Electrical Characteristics of the Diode T$_j$= 25 unless otherwise specified

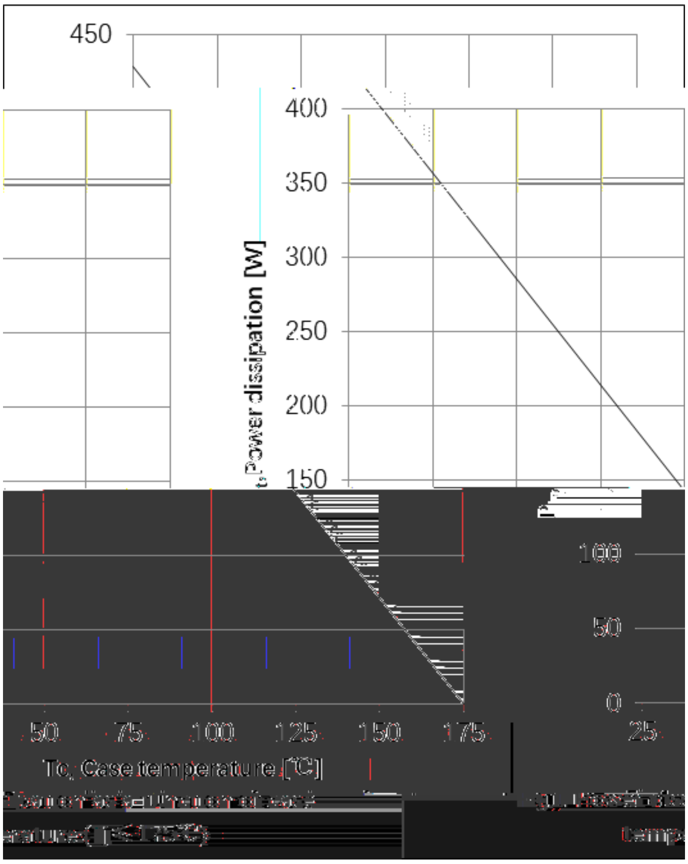
Parameter		Symbol	Conditions	Min.	Typ.	Max.	Unit
	Static						

Diode Forward Voltage

Symbol

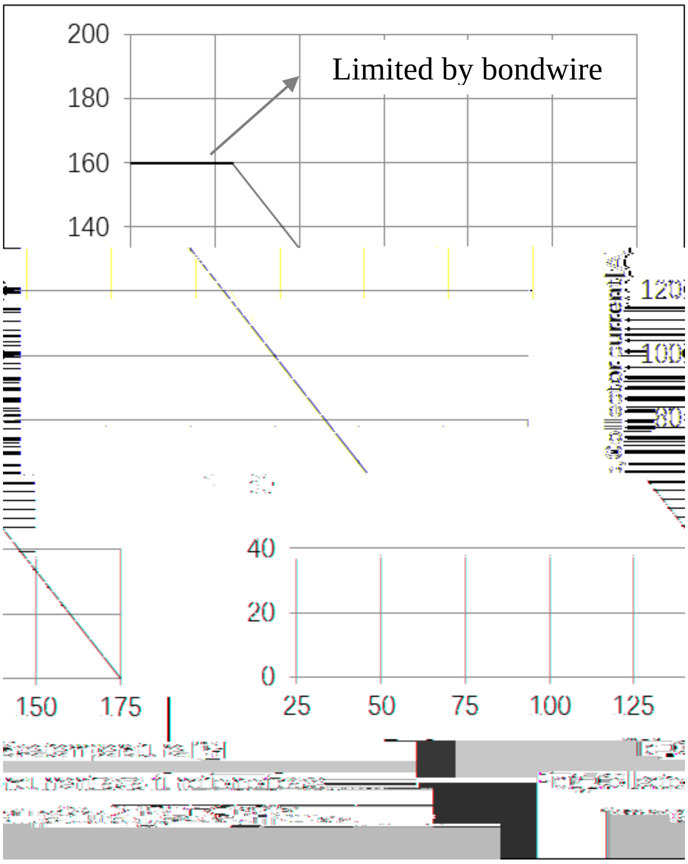
Electrical Characteristics of the DIODE

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Dynamic , at T_j= 25						
Reverse Recovery Current	I_{rr}	I_F=100A, V_R=300V -di/dt=550A/μs,	-	23	-	A
Reverse Recovery Charge	Q_{rr}		-	1.8	-	uC
Diode reverse recovery time	trr		-	116	-	ns
Reverse Recovery Energy	Erec		-	0.16	-	mJ
Dynamic , at Tj= 125						
Reverse Recovery Current	I_{rr}	I_F=100A, V_R=300V -di/dt=550A/μs,	-	36	-	A



