DGW

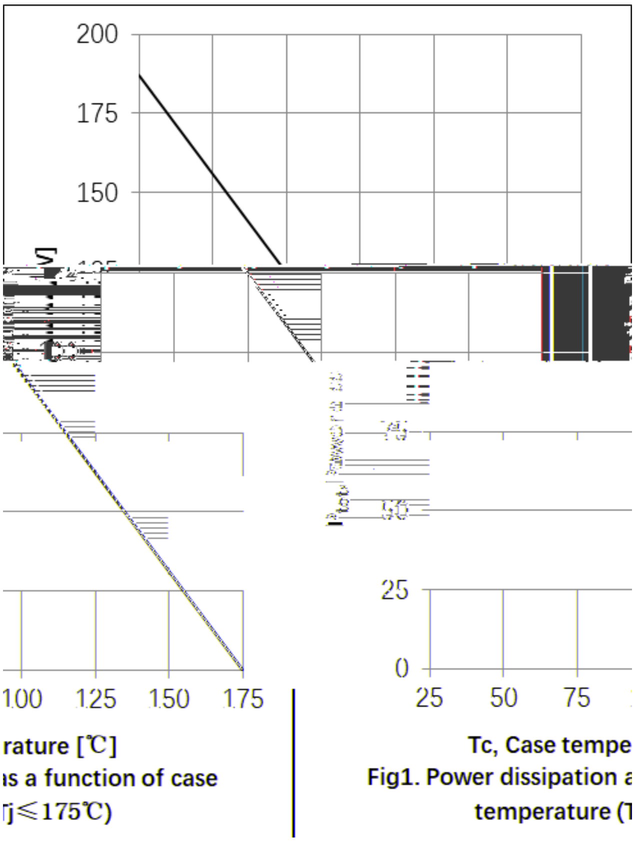
Electrical Characteristics of the

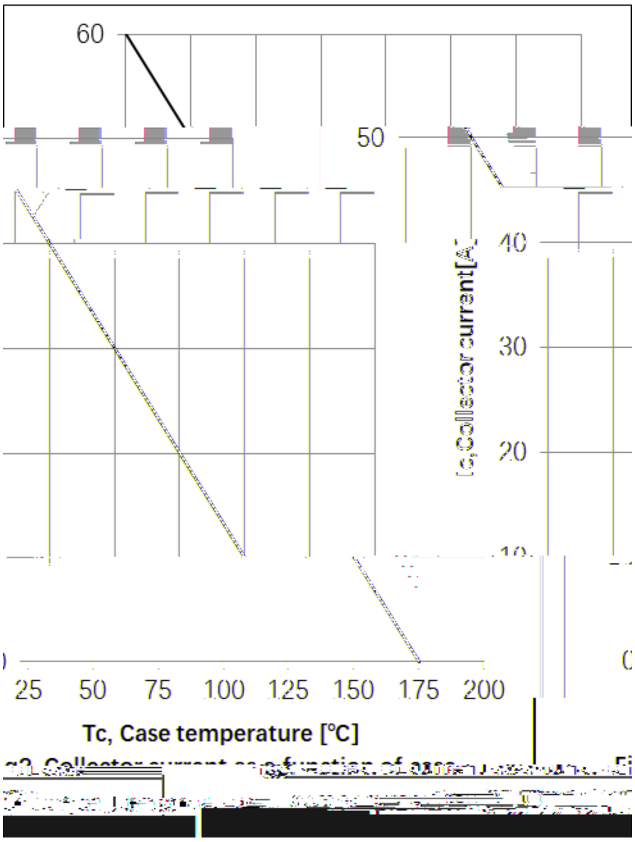
Electrical Characteristics of the DIODE

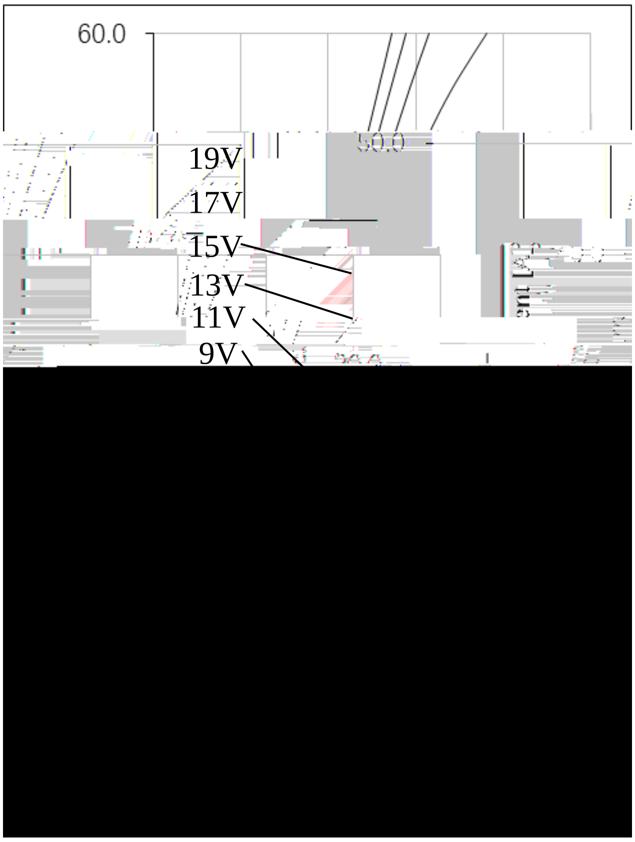
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Dynamic , at T_j= 25						
Reverse Recovery Current	I_{rr}	I_F=30A,V_R=400V di/dt= -35	-	7	-	A
Reverse Recovery Charge	Q_{rr}		-	0.14	-	uC
Diode reverse recovery time	trr		-	42	-	ns
Reverse Recovery Energy	Erec		-	0.09	-	mJ
Dynamic , at Tj= 125						
Reverse Recovery Current	I_{rr}	I_F=30A,V_R=400V di/dt= -35	-	13	-	A
Reverse Recovery Charge	Q_{rr}		-	0.94	-	uC
Diode reverse recovery time	trr		-	153	-	ns
Reverse Recovery Energy	Erec		-	0.22	-	mJ
Dynamic , at Tj= 150						
Reverse Recovery Current	I_{rr}	I_F=30A,V_R=400V di/dt= -35	-	15	-	A
Reverse Recovery Charge	Q_{rr}		-	1.26	-	uC
Diode reverse recovery time	trr		-	161	-	ns
Reverse Recovery Energy	Erec		-	0.26	-	mJ

