



DGQ100N120CTL2A



DGQ100N120CTL2A ^A

Operating Junction Temperature	T_j	-40...+175	°C
Storage Temperature	T_s	-55...+150	

Electrical Characteristics of the IGBT ($T_j = 25^\circ\text{C}$ unless otherwise specified):

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Static						
Collector-Emitter Breakdown Voltage	BV_{CES}	$V_{GE}=0V, I_C$	1200		-	V
Gate Threshold Voltage	$V_{GE(th)}$	$V_{GE}=V_{CE}, I_C=1mA$	4.8	5.8	6.8	V
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$V_{GE}=15V, I_C=100A$ $T_j=25^\circ\text{C}$, $T_j=125^\circ\text{C}$ $T_j=150^\circ\text{C}$		1.50 1.75 1.85	1.90	V
Zero Gate Voltage Collector Current	I_{CES}	$V_{CE}=1200V, V_{GE}=0V$ $T_j=25^\circ\text{C}$, $T_j=150^\circ\text{C}$			1 5	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}	$V_{CE}=25V, V_{GE}=0V,$ $f=1MHz$	-	12.9	-	nF
Reverse Transfer Capacitance	C_{res}		-	0.06	-	
Gate Charge	Q_G	$V_{CC}=600V, I_C=100A,$ $V_{GE}=15V$	-	0.36	-	uC
Short Circuit Collector Current	I_{SC}	$V_{GE}=15V, t_{sc}$, $V_{CC}=600V$	-	439	-	A



Electrical Characteristics of the Diode (T_j= 25°C unless otherwise specified):

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Static						
Diode Forward Voltage	V _F	I _F = 100A T _j = 25°C, T _j = 125°C T _j = 150°C		2.00 2.05 2.05	2.60	V

Switching Characteristic, Inductive Load

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Dynamic , at T_j= 25°C						
Turn-on Delay Time	t _{d(on)}	V _{CC} = 600V, I _C =100A, V _{GE} = -5V~15V, R _g =10	-	208	-	ns
Rise Time	t _r		-	165	-	ns
Turn-on Energy	E _{on}		-	17.6	-	mJ
Turn-off Delay Time	t _{d(off)}		-	448	-	ns
Fall Time	t _f		-	144	-	ns
Turn-off Energy	E _{off}		-	6.6	-	mJ
Dynamic , at T_j= 125°C						
Turn-on Delay Time	t _{d(on)}	V _{CC} = 600V, I _C =100A, V _{GE} = -5V~15V, R _g =10	-	237	-	ns
Rise Time	t _r		-	163	-	ns
Turn-on Energy	E _{on}		-	18.1	-	mJ
Turn-off Delay Time	t _{d(off)}		-	490	-	ns
Fall Time	t _f		-	309	-	ns
Turn-off Energy	E _{off}		-	8.7	-	mJ
Dynamic , at T_j= 150°C						
Turn-on Delay Time	t _{d(on)}	V _{CC} = 600V, I _C =100A, V _{GE} = -5V~15V, R _g =10	-	251	-	ns
Rise Time	t _r		-	161	-	ns
Turn-on Energy	E _{on}		-	18.5	-	mJ
Turn-off Delay Time	t _{d(off)}		-	507	-	ns
Fall Time	t _f		-	262	-	ns
Turn-off Energy	E _{off}		-	9.6	-	mJ