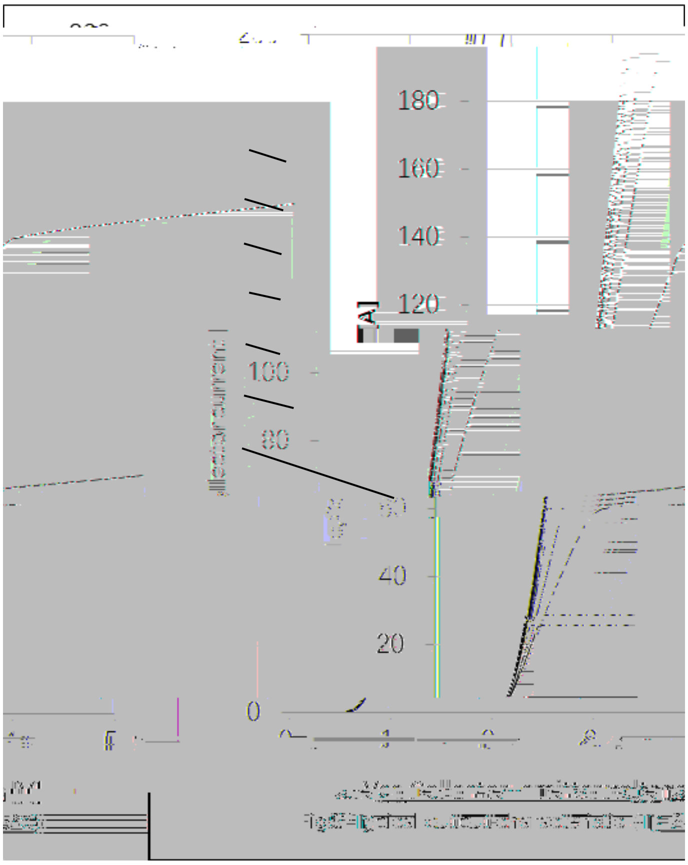
450
400
350
300
250
200
150
100
50
0
Power dissipation [W]
25
50
75
100
125
150
175
Tc, Case temperature [°C]

[illegible]



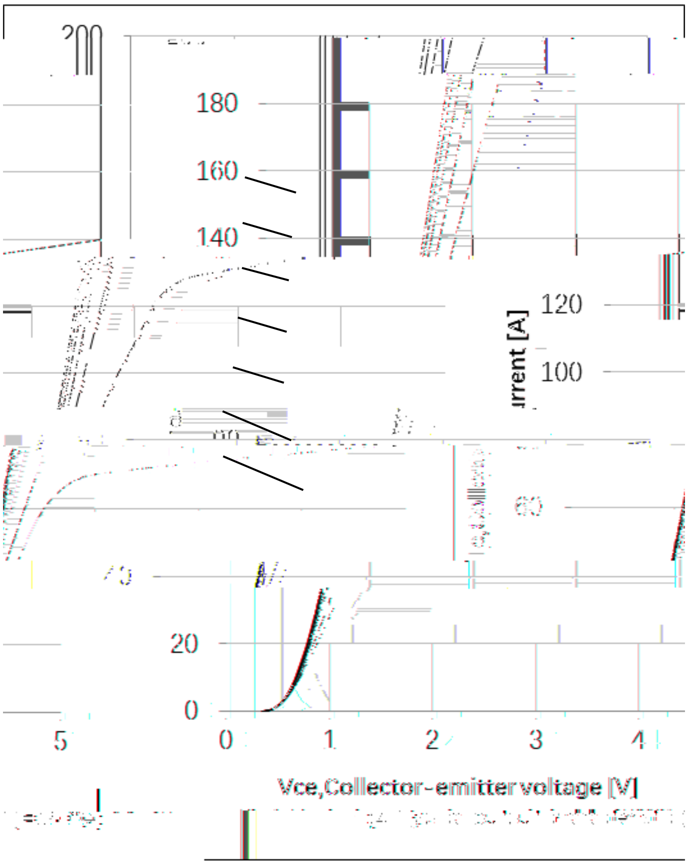
Limited by bondwire
200
180
160
140
120
100
80
60
40
20
0
Collector current [A]
25
50
75
100
125
150
175
Case temperature [°C]

[illegible]