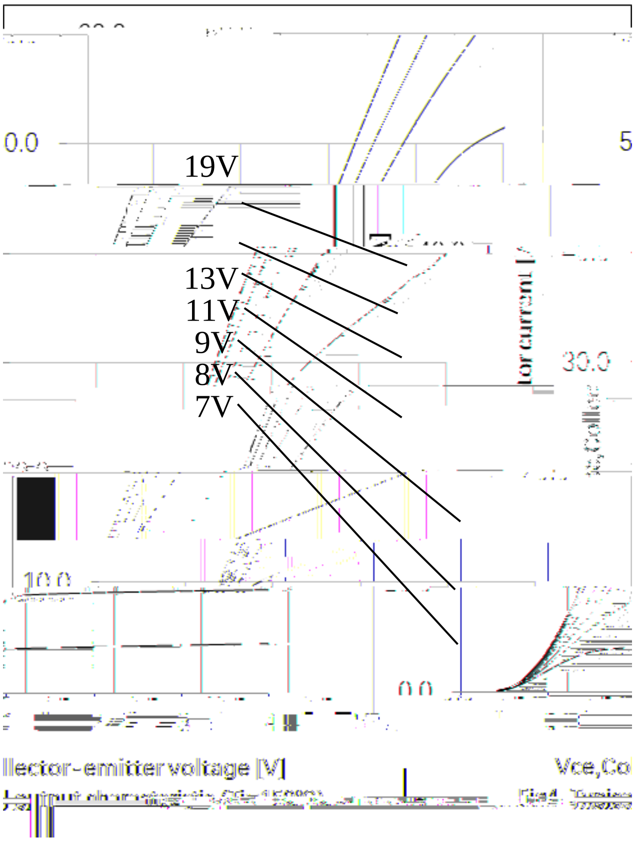
Thermal Resistance

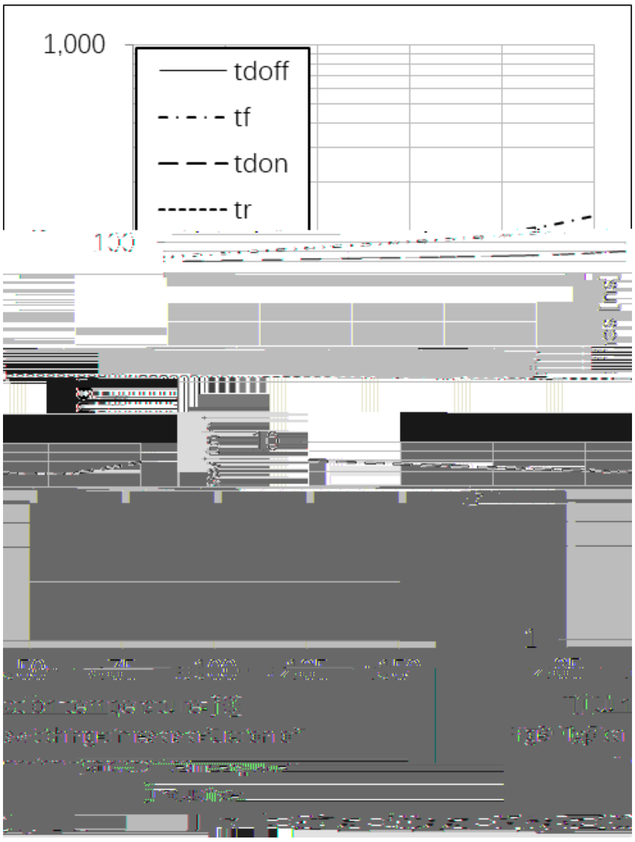
Parameter	Symbol	Max. Value	Unit


200
175
150
125
100
75
50
25
0
25
50
75
100
125
150
175
Ptot, Power dissipation
rature [℃]
is a function of case
Tj≤175℃)
Tc, Case tempe
Fig1. Power dissipation a
temperature (T


60
50
40
30
20
10
0
25
50
75
100
125
150
175
200
Ic,Collector current[A]
Tc, Case temperature [°C]
Fig2. Collector current as a function of case


60.0
50.0
19V
17V
15V
13V
11V
9V


60.0
50.0
30.0
10.0
0.0
19V
13V
11V
9V
8V
7V
Ic,Collector current [A]
llector-emitter voltage [V]
Vce,Co
Fig4. Typical output characteristic



[illegible]