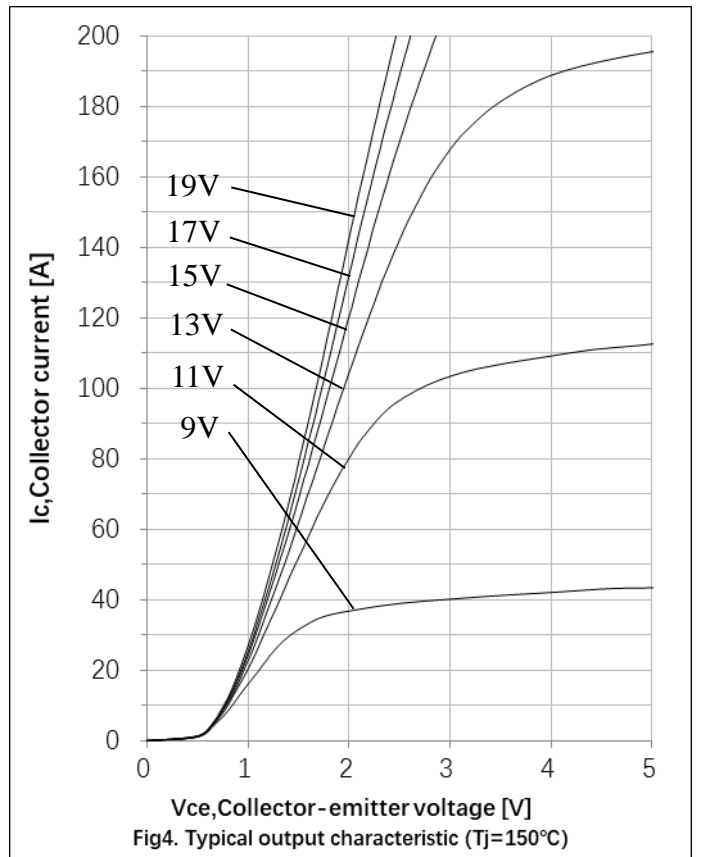
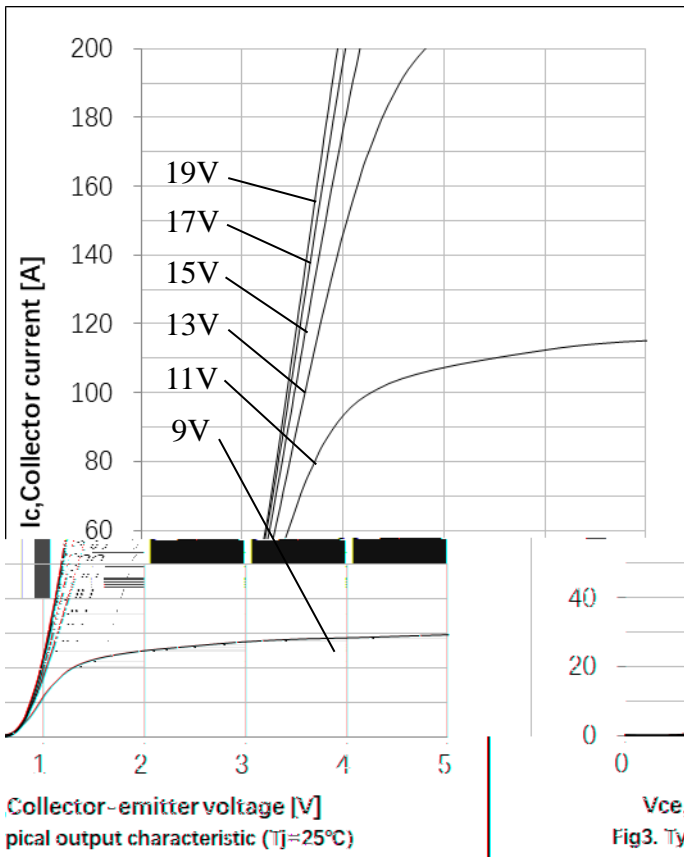