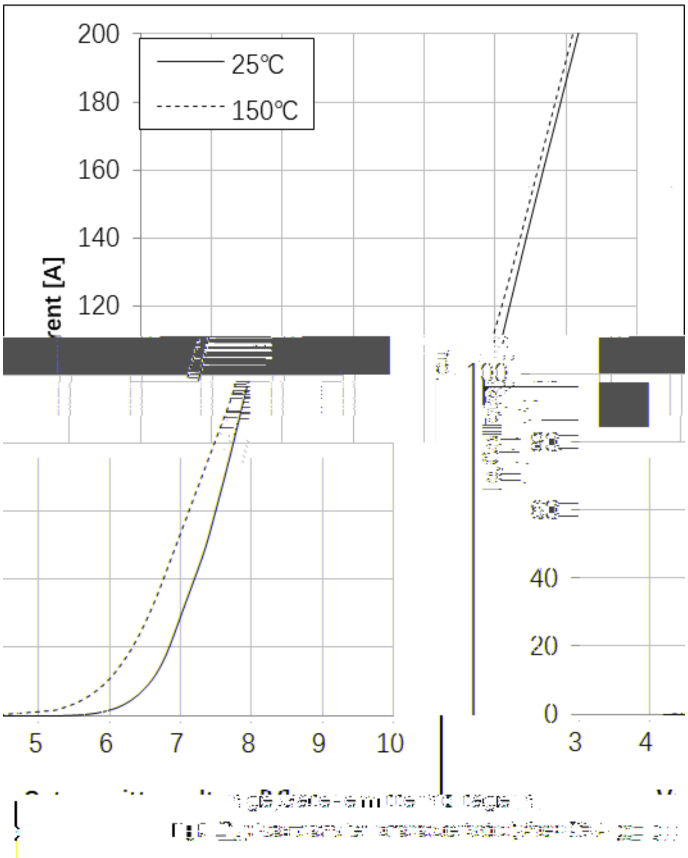
180
160
140
120
100
80
60
40
20
0
0
1
2
3
4
5

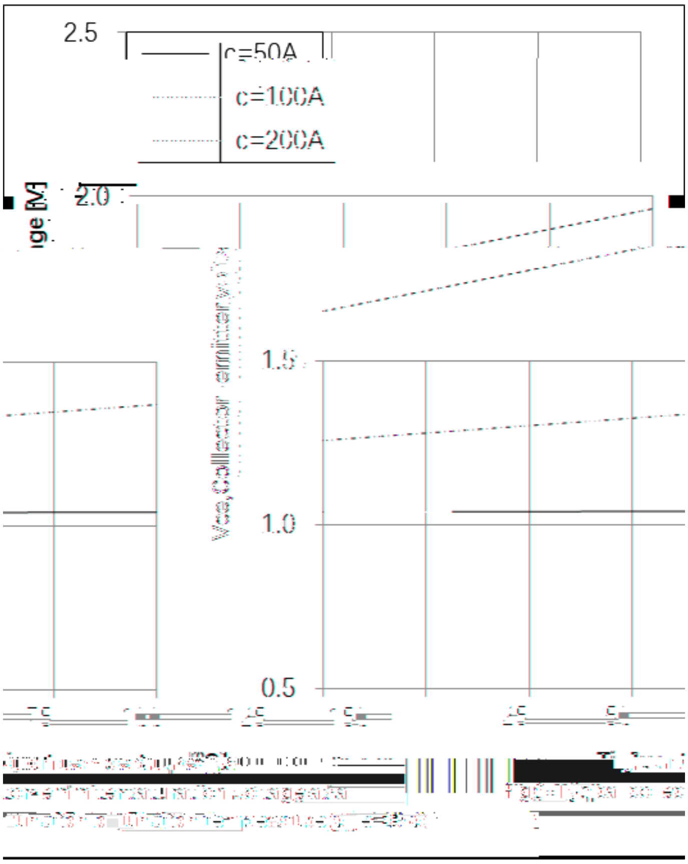
[illegible]



200
180
160
140
120
100
80
60
40
20
0
Collector current [A]
0
1
2
3
4
5
Vce,Collector-emitter voltage [V]

[illegible]