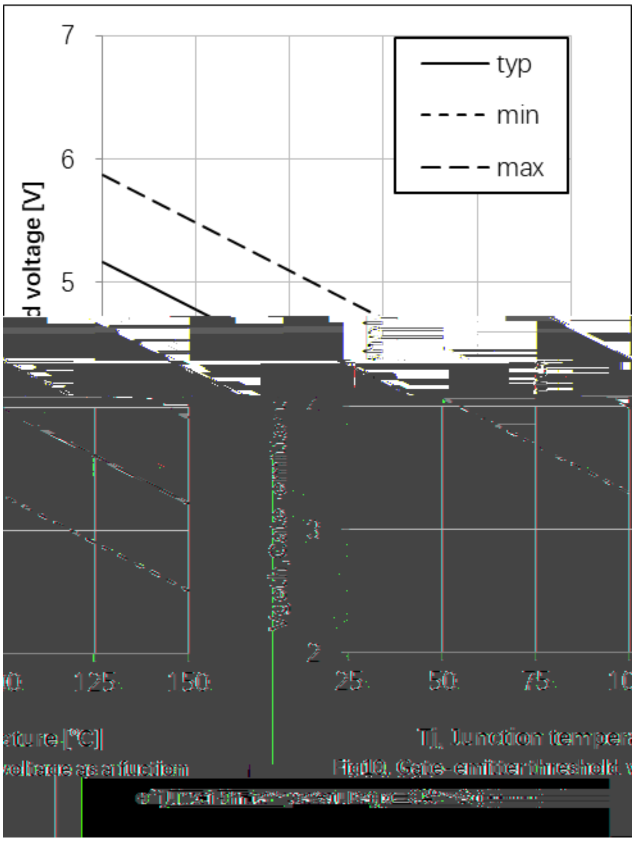


Fig10. Gate-emitter threshold v [illegible]

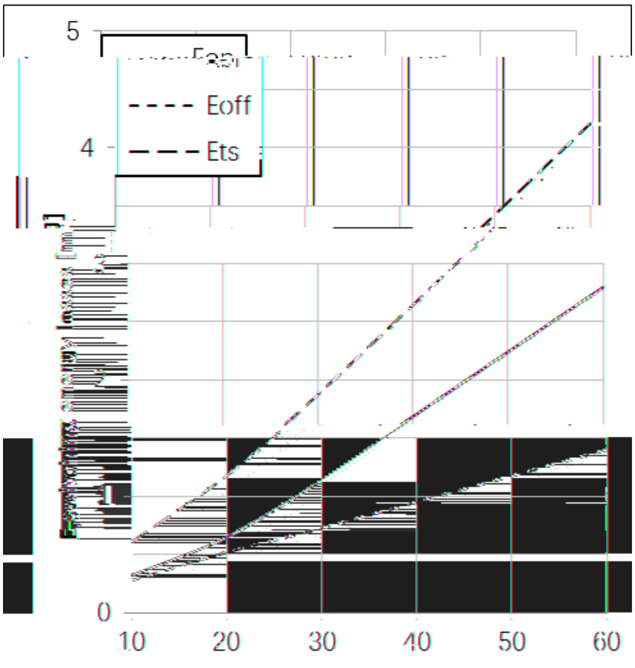


Fig11. Typical switching energy losses as a fuction of collect current

[illegible]

