



# RADIATION TEST SUMMARY

PART TYPE : 2N6845

DESCRIPTION : P-CHANNEL MOSFET

REPORT NO. : RD169

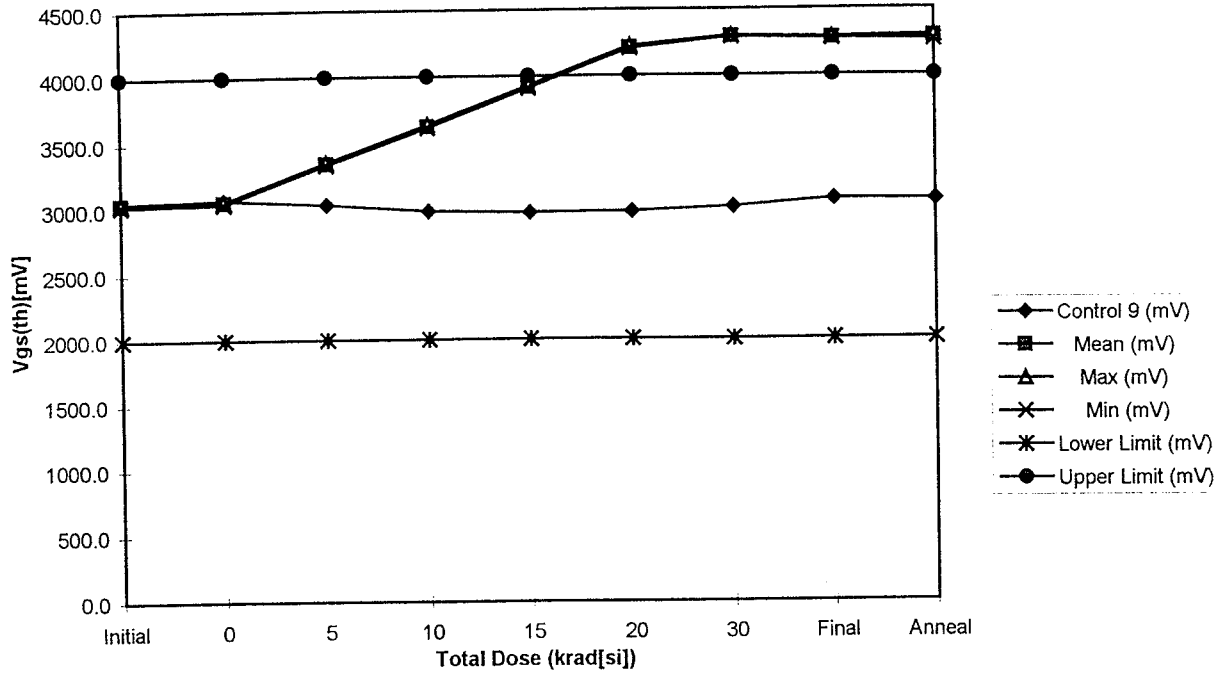
PARAMETERS PLOTTED :  
Vgs(th)

NOTE :

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



### Radiation Results for 2N6845



Dose (kRad)	Control 9 (mV)	Mean (mV)	Max (mV)	Min (mV)	Lower Limit (mV)	Upper Limit (mV)	Std.Dev.
Initial	3054.7	3045.5	3052.5	3029.1	2000	4000	10.97
0	3067.4	3055.6	3062.4	3040.6	2000	4000	10.12
5	3028.9	3343.0	3351.6	3330.4	2000	4000	10.34
10	2975.3	3618.5	3632.6	3611.1	2000	4000	9.77
15	2964.9	3914.3	3924.8	3908.1	2000	4000	7.45
20	2970.0	4210.1	4221.3	4204.4	2000	4000	7.59
30	2999.4	4291.6	4296.4	4288.0	2000	4000	3.51
Final	3059.2	4277.7	4281.1	4273.5	2000	4000	3.26
Anneal	3055.4	4283.5	4295.8	4263.0	2000	4000	14.34

Lot size for statistics : 4 devices

RD 169 Date Code: 9527E

SZ-TESTSYSTEME Family Testadaptor TA07F 11.04.91 / 08:14:17

ZN6845 PO-PL-I66-PL-0019 ISS 2 / V 1.0 21/12/95 SMR

Socket adapter type: SA 07.03

Fets per device : 1 ( P )

Pin assignment : 1

```
=====
```

1. -V(BR)DSS		100.0	...	700.0	V
Switch : off				Pin assignment	: 1
-ID	1.000	mA			
-----					
2. -VGS		2000.0	...	4000.0	mV
Switch : off				Pin assignment	: 1
-ID	0.250	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	)...	0.600	Ohm
Switch : off				Pin assignment	: 1
-VGS	10.000	V		-ID	2600.000 mA
-----					

=====

Results file : 2N6845\_RD169\_INIT@\_IG6 from: 07.03.70 / 22:42:32  
Operator : Steve Young.  
Part number : 2N6845.  
Lot number : RIR 64219.  
Order number : Date Code 9527E.  
Vendor : IR.  
: 4 Parts S/No's 20,22,27,28 + Control S/No 09.  
: TEST #3 INITIAL EMS AT IG6.  
: 2N6845 PO-PL-IG6-PL-0019 ISS 2 / V 1.0 21/12/95 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 )...		0.600	Ohm

