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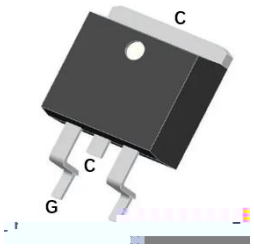


Maximum Ratings

Parameter	Symbol	Value	Unit
Collector-Emitter Breakdown Voltage	V_{CE}	650	V
DC Collector Current, limited by T_{jmax} T_C= 25°C T_C= 100°C	I_C	40 30	A
Diode Forward Current, limited by T_{jmax} T_C= 25°C T_C= 100°C	I_F		

Electrical Characteristics of the IGBT T_j= 25 unless otherwise specified

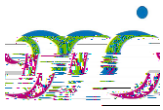
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Static						
Collector-Emitter Breakdown Voltage	BV_{CES}	V_{GE}=0V, I_C	650		-	V
Gate Threshold Voltage	$V_{GE(th)}$	V_{GE}=V_{CE}, I_C=1mA	4.7	5.5	6.2	V
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	V_{GE}=15V, I_C=30A T_j=25°C T_j=125°C T_j=150°C		1.65 2.00 2.10	1.95	V
Zero Gate Voltage Collector Current	I_{CES}	V_{CE}=650V, V_{GE}=0V T_j= 25°C, T_j=150°C			0.25 4.00	mA
Gate-Emitter Leakage Current	I_{GES}	V_{CE}= 0V, V_{GE}= ± 20V			100	nA

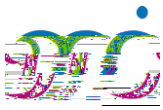
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Dynamic						
Input Capacitance	C_{ies}	V_{CE}= 25V, V_{GE}= 0V, f = 1MHz	-	1.53	-	nF
Reverse Transfer Capacitance	C_{res}		-	0.04	-	