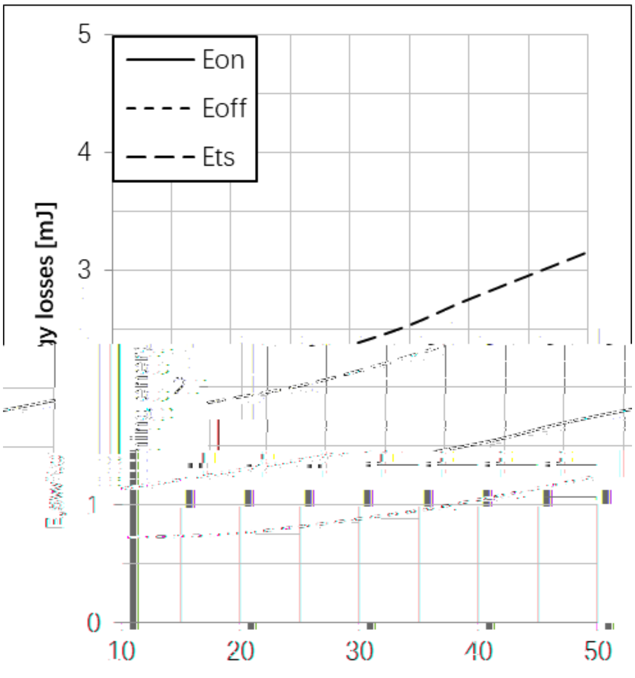
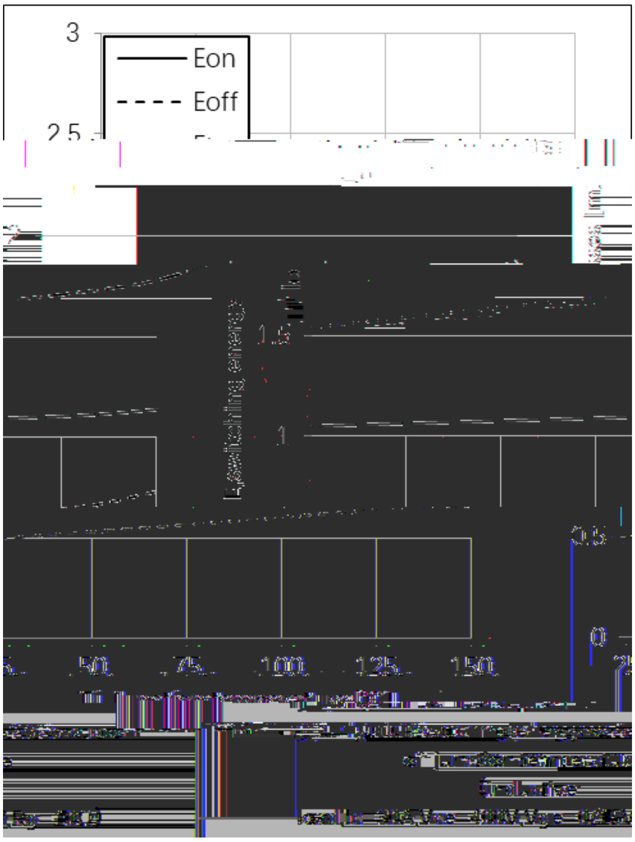