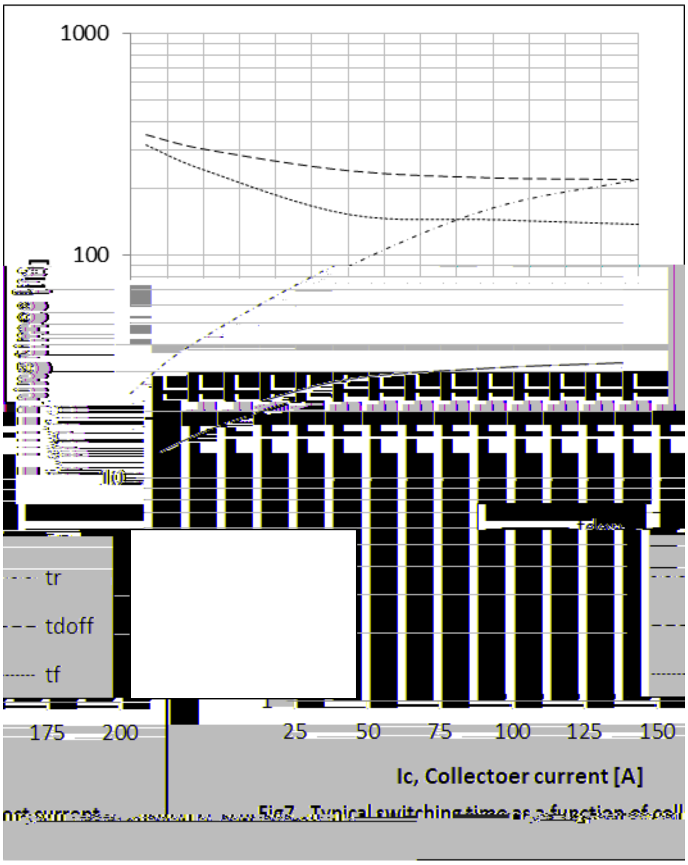
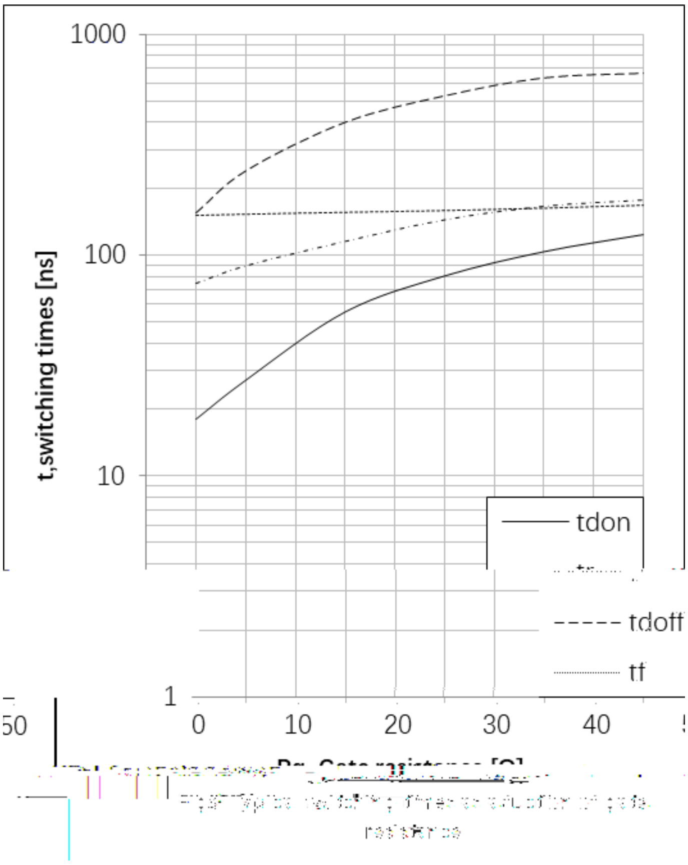
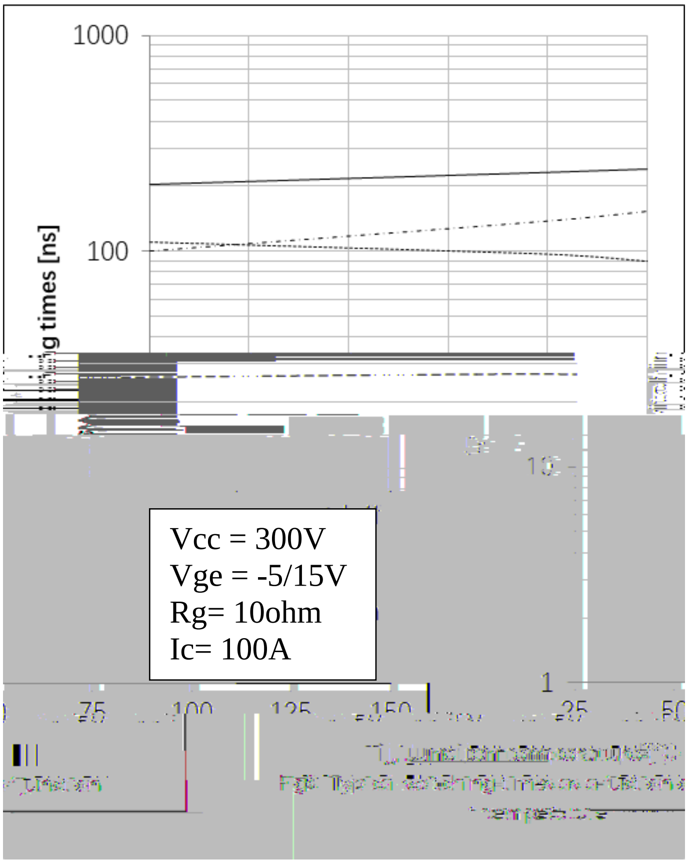