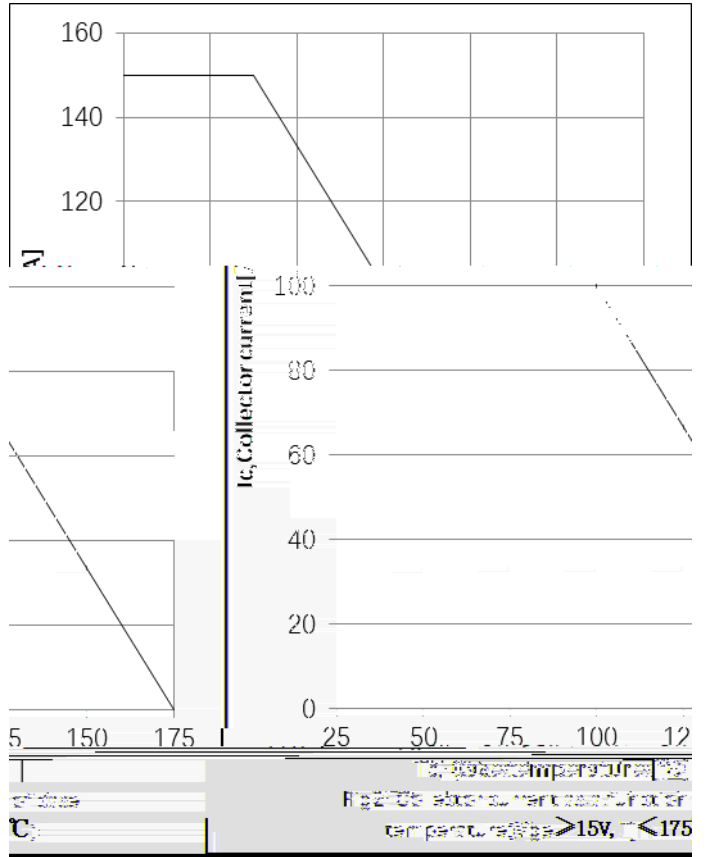
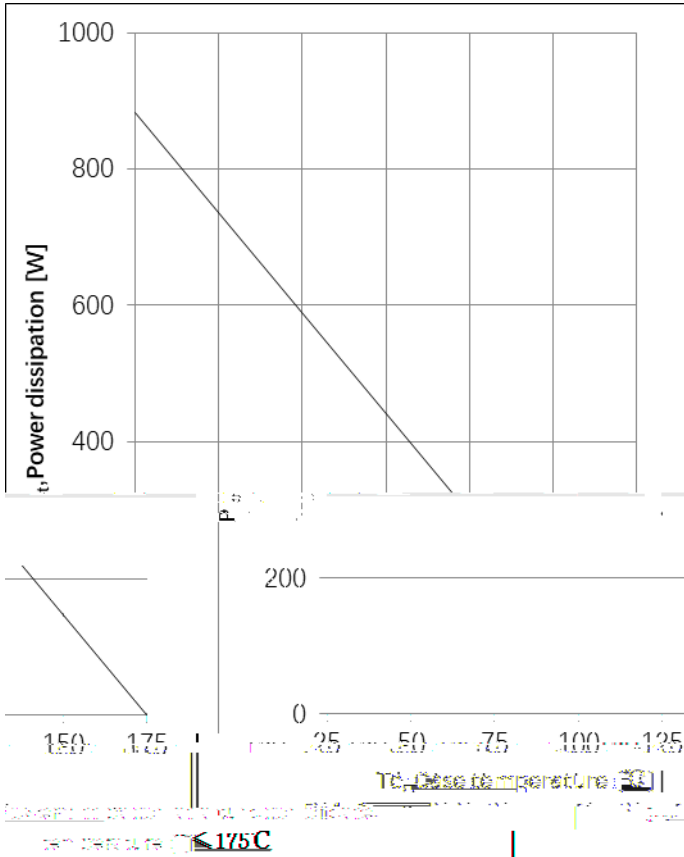