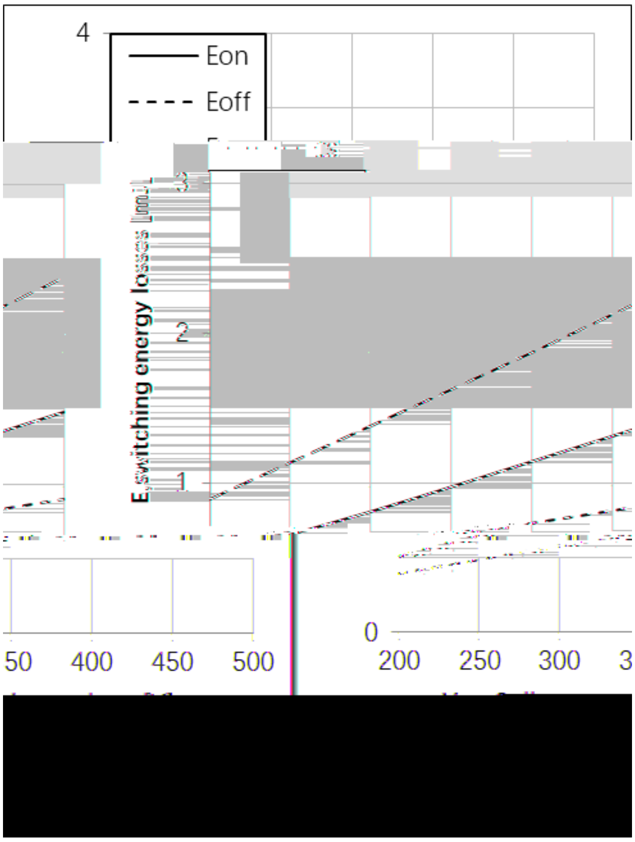
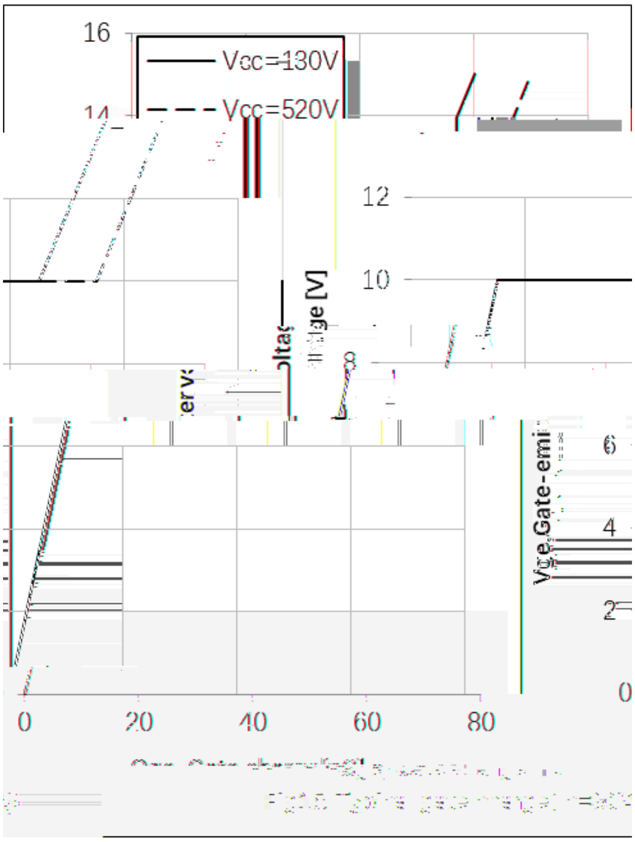


