



V _{CE}	1200	V
I _C	15	A
V _{CE(SAT)} I _C =15A	1.85	V

- AC and DC servo drive amplifier
- Uninterruptible power supply

Maximum junction temperaturee Ñ

Maximum Ratings

Parameter	Symbol	Value	Unit
Collector-Emitter Breakdown Voltage	V _{CE}	1200	V
DC Collector Current, limited by T _{jmax} T _C = 25°C T _C = 100°C	I _C	30 15	A
Diode Forward Current, limited by T _{jmax} T _C = 25°C T _C = 100°C	I _F	30 15	A
Continuous Gate-Emitter Voltage	V _{GE}	& ± 20 M ¶	& V

Transient Gate-Emitter Voltage

V E

GE=15V, tp limited by T _{jmax}	I _{CM}	60	A
Diode Pulsed Current, tp limited by T _{jmax}	I _{Fpuls}	60	A

Short Circuit Withstand Time,

V_{GE}= 15V, V_{CC}=900V V_{CEM} ≤ 1200V

T_{sc}



Operating Junction Temperature	T_j	-40...+175	°C
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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}	$V_{GE}=0V, I_C=250\mu A$	1200		-	V
Gate Threshold Voltage	$V_{GE(th)}$	$V_{GE}=V_{CE}, I_C=0.5mA$	5.1	5.8	6.4	V
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$V_{GE}=15V, I_C=15A$ $T_j=25^\circ C,$ $T_j=125^\circ C$ $T_j=150^\circ C$		1.85 2.20 2.30	2.35	V
Zero Gate Voltage Collector Current	I_{CES}	$V_{CE}=1200V, V_{GE}=0V$ $T_j=25^\circ C,$ $T_j=150^\circ C$			0.25 5.00	mA
Gate-Emitter Leakage Current	I_{GES}	$V_{CE}=0V, V_{GE}=\pm 20V$			100	nA

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Dynamic						
Input Capacitance	C_{ies}	$V_{CE}=25V, V_{GE}=0V,$ $f=1MHz$	-	1.2	-	nF
Reverse Transfer Capacitance	C_{res}		-	0.04	-	
Gate Charge	Q_G	$V_{CC}=960V, I_C=15A,$ $V_{GE}=15V$	-	0.14	-	uC
Short Circuit Collector Current	I_{SC}	$V_{GE}=15V, t_{sc}\leq 10\mu s,$ $V_{CC}=900V, T_j\leq 150^\circ C$	-	60	-	A



Electrical Characteristics of the Diode $T_j = 25$ unless otherwise specified

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Static						
Diode Forward Voltage	V_F	$I_F = 15A$ $T_j = 25^\circ C$, $T_j = 125^\circ C$ $T_j = 150^\circ C$		2.00 1.80 1.70	2.40	V