Electrical Characteristics of the DIODE

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Dynamic , at T_j= 25°C						
Reverse Recovery Current	I _{rr}	I _F =100A, V _R =600V, di/dt= -590	-	26	-	A
Diode reverse recovery time	trr		-	273	-	ns
Reverse Recovery Charge	Q _{rr}		-			



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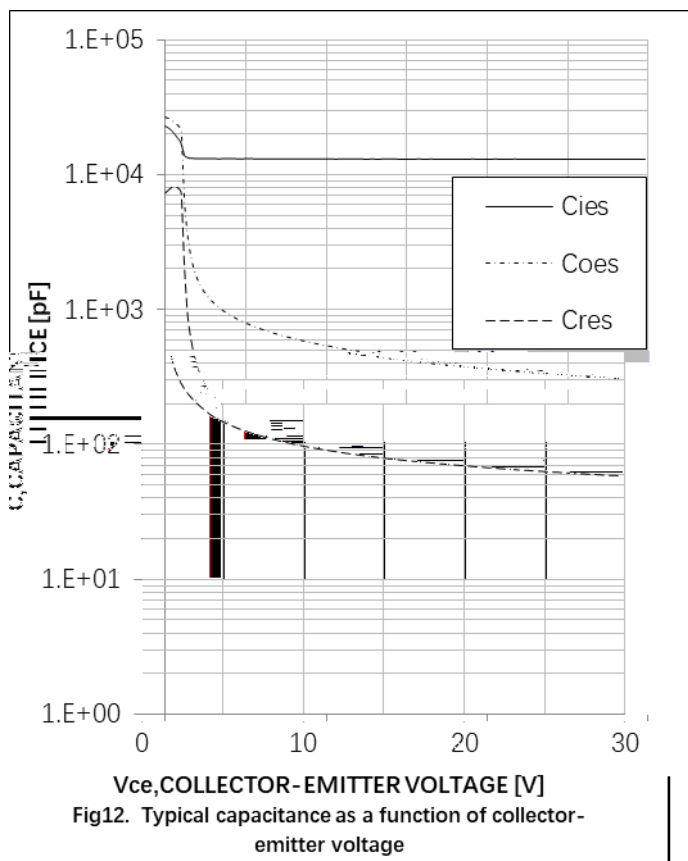
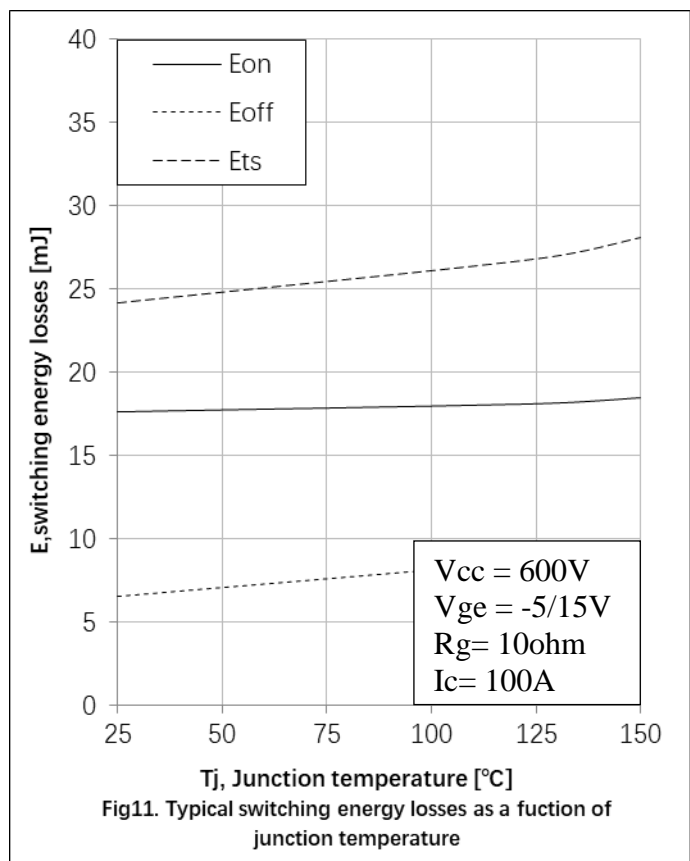
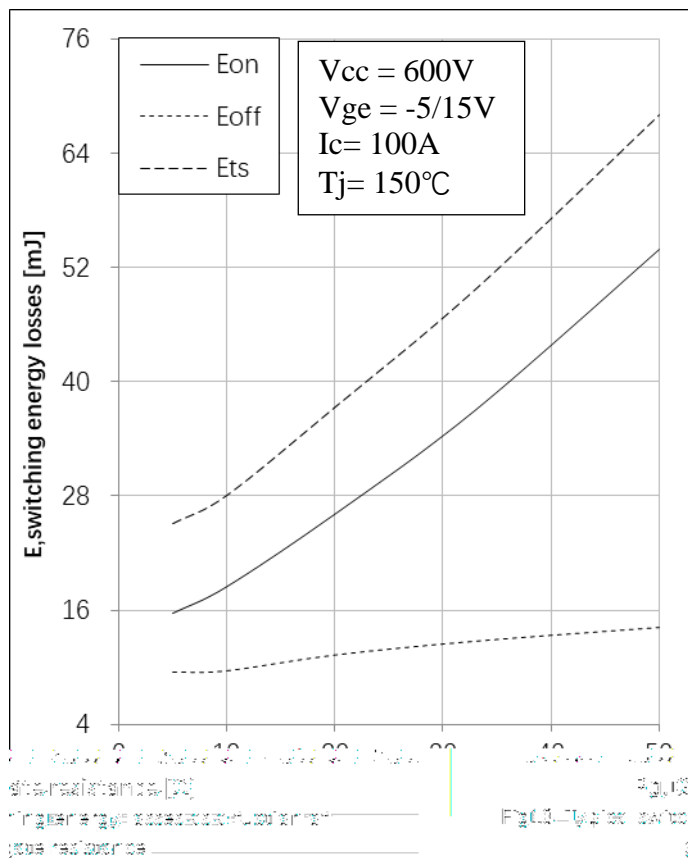
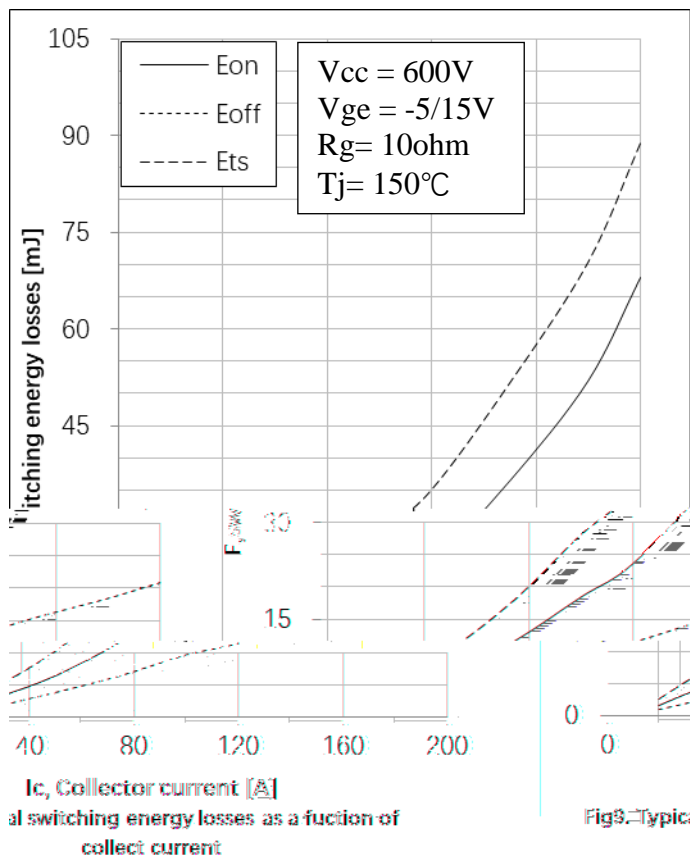


