



# RADIATION TEST SUMMARY

PART TYPE : 2N6849

DESCRIPTION : P-CHANNEL MOSFET

REPORT NO. : RD171

PARAMETERS PLOTTED :

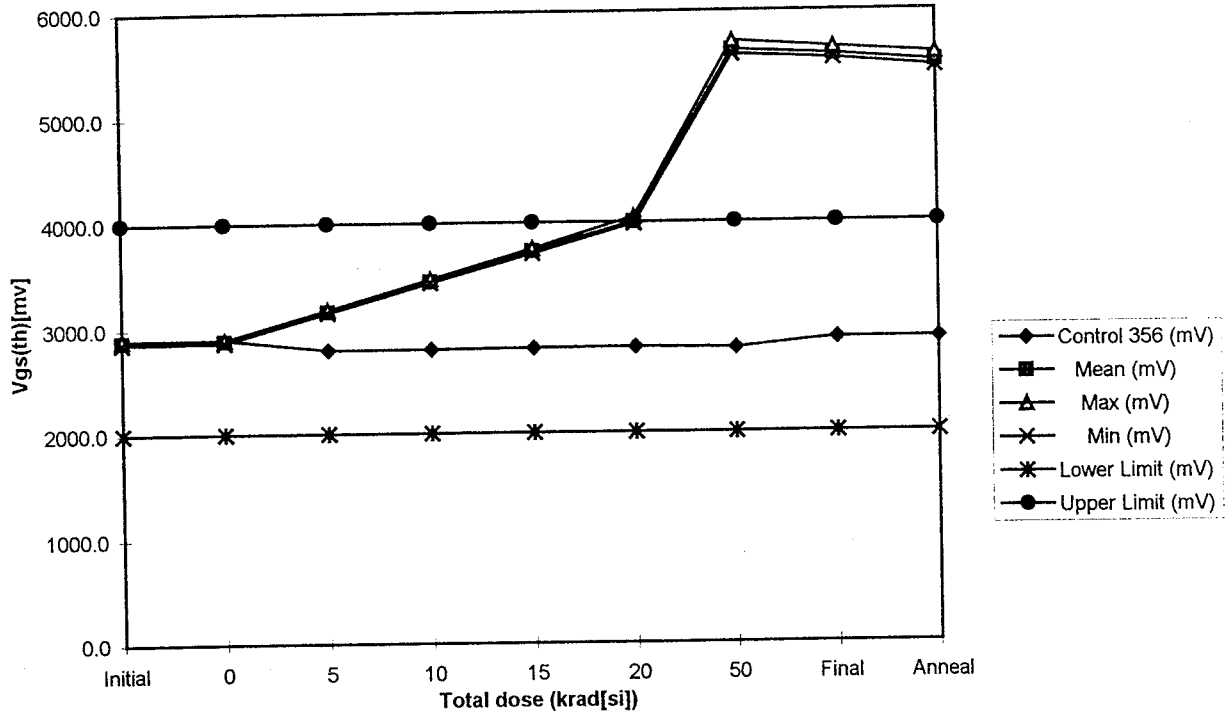
V<sub>gs(th)</sub>  
R<sub>DS(on)</sub>

NOTE :

The results for I<sub>gss</sub> and I<sub>dss</sub> showed no significant change and hence plots were not considered necessary.