Switching Characteristic, Inductive Load

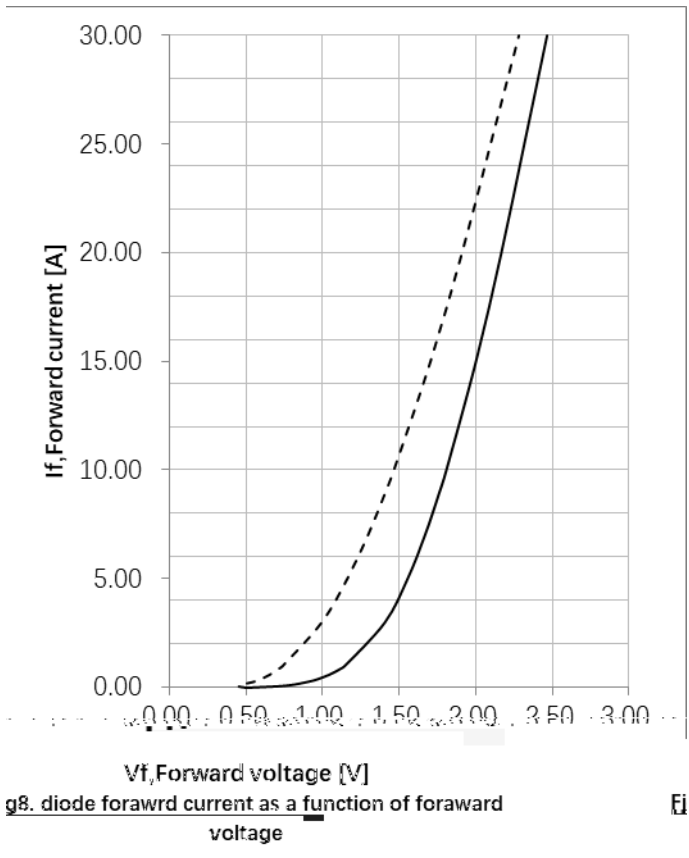
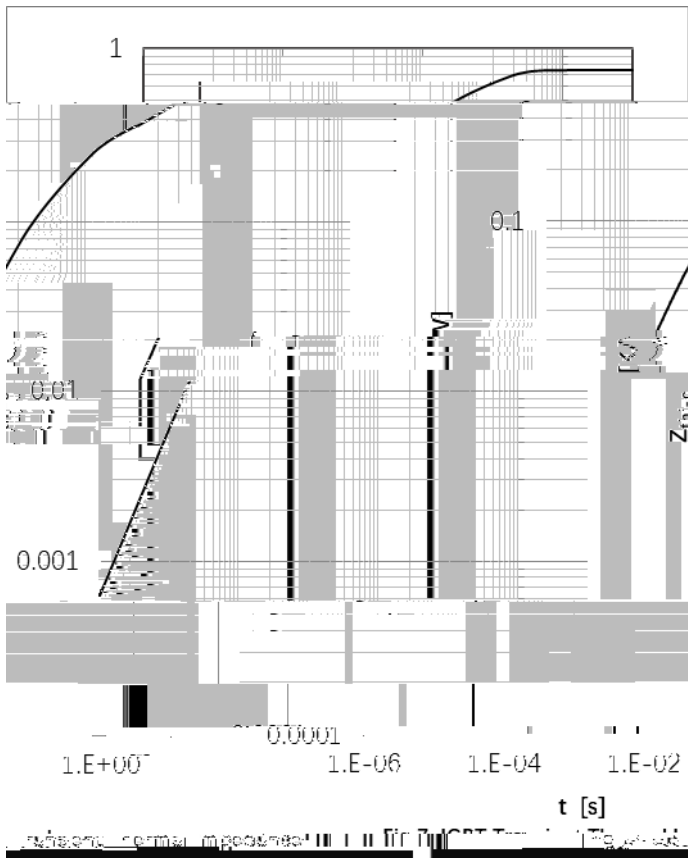
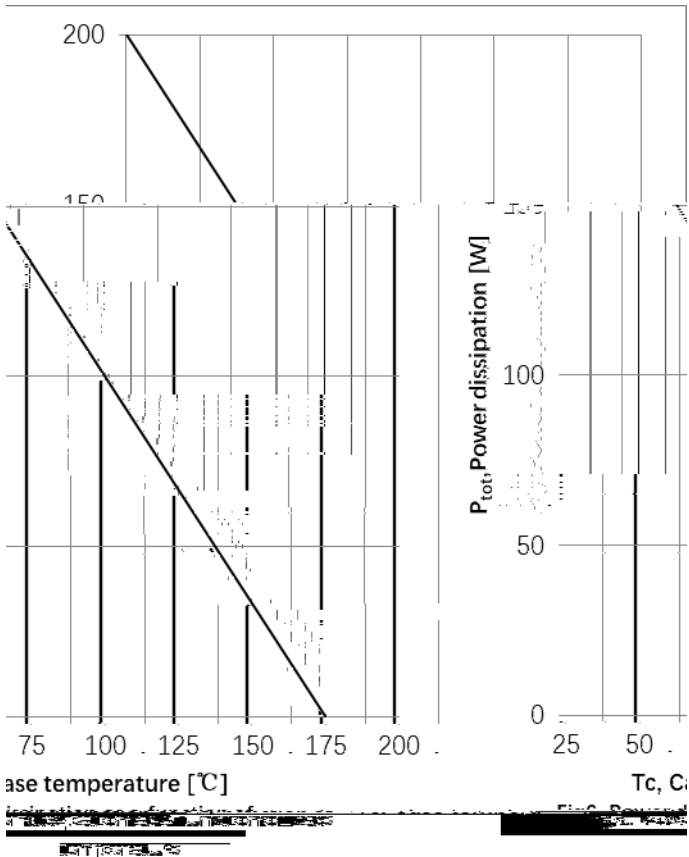
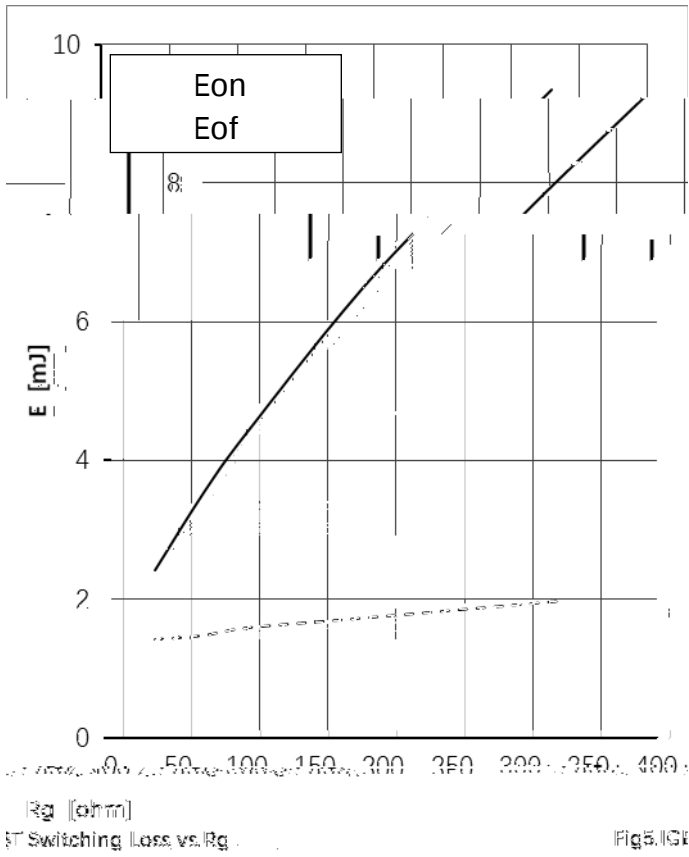
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Dynamic , at T _j = 25						
Turn-on Delay Time	t _{d(on)}	V _{CC} = 600V, I _C =15A, V _{GE} = -15v~15V, R _g =33 Ω	-	45	-	ns
Rise Time	t _r		-	52	-	ns
Turn-on Energy	E _{on}		-	1.5	-	mJ
Turn-off Delay Time	t _{d(off)}		-	128	-	ns
Fall Time	t _f		-	186	-	ns
Turn-off Energy	E _{off}		-	0.9	-	mJ
Dynamic , at T _j = 125						
Turn-on Delay Time	t _{d(on)}	V _{CC} = 600V, I _C =15A, V _{GE} = -15v~15V, R _g =33 Ω	-	50	-	ns
Rise Time	t _r		-	55	-	ns
Turn-on Energy	E _{on}		-	2.2	-	mJ
Turn-off Delay Time	t _{d(off)}		-	160	-	ns
Fall Time	t _f		-	135	-	ns
Turn-off Energy	E _{off}		-	1.3	-	mJ
Dynamic , at T _j = 150						
Turn-on Delay Time	t _{d(on)}	V _{CC} = 600V, I _C =15A, V _{GE} = -15v~15V, R _g =33 Ω	-	52	-	ns
Rise Time	t _r		-	58	-	ns
Turn-on Energy	E _{on}		-	2.4	-	mJ
Turn-off Delay Time	t _{d(off)}		-	170	-	ns
Fall Time	t _f		-	138	-	ns
Turn-off Energy	E _{off}		-	1.45	-	mJ