Fig7. Typical switching time as a function of coll



resistance



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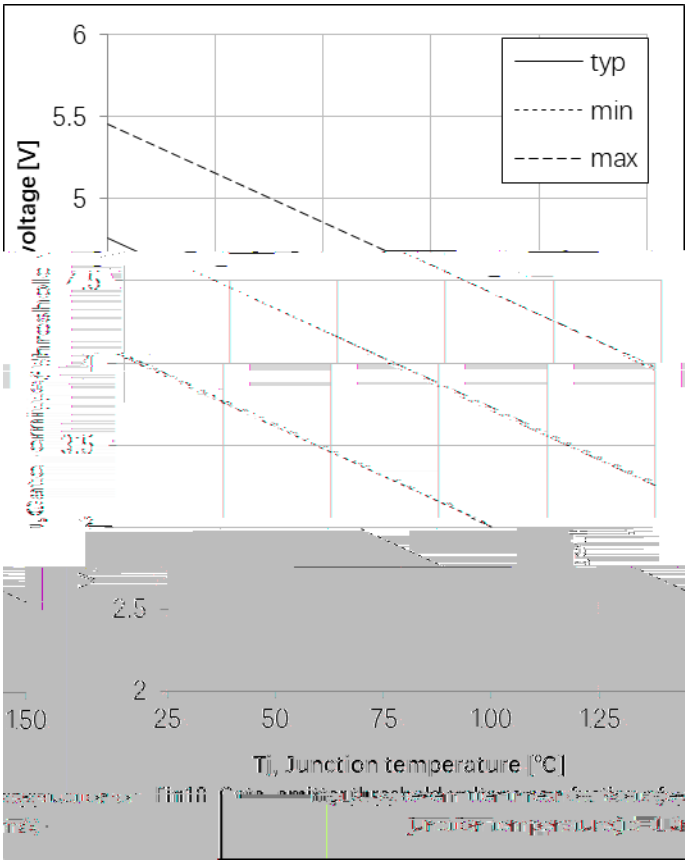

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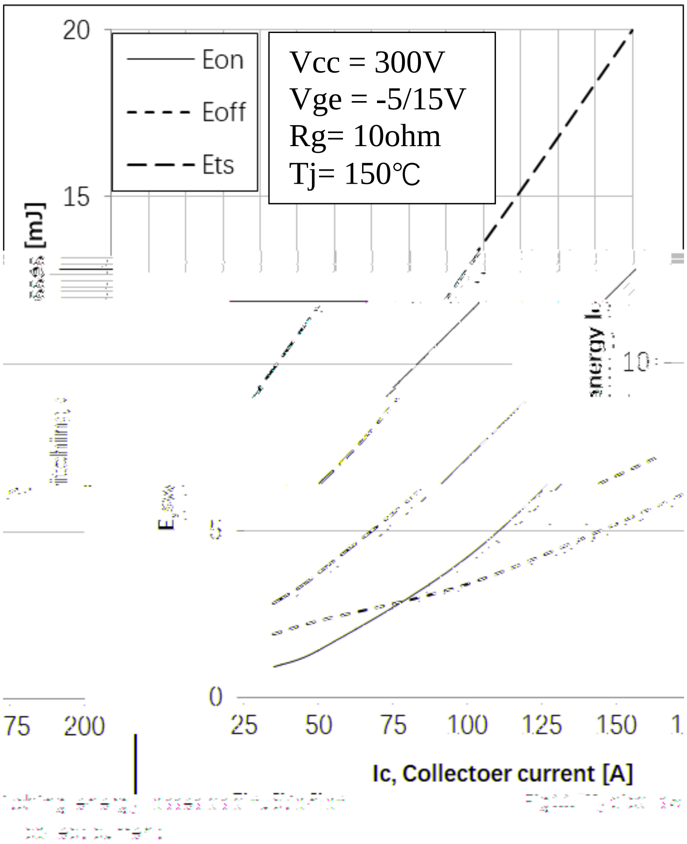