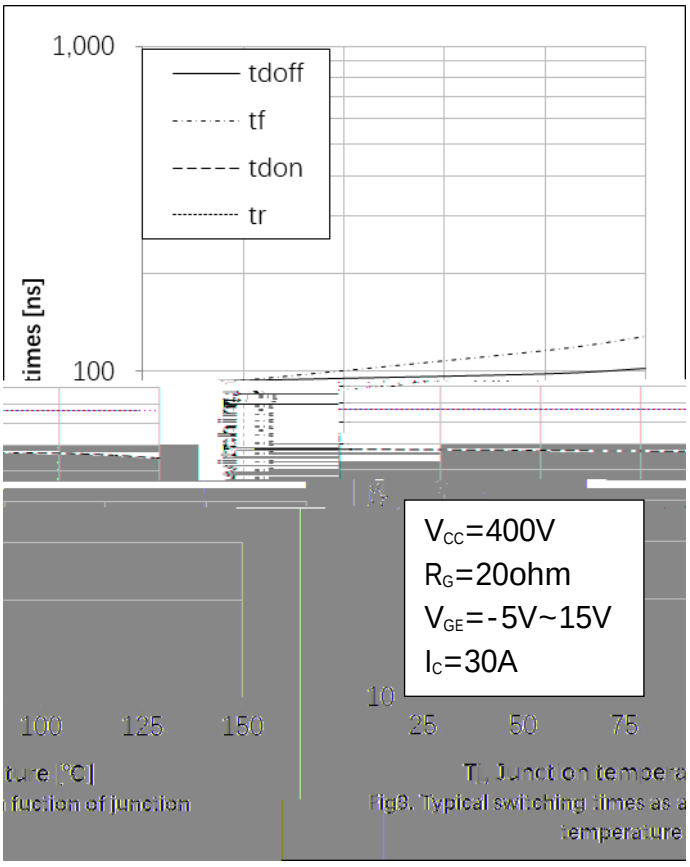
DGB30N65CTL1E

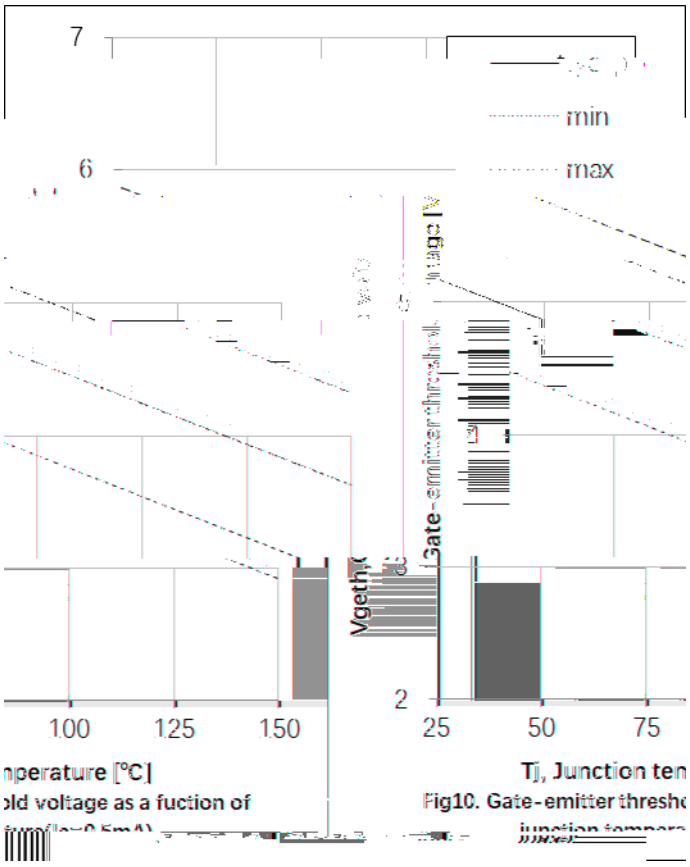
Electrical Characteristics of the DIODE

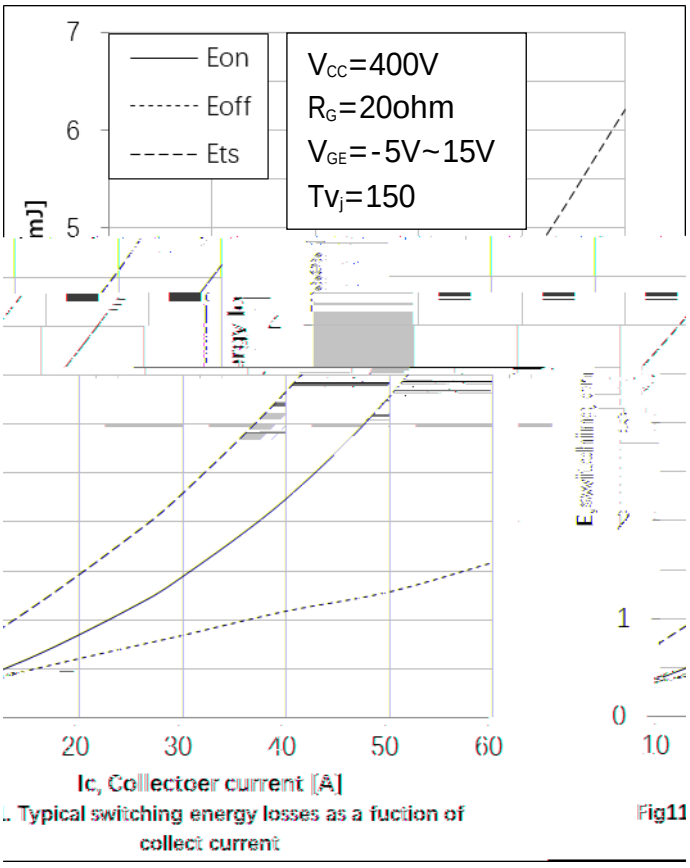
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Dynamic , at T_j= 25						
Reverse Recovery Current	I_{rr}		-	11	-	A
Reverse Recovery Charge	Q_{rr}	I_F=30A,V_R=400V di/dt= -32	-	0		