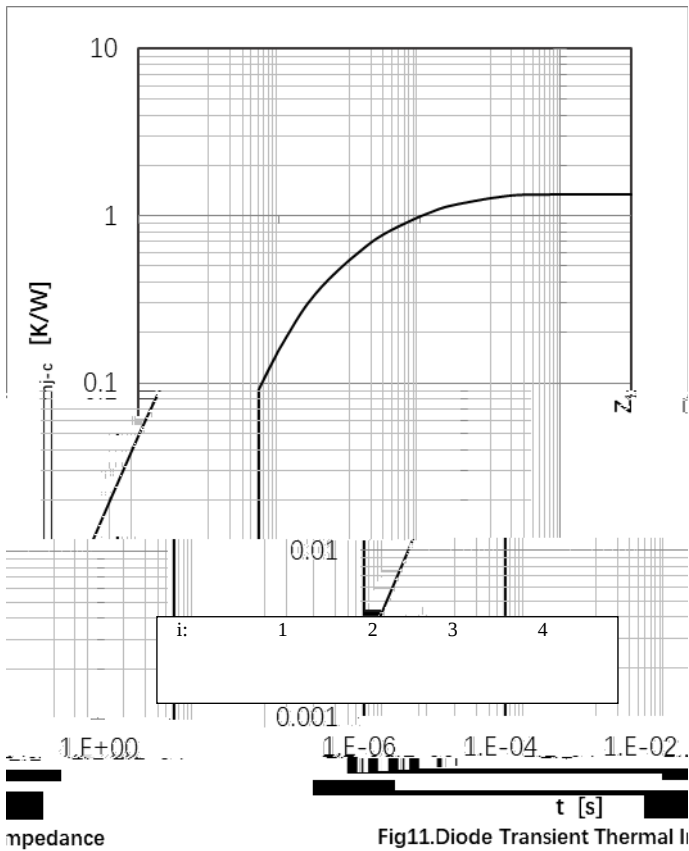
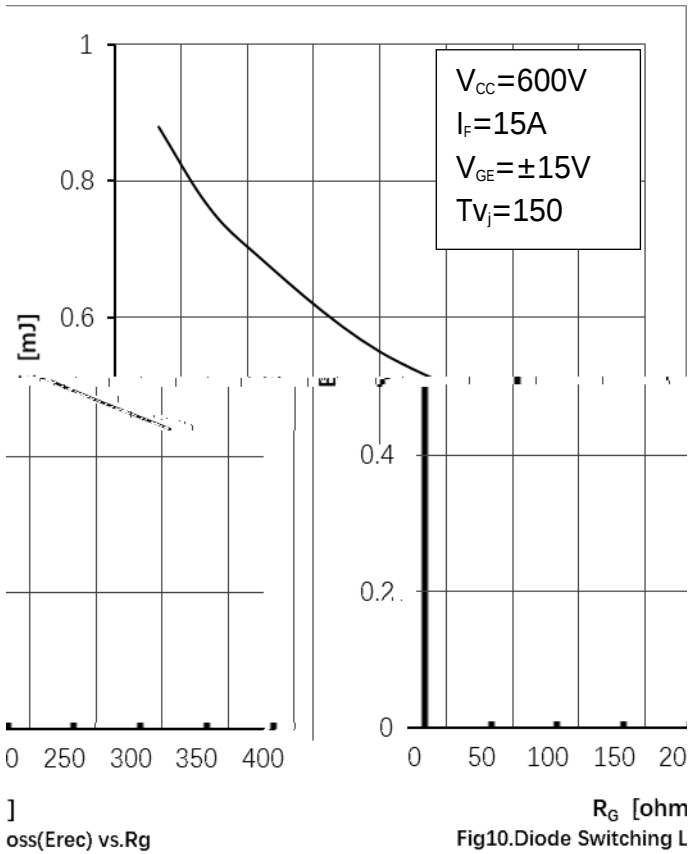
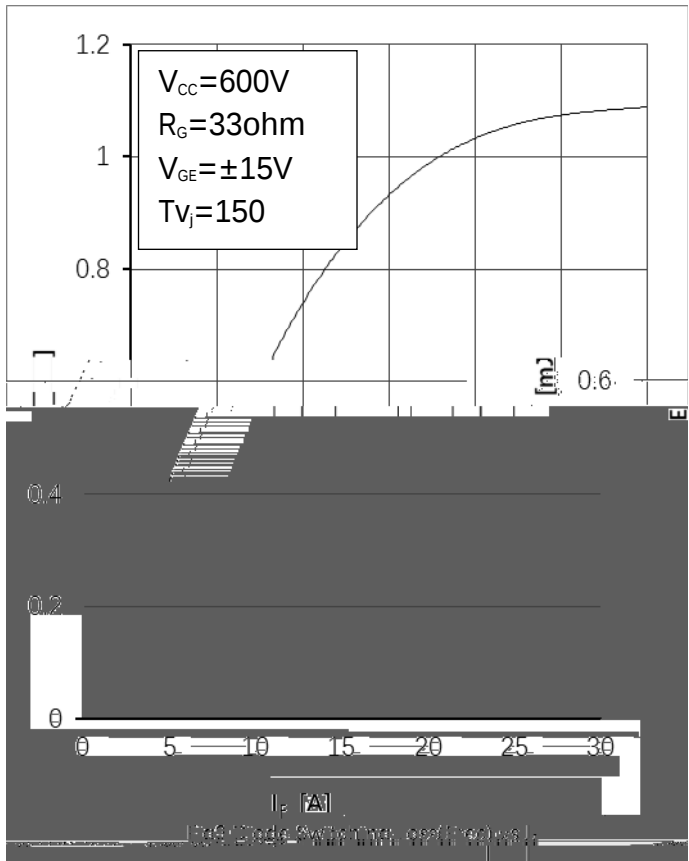


DGW15N120CTL



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- Circuit Diagram