Radiation Results for 2N6849



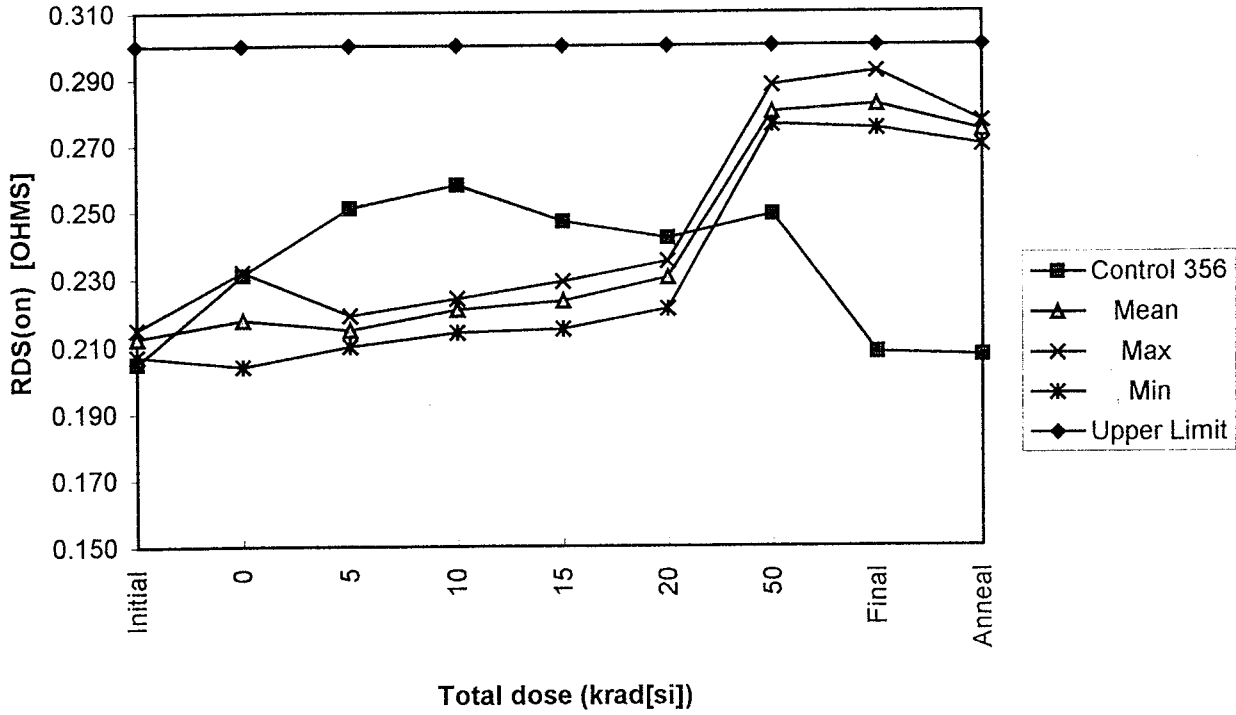
Dose (kRad)	Control 356 (mV)	Mean (mV)	Max (mV)	Min (mV)	Lower Limit (mV)	Upper Limit (mV)	Std.Dev.
Initial	2897.8	2884.0	2898.3	2863.9	2000	4000	14.47
0	2900.3	2886.8	2901.6	2866.8	2000	4000	14.57
5	2796.3	3163.0	3178.1	3148.3	2000	4000	15.70
10	2794.7	3441.7	3467.4	3425.7	2000	4000	19.23
15	2801.9	3725.4	3750.9	3702.1	2000	4000	23.79
20	2808.2	4002.9	4049.4	3979.9	2000	4000	31.55
50	2798.2	5621.6	5710.0	5583.4	2000	4000	59.42
Final	2890.2	5577.9	5649.9	5536.8	2000	4000	49.56
Anneal	2886.0	5510.6	5586.9	5456.0	2000	4000	55.61

Lot size for statistics : 4 devices

RD 171 Date Code: 9310C



### Radiation Results for 2N6849



Dose (kRad)	Control 356 (OHMS)	Mean (OHMS)	Max (OHMS)	Min (OHMS)	Upper Limit (OHMS)	Lower Limit (OHMS)	Std.Dev.
Initial	0.205	0.213	0.215	0.207	0.3	0	0.00
0	0.231	0.218	0.232	0.204	0.3	0	0.02
5	0.251	0.215	0.219	0.210	0.3	0	0.00
10	0.258	0.221	0.224	0.214	0.3	0	0.00
15	0.247	0.223	0.229	0.215	0.3	0	0.01
20	0.242	0.230	0.235	0.221	0.3	0	0.01
50	0.249	0.280	0.288	0.276	0.3	0	0.01
Final	0.208	0.282	0.292	0.275	0.3	0	0.01
Anneal	0.207	0.274	0.277	0.270	0.3	0	0.00