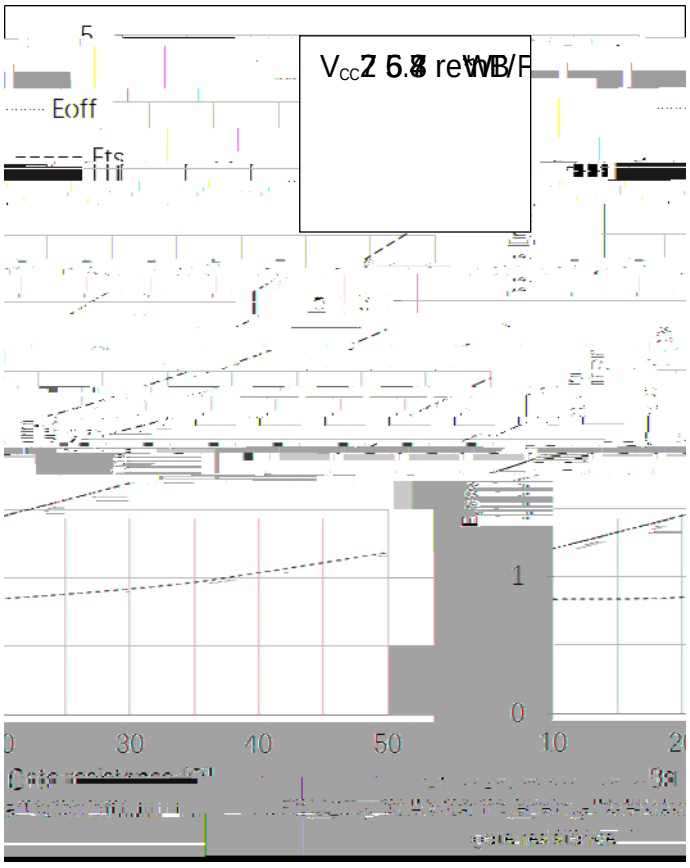




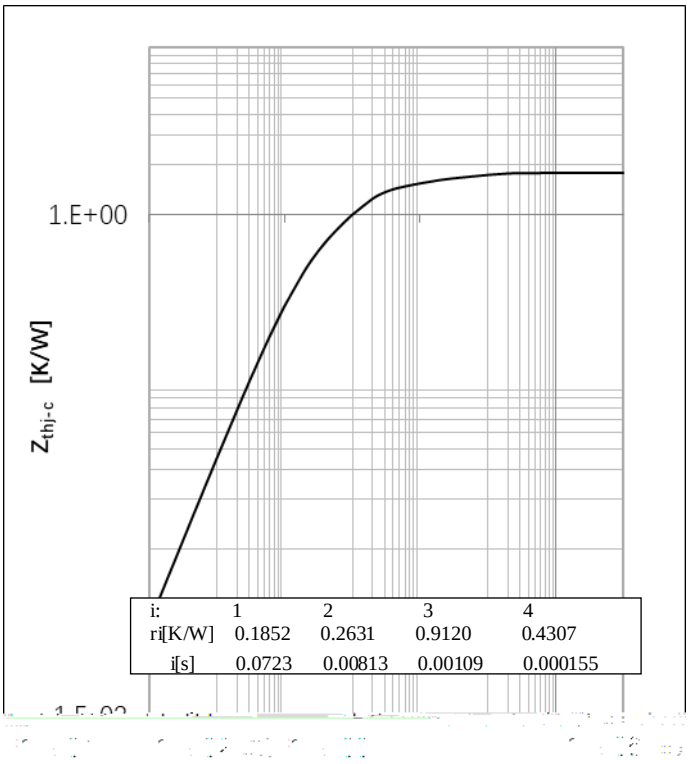

1,000
100
tdoff
tf
tdon
tr
times [ns]
V_{CC}=400V
R_G=20ohm
V_{GE}=-5V~15V
I_C=30A
100
125
150
25
50
75
Tj, Junction tempera
Fig8. Typical switching times as a
temperature


7
6
min
max
Gate-emitter threshold voltage [V]
Vgeth
3
2
100
125
150
25
50
75
nperature [°C]
old voltage as a fuction of
Tj, Junction ten
Fig10. Gate-emitter thresh


7
6
5
Eon
Eoff
Ets
mJ]
V_{CC}=400V
R_G=20ohm
V_{GE}=-5V~15V
Tv_j=150
1
0
20
30
40
50
60
10
Ic, Collectoer current [A]
. Typical switching energy losses as a fuction of
collect current
Fig11