-----

	9	20	22	27	28
1.1 [ V]	123.2	125.9	126.9	126.1	121.6
2.1 [mV]	3054.7	3050.3	3029.1	3052.5	3050.0
3.1 [nA]	0.7	0.7	0.7	0.7	0.7
4.1 [nA]	0.8	0.8	0.8	0.8	0.8
5.1 [uA]	0	0	0	0	0
6.1 [Ohm]	0.437	0.432	0.443	0.436	0.426

SZ-TESTSYSTEME Statistics 03 Vers. 2.15 for TA07F  
 RD169\_2N6845\_INIT\_@\_IG6 / V 1.0 21/12/95 SMR

```

=====
Results file   : 2N6845_RD169_INIT_@_ERA   from: 10.03.70 / 21:44:51
Operator      : Steve Young.
Part number   : 2N6845.
Lot number    : RIR 64219.
Order number  : Date Code 9527E.
Vendor       : IR.
              : 4 Parts S/No's 20,22,27,28 + Control S/No 09.
              : TEST #4 INITIAL EMS AT ERA.
              : 2N6845 PO-PL-IG6-PL-0019 ISS 2 / V 1.0 21/12/95 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 )...   0.600  Ohm
=====
  
```

	9	20	22	27	28
1.1 [ V]	122.7	125.5	126.3	125.8	121.2
2.1 [mV]	3067.4	3062.4	3040.6	3058.4	3060.9
3.1 [nA]	0.4	0.4	0.4	0.4	0.4
4.1 [nA]	0.4	0.5	0.5	0.5	0.5
5.1 [uA]	0	0	0	0	0
6.1 [Ohm]	0.412	0.420	0.432	0.419	0.415

SZ-TESTSYSTEME Statistics 03 Vers. 2.15 for TA07F  
RD169\_2N6845\_INIT\_@\_IG6 / V 1.0 21/12/95 SMR

```

=====
Results file   : 2N6845_RD169_EMS_@_5_KRADS   from: 10.03.70 / 22:02:54
Operator      : Steve Young.
Part number   : 2N6845.
Lot number    : RIR 64219.
Order number  : Date Code 9527E.
Vendor       : IR.
              : 4 Parts S/No's 20,22,27,28 + Control S/No 09.
              : TEST #7(i) EMS @ 5 KRADs.
              : 2N6845 PO-PL-IG6-PL-0019 ISS 2 / V 1.0 21/12/95 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 )	...	0.600	Ohm



	9	20	22	27	28
1.1 [ V]	124.3	125.4	126.3	126.1	121.2
2.1 [mV]	3028.9	3351.3	3330.4	3338.6	3351.6
3.1 [nA]	0.6	0.6	0.6	0.6	0.6
4.1 [nA]	0.6	0.6	0.6	0.6	0.6
5.1 [uA]	0	0	0	0	0
8.1 [Ohm]	0.458	0.423	0.438	0.440	0.422

```

=====
Results file   : 2N6845_RD169_EMS_@_10_KRADS   from: 10.03.70 / 22:30:53
Operator      : Steve Young.
Part number   : 2N6845.
Lot number    : RIR 64219.
Order number  : Date Code 9527E.
Vendor       : IR.
              : 4 Parts S/No's 20,22,27,28 + Control S/No 09.
              : TEST #7(ii) EMS @ 10 KRADs.
              : 2N6845 PO-PL-IG6-PL-0019 ISS 2 / V 1.0 21/12/95 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 )	...	0.600	Ohm

	9	20	22	27	28
1.1 [ V]	126.3	126.7	127.2	126.7	121.7
2.1 [mV]	2975.3	3611.1	3612.9	3617.4	3632.6
3.1 [nA]	0.7	0.6	0.7	0.7	0.7
4.1 [nA]	0.7	0.7	0.7	0.7	0.7
5.1 [uA]	0	0	0	0	0
6.1 [Ohm]	0.511	0.466	0.463	0.460	0.445

SZ-TESTSYSTEME Statistics 03 Vers. 2.15 for TA07F  
RD169\_2N6845\_INIT\_@\_IGG / V 1.0 21/12/95 SMR

```

=====
Results file   : 2N6845_RD169_EMS_@_15_KRADS   from: 10.03.70 / 22:57:07
Operator      : Steve Young.
Part number   : 2N6845.
Lot number    : RIR 64219.
Order number  : Date Code 9527E.
Vendor       : IR.
              : 4 Parts S/No's 20,22,27,28 + Control S/No 09.
              : TEST #7(iii) EMS @ 15 KRADs.
              : 2N6845 PO-PL-IGG-PL-0019 ISS 2 / V 1.0 21/12/95 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 )	...	0.600	Ohm

10

	9	20	22	27	28
1.1 [ V]	126.7	126.2	127.1	126.7	121.7
2.1 [mV]	2964.9	3914.0	3910.1	3908.1	3924.8
3.1 [nA]	0.7	0.7	0.7	0.8	0.7
4.1 [nA]	0.8	0.7	0.7	0.7	0.7
5.1 [uA]	0	0	0	0	!
6.1 [Ohm]	0.586	0.463	0.463	0.471	0.452

SZ-TESTSYSTEME Statistics 03 Vers. 2.15 for TA07F  
RD169\_2N6845\_INIT\_@\_IGG / V 1.0 21/12/95 SMR

