-PL-0026 ISS 1 / V1.0 21st Dec 95 SMR
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Test steps

1.	-V(BR)DSS	100.0	...	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)	...	0.310	Ohm

	1	3	4	5	6
1.1 [V]	111.7	125.7	111.1	112.2	123.2
2.1 [mV]	2602.1	3455.4	3633.7	3753.0	3758.8
3.1 [nA]	1.3	1.3	1.2	1.2	1.2
4.1 [nA]	1.2	1.2	1.2	1.1	1.2
5.1 [uA]	0	5	1	2	1
6.1 [Ohm]	0.213	0.217	0.207	0.213	0.215

=====
Results file : IRFY9130_RD158_EMS @_50_KRAD from: 27.02.70 / 01:06:51
Operator : Steve Young.
Part number : IRFY9130
Lot number : D/C 9519B
Order number : 62749 RD158
Vendor : IR
: S/NOS.03,04,05,06 CONTROL S/NO.01
: TEST #7(v) EMS @ 50 KRAD
: IRFY9130 PO-PL-IG6-PL-0026 ISS 1 / V1.0 21st Dec 95 SMR
=====

Test steps

1. -V(BR)DSS	100.0	...	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)	...	0.310	Ohm

	1	3	4	5	6
1.1 [V]	111.7	125.7	111.1	112.0	123.3
2.1 [mV]	2602.6	4838.1	5046.6	5213.4	5209.7
3.1 [nA]	1.2	1.2	1.2	1.1	1.2
4.1 [nA]	1.1	1.1	1.1	1.1	1.1
5.1 [uA]	0	8	3	5	4
6.1 [Ohm]	0.213	0.241	0.234	0.244	0.252

SZ-TESTSYSTEME Statistics 03 Vers. 2.15 for TA07F
IRFY9130_RD158_INIT_@_IG6 / V1.0 21st Dec 95 SMR

=====
Results file : IRFY9130_RD158_END_POINT_EMS from: 27.02.70 / 22:04:45
Operator : Steve Young.
Part number : IRFY9130
Lot number : D/C 9519B
Order number : 62749 RD158
Vendor : IR
: S/NOS.03,04,05,06 CONTROL S/NO.01
: TEST #8 END POINT EMS
: IRFY9130 PO-PL-IG6-PL-0026 ISS 1 / V1.0 21st Dec 95 SMR
=====

Test steps

1.	-V(BR)DSS	100.0	...	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)	...	0.310	Ohm

	1	3	4	5	6
1.1 [V]	110.0	125.0	110.5	111.8	122.7
2.1 [mV]	2644.3	4835.3	5026.9	5195.8	5187.7
3.1 [nA]	1.3	1.3	1.3	1.3	1.3
4.1 [nA]	1.2	1.2	1.2	1.2	1.2
5.1 [uA]	0	4	2	3	3
6.1 [Ohm]	0.192	0.228	0.226	0.237	0.247

SZ-TESTSYSTEME Statistics 03 Vers. 2.15 for TA07F
IRFY9130_RD158_FINAL / V1.0 21st Dec 95 SMR

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=====
Results file   : IRFY9130_RD158_FINAL   from: 18.01.96 / 16:40:34
Operator      : S.M.RALPHS
Part number   : IRFY9130
Lot number    : D/C 9519B
Order number  : RD 158
Vendor        : IR
               : S/NOS 3,4,5,6 CONTROL S/NO.1
               : TEST #25 FINAL ELEC.MEAS.
               : IRFY9130 PO-PL-IGG-PL-0026 ISS.1 / V1.0 21st Dec 95 SMR
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Test steps

1.	-V(BR)DSS	100.0	...	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)	...	0.310	Ohm

	1	3	4	5	6
1.1 [V]	110.4	125.2	111.0	112.1	123.1
2.1 [mV]	2638.4	4799.8	5025.2	5174.3	5186.3
3.1 [nA]	1.0	1.1	1.1	1.1	1.1
4.1 [nA]	1.0	1.1	1.1	1.1	1.1
5.1 [uA]	0	3	2	3	3
6.1 [Ohm]	0.192	0.230	0.231	0.241	0.252