5
Eoff
Ets
1
0
30
40
50
10

DGB30N65CTL1E



i:	1	2	3	4
ri[K/W]	0.1852	0.2631	0.9120	0.4307
i[s]	0.0723	0.00813	0.00109	0.000155

ode Transient Thermal Impedance

Fig17. Dio

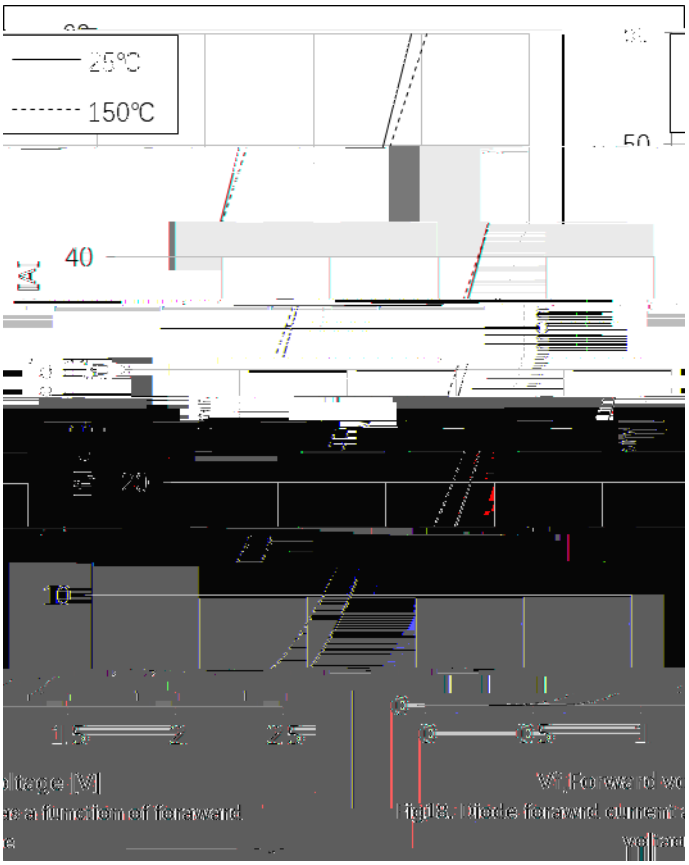
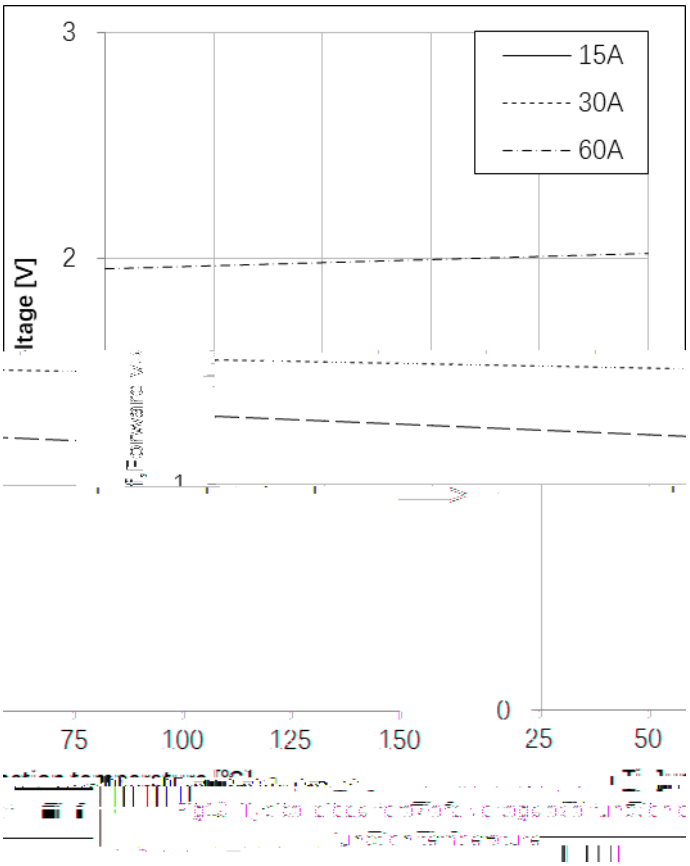
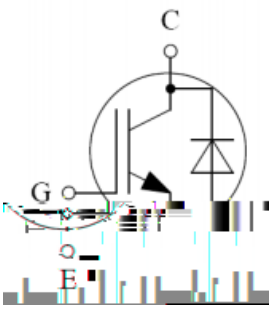
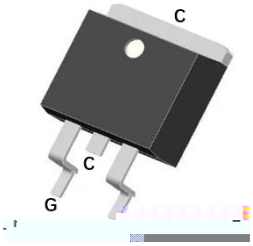