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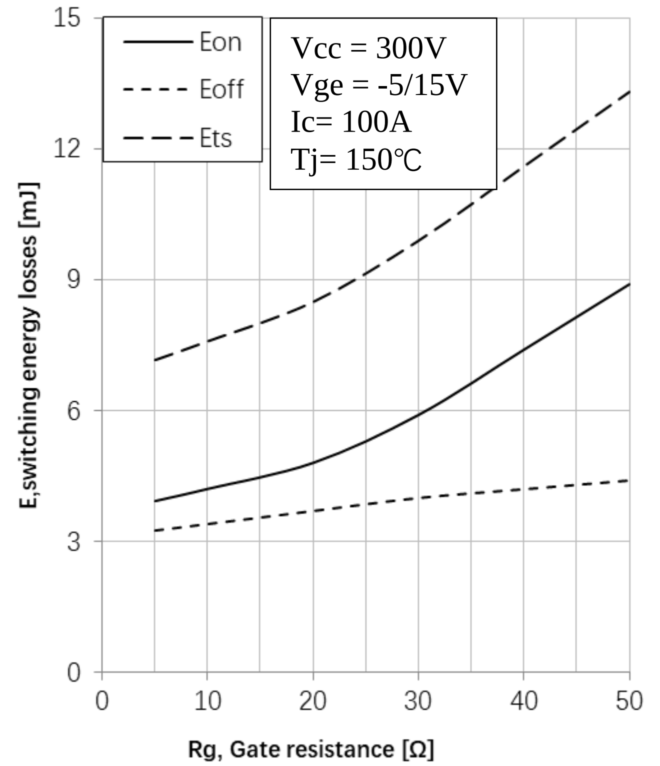


Fig12. Typical switching energy losses as a fuction of gate resistance

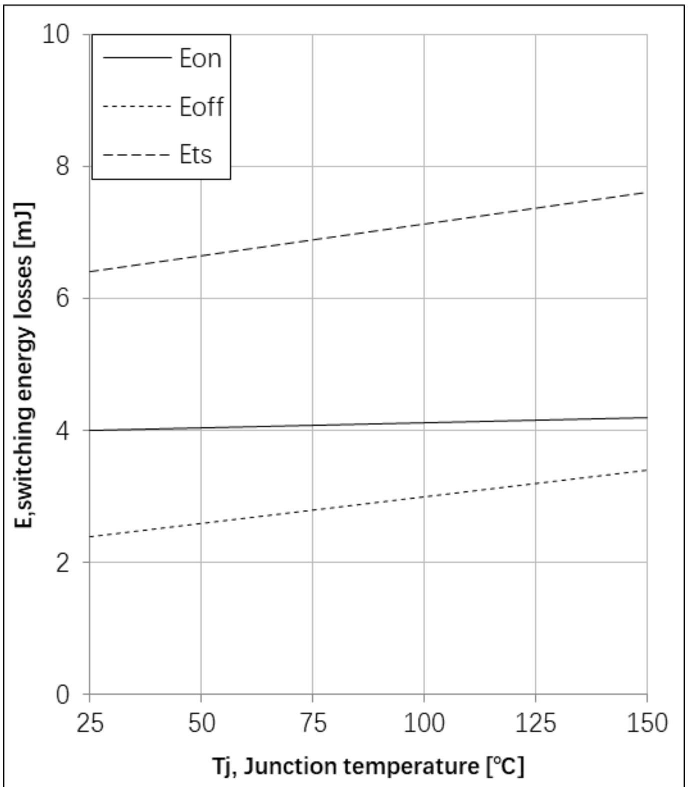
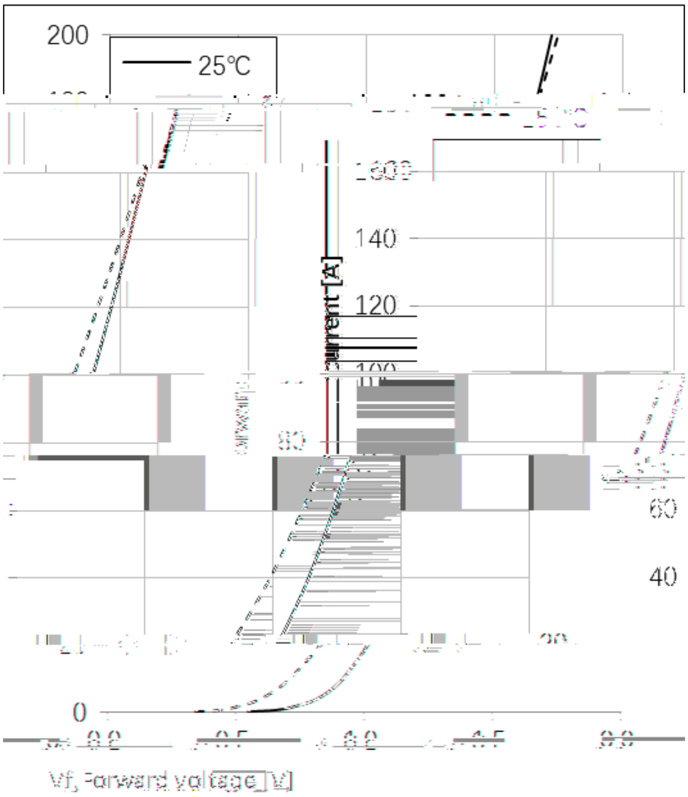