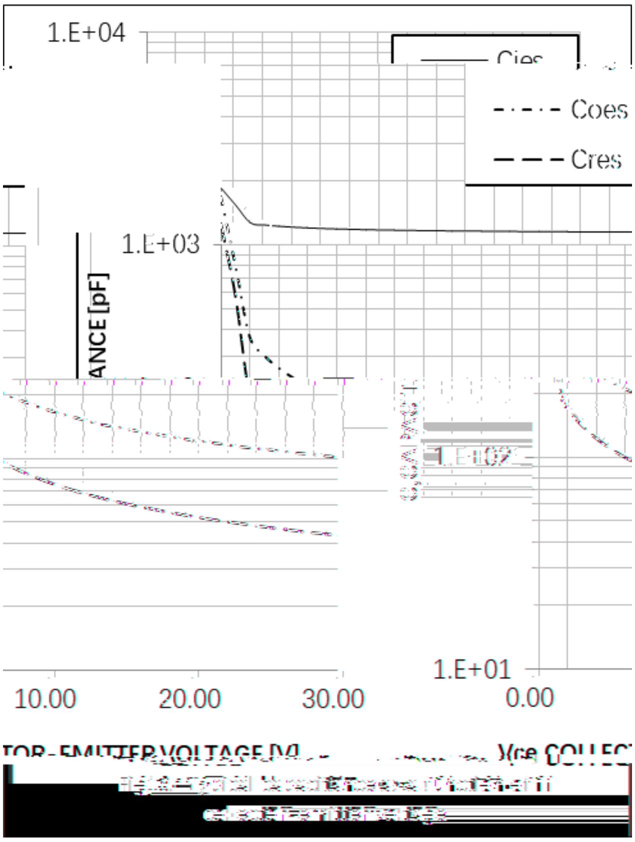
Fig12. Typical switching energy losses as a fuction of gate resistance. (inductive