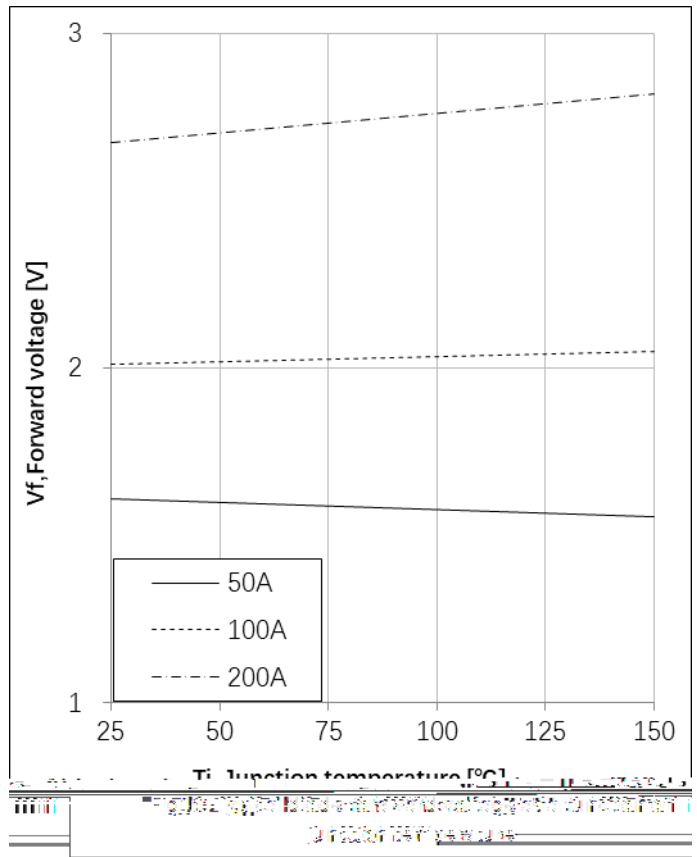
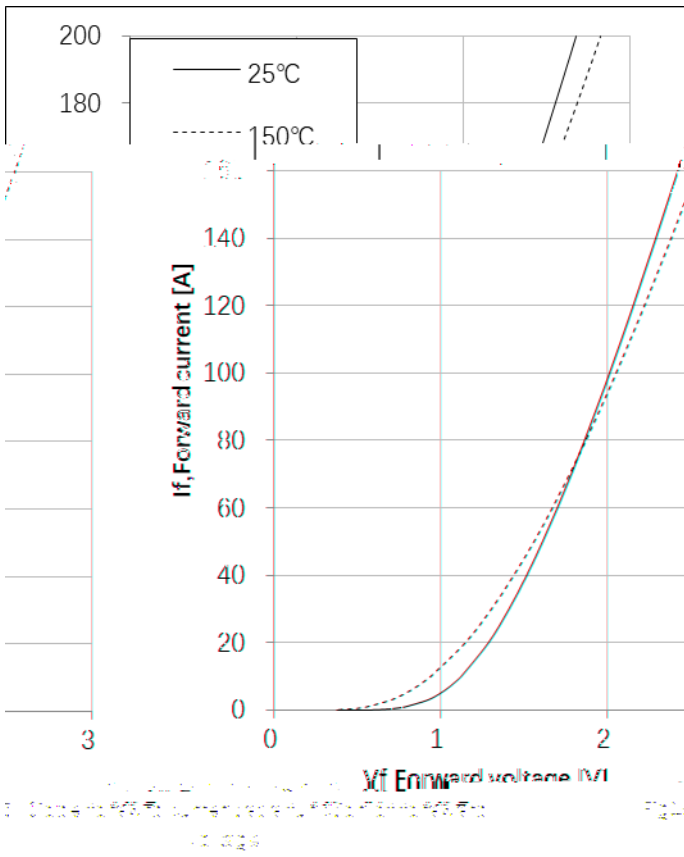
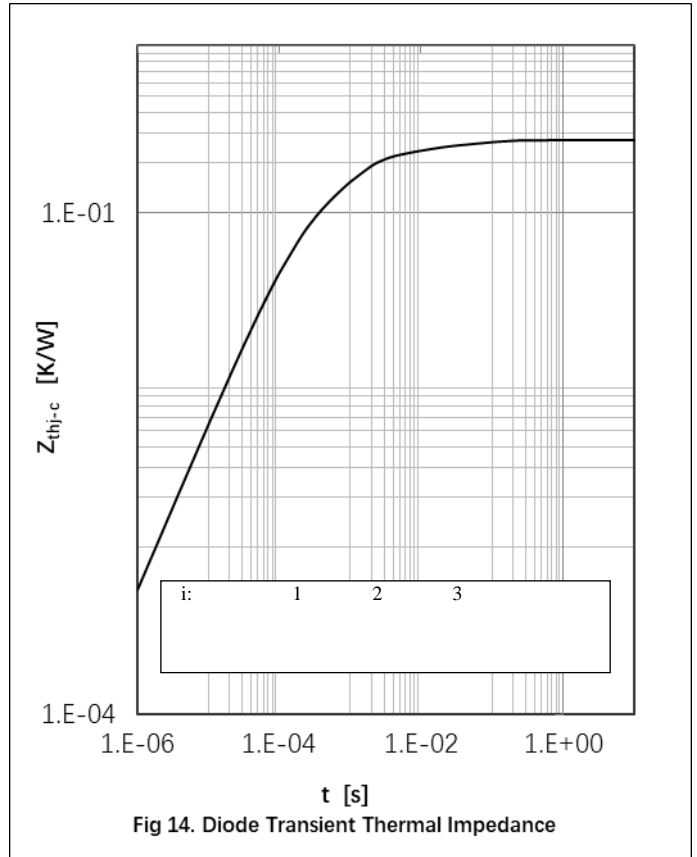
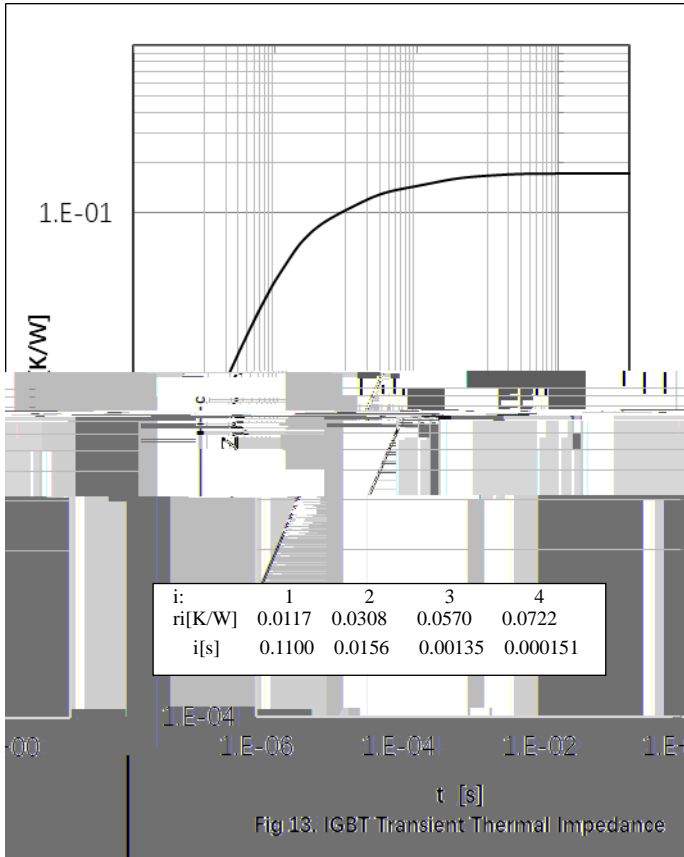