SZ-TESTSYSTEME Statistics 03 Vers. 2.15 for TA07F  
RD171\_2N6849\_INIT\_EMS @\_IG6 / V1.0 SMR 24/10/95

=====  
Results file : 2N6849\_RD171\_INIT\_EMS @\_IG6 from: 11.03.70 / 23:33:57  
Operator : Steve Young.  
Part number : 2N6849.  
Lot number : RIR 63096.  
Order number : Date Code 9310C.  
Vendor : IR.  
: 4 PARTS S/No's 357,358,359,360 + 1 CONTROL S/No 356  
: TEST #3 INITIAL EMS @ IG6  
: 2N6849 PO-PL-IG6-PL-0003 ISS.3 / V1.0 SMR 24/10/95  
=====

Test steps

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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. -IDSS ( 0 )... 250 uA  
5. RDS on ( 0.000 )... 0.300 Ohm  
-----

	356	357	358	359	360
1.1 [ V]	122.4	122.5	117.7	121.9	115.3
2.1 [mV]	2897.8	2898.3	2863.9	2885.6	2888.1
3.1 [nA]	1.1	1.1	1.1	1.1	1.1
4.1 [uA]	0	0	0	0	0
5.1 [Ohm]	0.205	0.214	0.214	0.215	0.207

SZ-TESTSYSTEME Statistics 03 Vers. 2.15 for TA07F  
 RD171\_2N6849\_INIT\_EMS @\_IGG / V1.0 SMR 24/10/95

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=====
Results file   : 2N6849_RD171_INIT_EMS @_ERA   from: 12.03.70 / 20:50:53
Operator      : Steve Young.
Part number   : 2N6849.
Lot number    : RIR 63096.
Order number  : Date Code 93100.
Vendor       : IR.
              : 4 PARTS S/No's 357,358,359,360 + 1 CONTROL S/No 356
              : TEST #4 INITIAL EMS @ ERA.
              : 2N6849 PO-PL-IGG-PL-0003 ISS.3 / V1.0 SMR 24/10/95
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Test steps

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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. -IDSS               (  0    )...   250     uA
5. RDS on              ( 0.000 )...   0.300  Ohm
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	356		357		358		359		360
1.1 [ V]	122.4		122.4		117.4		122.0		115.0
2.1 [mV]	2900.3		2901.6		2866.8		2887.9		2890.9
3.1 [nA]	0.4		0.4		0.5		0.5		0.5
4.1 [uA]	0		0		0		0		0
5.1 [Ohm]	0.231		0.204		0.230		0.232		0.205

SZ-TESTSYSTEME Statistics 03 Vers. 2.15 for TA07F  
 RD171\_2N6849\_INIT\_EMS@\_IG6 / V1.0 SMR 24/10/95

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Results file : 2N6849\_RD171\_EMS@\_5\_KRADS from: 12.03.70 / 21:29:21  
 Operator : Steve Young.  
 Part number : 2N6849.  
 Lot number : RIR 63096.  
 Order number : Date Code 9310C.  
 Vendor : IR.  
 : 4 PARTS S/No's 357,358,359,360 + 1 CONTROL S/No 356  
 : TEST #7 EMS @ 5 KRADs.  
 : 2N6849 PO-PL-IG6-PL-0003 ISS.3 / V1.0 SMR 24/10/95

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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. -IDSS	( 0 )	...	250	uA
5. RDS on	( 0.000 )	...	0.300	Ohm