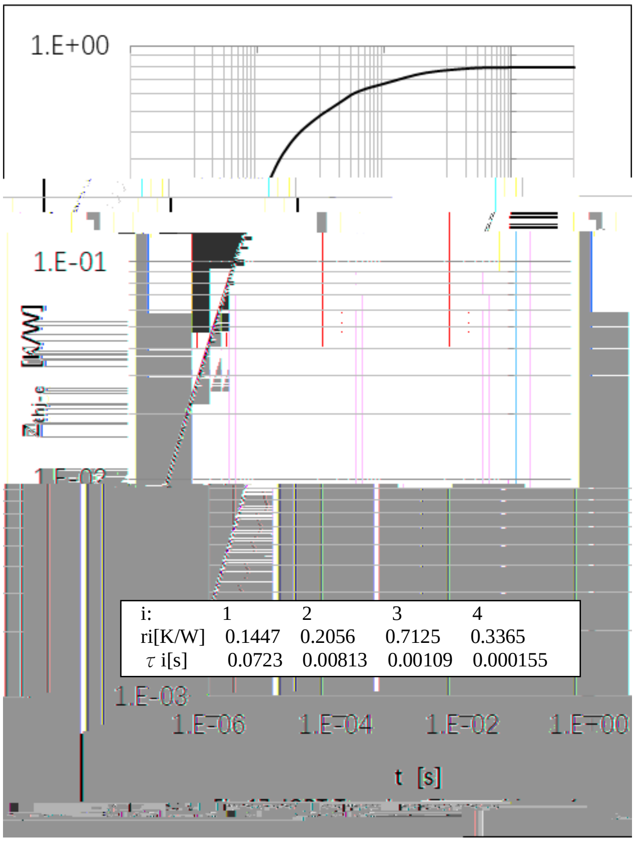
[illegible]


3
2.5
1.5
1
0.5
0
Eon
Eoff
E,switching energy
50
75
100
125
150

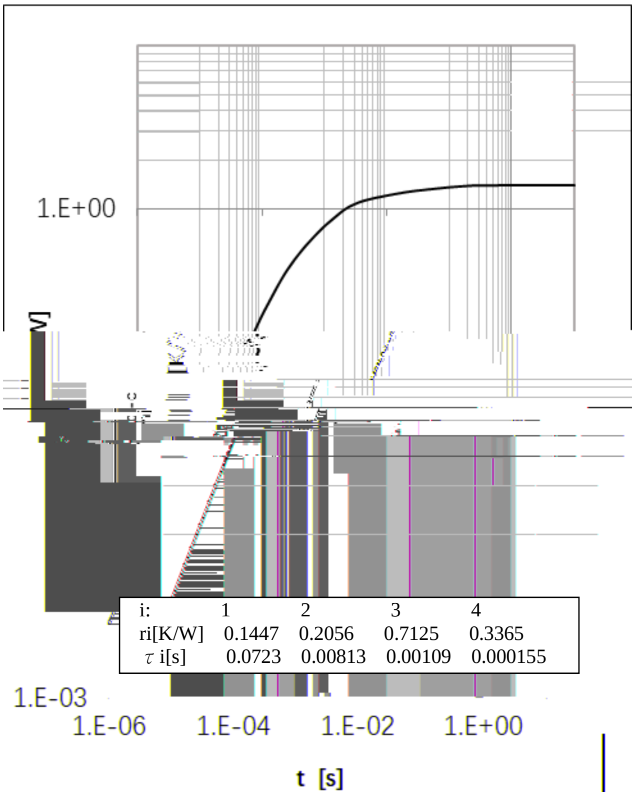

4
3
2
1
0
Eon
Eoff
E,switching energy losses [mJ]
200
250
300
400
450
500


16
14
12
10
8
6
4
2
0
Vcc=130V
Vcc=520V
Vge,Gate-emitter voltage [V]
0
20
40
60
80


1.E+04
1.E+03
1.E+02
1.E+01
Cies
Coes
Cres
CAPACITANCE [pF]
0.00
10.00
20.00
30.00
COLLECTOR-EMITTER VOLTAGE [V]