```

=====
Results file   : 2N6845_RD169_EMS_@_20_KRADS   from: 10.03.70 / 23:27:02
Operator      : Steve Young.
Part number   : 2N6845.
Lot number    : RIR 64219.
Order number  : Date Code 9527E.
Vendor       : IR.
               : 4 Parts S/No's 20,22,27,28 + Control S/No 09.
               : TEST #7(iv) EMS @ 20 KRADS.
               : 2N6845 PO-PL-IGG-PL-0019 ISS 2 / V 1.0 21/12/95 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 )	...	0.600	Ohm

-----

	9	20	22	27	28
1.1 [ V]	126.5	126.2	127.1	126.7	121.8
2.1 [mV]	2970.0	4206.9 F	4207.9 F	4204.4 F	4221.3 F
3.1 [nA]	0.7	0.7	0.7	0.7	0.7
4.1 [nA]	0.8	0.7	0.7	0.7	0.7
5.1 [uA]	0	1	1	1	1
6.1 [Ohm]	0.516	0.490	0.478	0.481	0.460

SZ-TESTSYSTEME Statistics 03 Vers. 2.15 for TA07F  
RD169\_2N6845\_INIT @\_IG6 / V 1.0 21/12/95 SMR

```

=====
Results file   : 2N6845_RD169_EMS @_30_KRADS   from: 10.03.70 / 23:56:12
Operator      : Steve Young.
Part number   : 2N6845.
Lot number    : RIR 64219.
Order number  : Date Code 9527E.
Vendor       : IR.
              : 4 Parts S/No's 20,22,27,28 + Control S/No 09.
              : TEST #7(v) EMS @ 30 KRADs.
              : 2N6845 PQ-PL-IG6-PL-0019 ISS 2 / V 1.0 21/12/95 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 )	...	0.600	Ohm



	9	20	22	27	28
1.1 [ V]	125.4	125.8	126.6	126.4	121.4
2.1 [mV]	2999.4	4291.1	4290.8	4288.0	4296.4
3.1 [nA]	0.7	0.6	0.7	0.7	0.7
4.1 [nA]	0.7	0.7	0.7	0.7	0.7
5.1 [uA]	0	1	1	1	1
6.1 [Ohm]	0.468	0.466	0.473	0.478	0.458

SZ-TESTSYSTEME Statistics 03 Vers. 2.15 for TA07F  
 RD169\_2N6845\_INIT @\_IG6 / V 1.0 21/12/95 SMR

```
=====
Results file   : 2N6845_RD169_END_POINT_EMS   from: 11.03.70 / 23:14:45
Operator      : Steve Young.
Part number   : 2N6845.
Lot number    : RIR 64219.
Order number  : Date Code 9527E.
Vendor       : IR.
              : 4 Parts S/No's 20,22,27,28 + Control S/No 09.
              : TEST #8 END POINT EMS.
              : 2N6845 PO-PL-IG6-PL-0019 ISS 2 / V 1.0 21/12/95 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 )...   0.600  Ohm
-----
```

	9	20	22	27	28
1.1 [ V ]	122.9	125.5	126.6	126.0	121.5
2.1 [ mV ]	3059.2	4273.5	4276.9	4279.1	4281.1
3.1 [ nA ]	0.7	0.7	0.7	0.7	0.7
4.1 [ nA ]	0.7	0.7	0.7	0.7	0.7
5.1 [ uA ]	0	1	1	1	1
6.1 [ Ohm ]	0.422	0.467	0.472	0.467	0.454

=====  
Results file : RIR64219\_RD169\_POST\_RAD\_FINAL from: 30.01.96 / 17:22:55  
Operator : I ROBINS  
Part number : 2N6845  
Lot number : RIR 64219 RD169  
Order number : D/C 9527E  
Vendor : IR  
: SERIAL NUMBERS Q20,Q22,Q27,Q28 CONTROL SERIAL NUMBER=Q09  
: TEST POST RAD ROOM TEMP FINAL EMS TA07B SA07.03  
: 2N6845 PO-PL-I66-PL-0019 ISS 2 / V1.0 21/12/95 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 )...		0.600	Ohm

-----

	9	20	22	27	28	9
1.1 [ V ]	122.9	125.8	126.9	126.3	121.5	123.0
2.1 [mV]	3055.4	4295.8	4285.3	4290.0	4263.0	3056.0
3.1 [nA]	0.6	0.6	0.6	0.6	0.6	0.6
4.1 [nA]	0.6	0.6	0.6	0.6	0.6	0.6
5.1 [uA]	0	1	1	1	1	0
6.1 [Ohm]	0.424	0.479	0.479	0.473	0.455	0.424