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	356	357	358	359	360
1.1 [ V]	125.9	122.4	117.5	122.7	115.2
2.1 [mV]	2796.3	3175.0	3148.3	3150.7	3178.1
3.1 [nA]	1.0	0.9	0.9	0.9	0.8
4.1 [uA]	0	0	0	0	0
5.1 [Ohm]	0.251	0.210	0.219	0.213	0.217

SZ-TESTSYSTEME Statistics 03 Vers. 2.15 for TA07F  
RD171\_2N6849\_INIT\_EMS@\_IG6 / V1.0 SMR 24/10/95

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Results file : 2N6849\_RD171\_EMS@\_10\_KRADS from: 12.03.70 / 21:35:26  
Operator : Steve Young.  
Part number : 2N6849.  
Lot number : RIR 63096.  
Order number : Date Code 93100.  
Vendor : IR.  
: 4 PARTS S/No's 357,358,359,360 + 1 CONTROL S/No 356  
: TEST #13 EMS @ 10 KRADs.  
: 2N6849 PO-PL-IG6-PL-0003 ISS.3 / V1.0 SMR 24/10/95  
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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. -IDSS	( 0 )	...	250	uA
5. RDS on	( 0.000 )	...	0.300	Ohm

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	356	357	358	359	360
1.1 [ V]	126.0	122.9	118.0	122.9	115.4
2.1 [mV]	2794.7	3445.3	3425.7	3428.3	3467.4
3.1 [nA]	1.3	1.2	1.2	1.2	1.2
4.1 [uA]	0	0	1	0	1
5.1 [Ohm]	0.258	0.222	0.223	0.224	0.214

SZ-TESTSYSTEME Statistics 03 Vers. 2.15 for TA07F  
RD171\_2N6849\_INIT\_EMS@\_I66 / V1.0 SMR 24/10/95

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=====
Results file   : 2N6849_RD171_EMS@_15_KRADS   from: 12.03.70 / 22:06:47
Operator      : Steve Young.
Part number   : 2N6849.
Lot number    : RIR 63096.
Order number  : Date Code 9310C.
Vendor       : IR.
              : 4 PARTS S/No's 357,358,359,360 + 1 CONTROL S/No 356
              : TEST #16 EMS @ 15 KRADs.
              : 2N6849 PO-PL-I66-PL-0003 ISS.3 / V1.0 SMR 24/10/95
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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. -IDSS	( 0 )	...	250	uA
5. RDS on	( 0.000 )	...	0.300	Ohm

	356	357	358	359	360
1.1 [ V ]	125.9	122.2	118.0	122.8	115.5
2.1 [ mV ]	2801.9	3740.2	3702.1	3708.5	3750.9
3.1 [ nA ]	1.3	1.2	1.2	1.3	1.2
4.1 [ uA ]	0	0	1	0	1
5.1 [ Ohm ]	0.247	0.215	0.229	0.229	0.220

=====  
Results file : 2N6849\_RD171\_EMS@\_20\_KRADS from: 12.03.70 / 22:36:43  
Operator : Steve Young.  
Part number : 2N6849.  
Lot number : RIR 63096.  
Order number : Date Code 9310C.  
Vendor : IR.  
: 4 PARTS S/No's 357,358,359,360 + 1 CONTROL S/No 356  
: TEST #19 EMS @ 20 KRADs.  
: 2N6849 PO-PL-IG6-PL-0003 ISS.3 / V1.0 SMR 24/10/95  
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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. -IDSS	( 0 )	...	250	uA
5. RDS on	( 0.000 )	...	0.300	Ohm

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	356	357	358	359	360
1.1 [ V]	125.7	123.5	118.3	122.7	115.3
2.1 [mV]	2808.2	3993.7	3979.9	3988.4	4049.4
3.1 [nA]	1.4	1.3	1.2	1.3	1.2
4.1 [uA]	0	1	1	1	1
5.1 [Ohm]	0.242	0.232	0.233	0.235	0.221

SZ-TESTSYSTEME Statistics 03. Vers. 2.15 for TA07F  
RD171\_2N6849\_INIT\_EMS@\_I66 / V1.0 SMR 24/10/95