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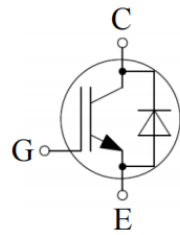
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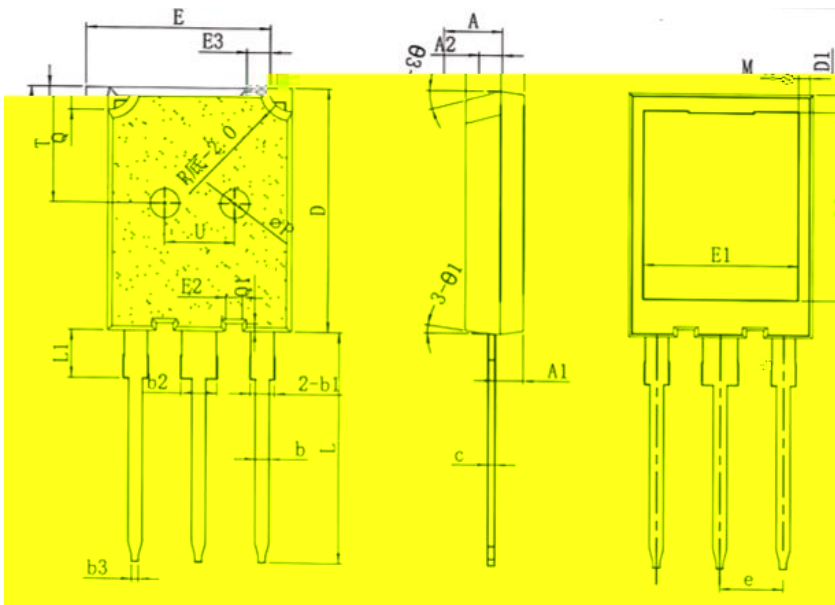


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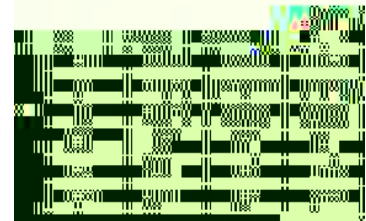
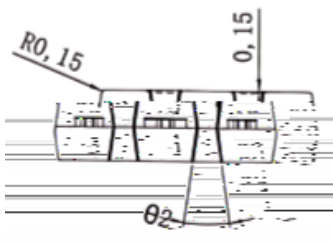


Package Outline Information

CASE: TO 247plus



SYMBOL	mm		
	MIN	NOM	MAX
*A	4.90	5.00	5.10
*A1	2.30	2.40	2.50
A2	1.90	2.00	2.10
*b	1.15	1.20	1.25
*b1	1.95	2.10	2.25
*b2	2.95	3.10	3.25
b3	0.45	0.60	0.75
*C	0.60	0.60	0.68
*D	20.90	21.00	21.10
D1	1.00	1.20	1.40
D2	16.05	16.35	16.65
*E	15.70	15.80	15.90





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