Fig13. Typical switching energy losses as a fuction of Junction temperature



[illegible] voltage

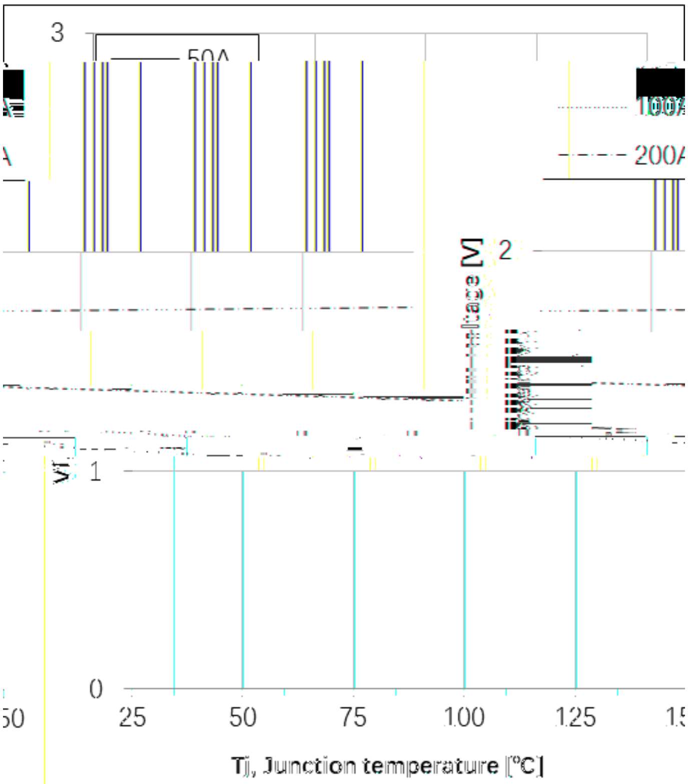
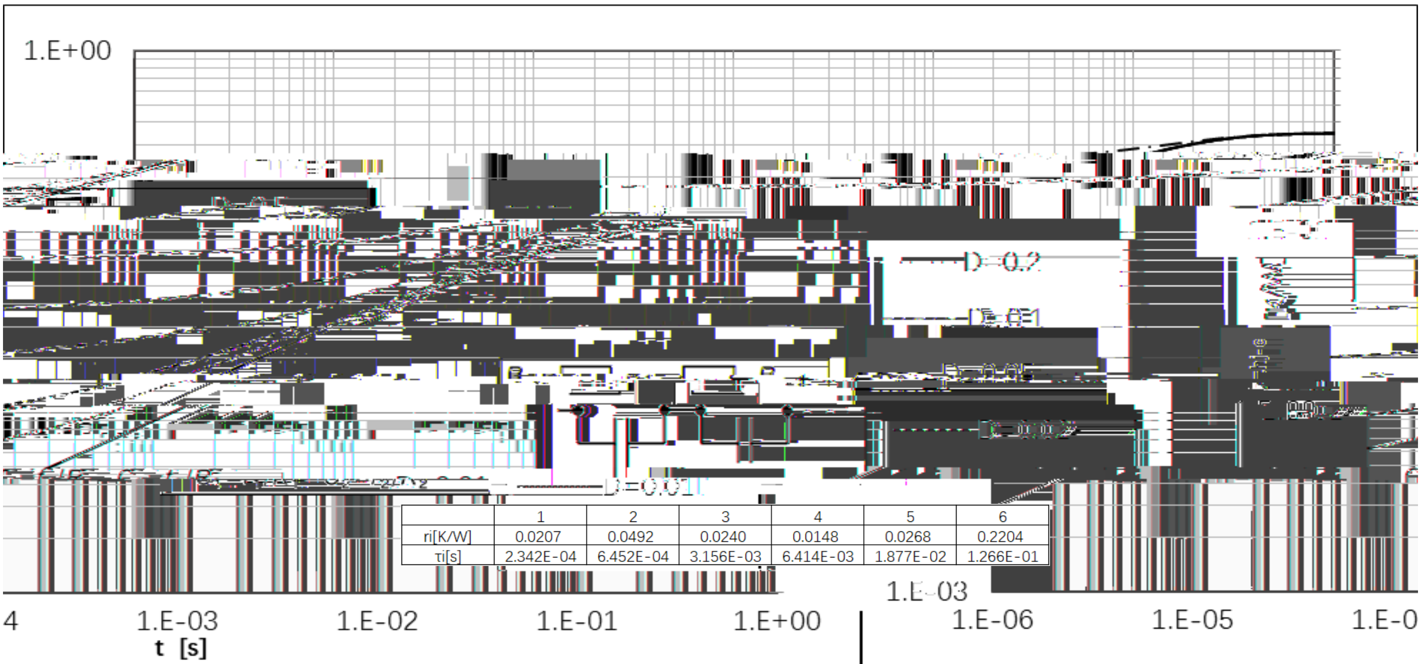