Fig18. Diode forward current

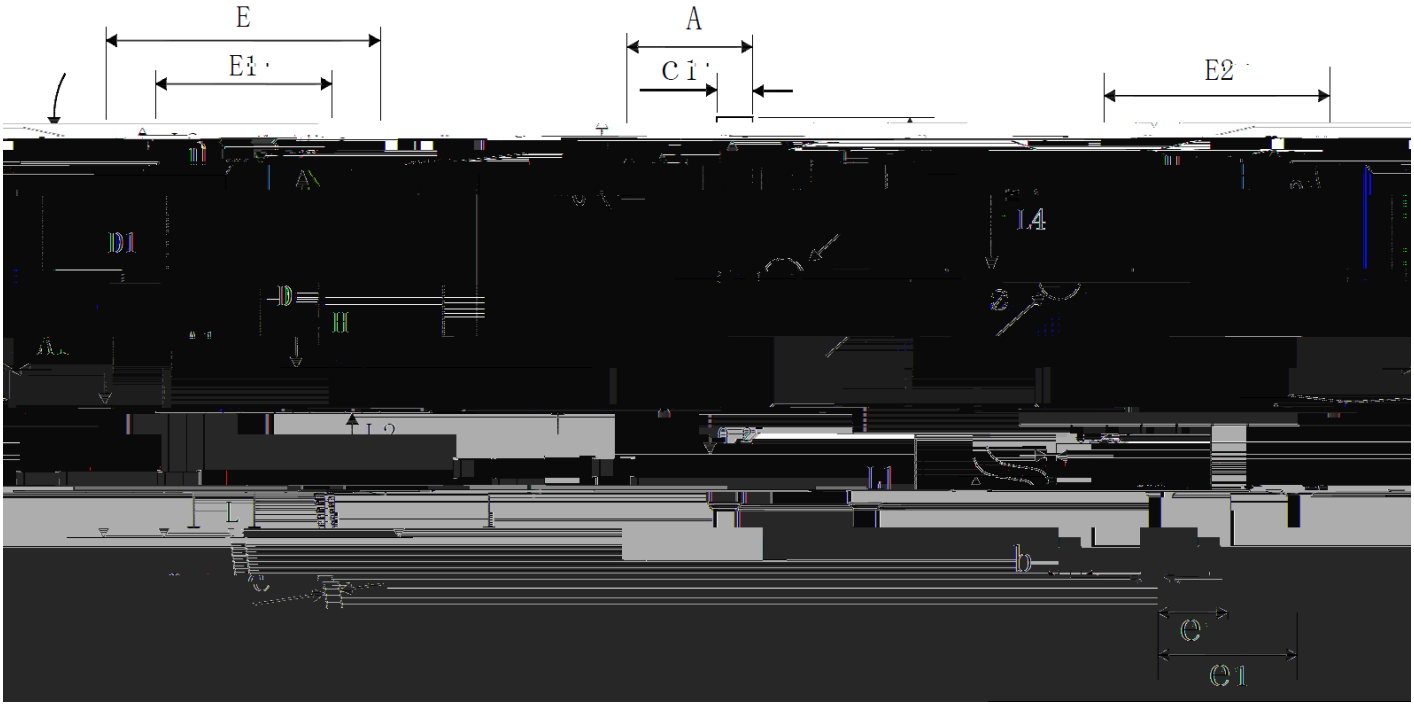






Package Outline Information

CASE: TO 263



TO-263(mm)								
Dim	Min	Max	Dim	Min	Max	Dim	Min	Max
A	4.3	4.7	H	14.9	15.5	L2	1.3	1.7
A1	0	0.25	E	9.8	10.2	L3	1.15	1.35
b	0.7	0.9	E1	6.3	6.5	L4	4.5	4.6
c	0.4	0.6	E2	7.9	8.1	Ø	1.5 REF	
c1	1.25	1.35	e1	4.93	5.23	e	2.54 BSC	
D	9	9.2	L	1.85	2.45		13° TYP	
D1	8	8.2	L1	4.45	4.85			

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