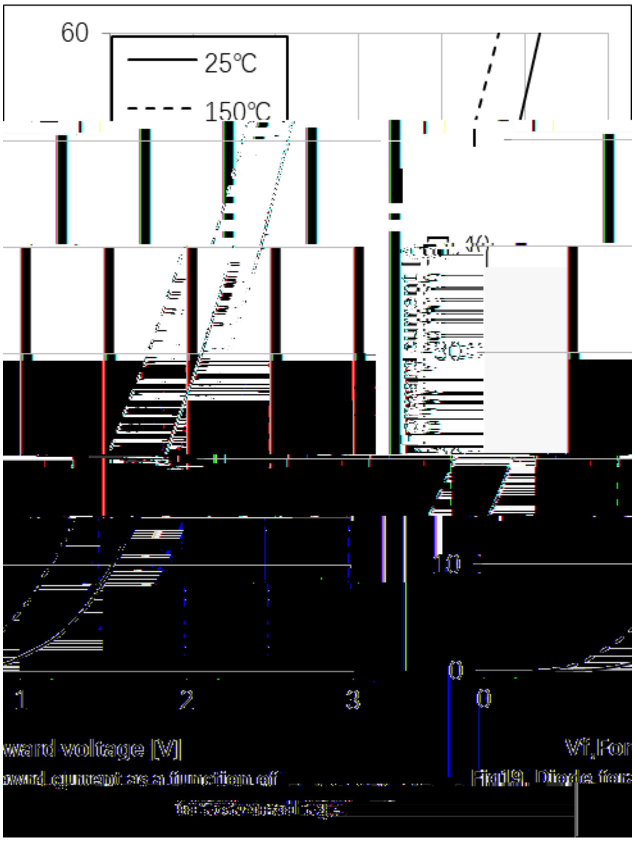


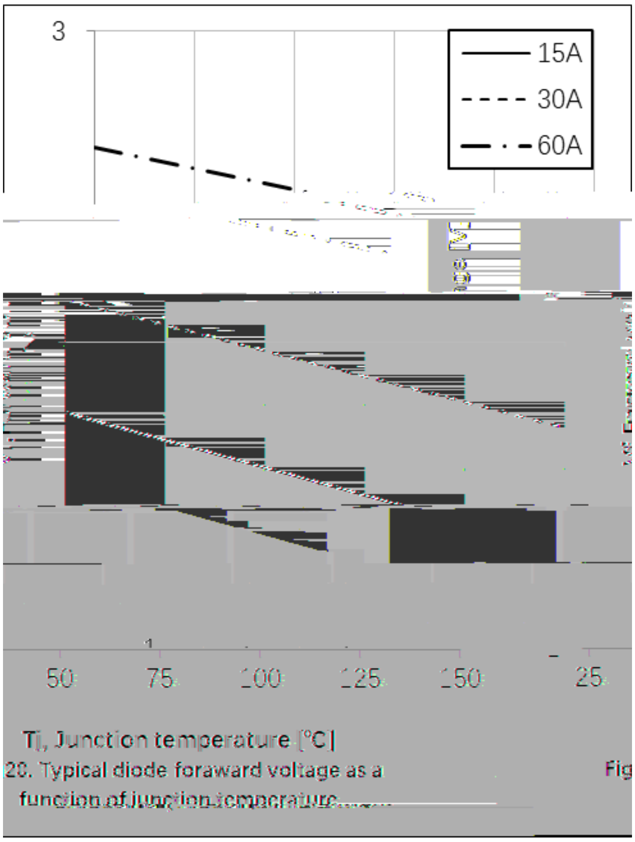
i:	1	2	3	4
ri[K/W]	0.1447	0.2056	0.7125	0.3365
τ i[s]	0.0723	0.00813	0.00109	0.000155

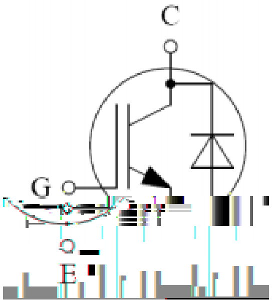


i:	1	2	3	4
ri[K/W]	0.1447	0.2056	0.7125	0.3365
τ i[s]	0.0723	0.00813	0.00109	0.000155

Fig 18. Diode Transient Thermal Impedance







Package Outline Information

TO-247AB		
Dim	Min	Max
A	4.80	