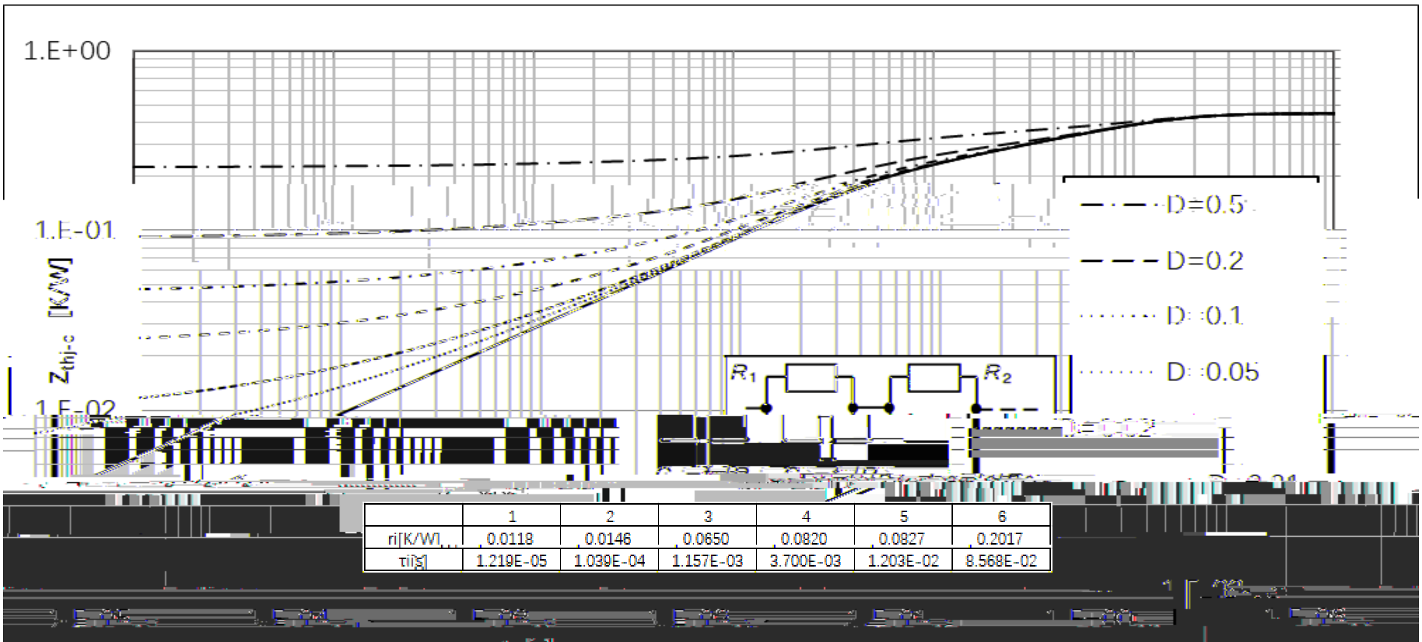
Fig18. Diode forawrd voltage as a function of junction temperature



	1	2	3	4	5	6
ri[K/W]	0.0207	0.0492	0.0240	0.0148	0.0268	0.2204
τi[s]	2.342E-04	6.452E-04	3.156E-03	6.414E-03	1.877E-02	1.266E-01

9. IGBT Transient Thermal Impedance

Fig 1



	1	2	3	4	5	6
ri[K/W]	0.0118	0.0146	0.0650	0.0820	0.0827	0.2017
τi[s]	1.219E-05	1.039E-04	1.157E-03	3.700E-03	1.203E-02	8.568E-02

Fig. 20. Diode Transient Thermal Impedance