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Results file : 2N6849\_RD171\_EMS@\_50\_KRADS from: 12.03.70 / 23:08:43  
Operator : Steve Young.  
Part number : 2N6849.  
Lot number : RIR 63096.  
Order number : Date Code 9310C.  
Vendor : IR.  
: 4 PARTS S/No's 357,358,359,360 + 1 CONTROL S/No 356  
: TEST #22 EMS @ 50 KRADs.  
: 2N6849 PO-PL-I66-PL-0003 ISS.3 / V1.0 SMR 24/10/95

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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. -IDSS	( 0 )	...	250	uA
5. RDS on	( 0.000 )	...	0.300	Ohm

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	356	357	358	359	360
1.1 [ V]	125.9	122.7	117.8	122.8	115.2
2.1 [mV]	2798.2	5583.4 F	5601.7 F	5591.2 F	5710.0 F
3.1 [nA]	1.3	1.2	1.2	1.2	1.2
4.1 [uA]	0	2	3	2	2
5.1 [Ohm]	0.249	0.276	0.280	0.288	0.276

SZ-TESTSYSTEME Statistics 03 Vers. 2.15 for TA07F  
RD171\_2N6849\_INIT\_EMS@\_IGG / V1.0 SMR 24/10/95

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Results file   : 2N6849_RD171_END_POINT_EMS   from: 14.03.70 / 01:10:37
Operator      : Steve Young.
Part number   : 2N6849.
Lot number    : RIR 63096.
Order number  : Date Code 9310C.
Vendor       : IR.
              : 4 PARTS S/No's 357,358,359,360 + 1 CONTROL S/No 356
              : TEST #24 END POINT ELECTRICAL MEASUREMENTS.
              : 2N6849 PO-PL-IGG-PL-0003 ISS.3 / V1.0 SMR 24/10/95
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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. -IDSS	( 0 )	...	250	uA
5. RDS on	( 0.000 )	...	0.300	Ohm

	356		357		358		359		360	
1.1 [ V]	122.7		122.7		117.8		122.3		115.5	
2.1 [mV]	2890.2		5536.8	F	5559.7	F	5565.1	F	5649.9	F
3.1 [nA]	1.8		1.8		1.7		1.8		1.7	
4.1 [uA]	0		2		2		1		2	
5.1 [Ohm]	0.208		0.279		0.282		0.292		0.275	

	356	357	358	359	360
1.1 [ V]	122.7	122.7	117.8	122.3	115.5
2.1 [mV]	2890.2	5536.8	5559.7	5565.1	5649.9
3.1 [nA]	1.8	1.8	1.7	1.8	1.7
4.1 [uA]	0	2	2	1	2
5.1 [Ohm]	0.208	0.279	0.282	0.292	0.275

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=====
Results file   : 2N6849_RD171_FINAL_EMS   from: 20.03.70 / 10:01:27
Operator      : Steve Ralphs
Part number   : 2N6849.
Lot number    : RIR 63096.
Order number  : Date Code 9310C.
Vendor       : IR.
              : 4 PARTS S/No's 357,358,359,360 + 1 CONTROL S/No 356
              : TEST #25 FINAL ELECTRICAL MEASUREMENTS.
              : 2N6849 PO-PL-IG6-PL-0003 ISS.3 / V1.0 SMR 24/10/95
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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. -IDSS	( 0 )	...	250	uA
5. RDS on	( 0.000 )	...	0.300	Ohm

	356	357	358	359	360
1.1 [ V]	122.8	123.2	118.1	122.5	115.6
2.1 [mV]	2886.0	5456.0 F	5510.7 F	5488.8 F	5586.9 F
3.1 [nA]	0.9	1.0	0.9	1.0	0.9
4.1 [uA]	0	2	2	1	3
5.1 [Ohm]	0.207	0.275	0.277	0.275	0.270