

1200V 15A Trench and Field Stop IGBT

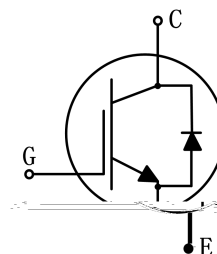
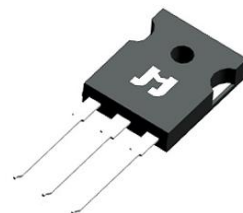
JJT15N120SE



- $V_{CE}=1200V$
- $I_C=15A@T_C=100$
- $V_{CE(sat)}=1.7V$

TO-247

- Trench and field-stop technology
- Low collector-emitter saturation voltage
- Excellent switching capability
- Short switching time
- High ruggedness
- RoHS compliant



CCRN



V_{CES} Collector-emitter voltage

1200 V



($T_j=25$ °C unless otherwise specified)

Static characteristics

BV_{CES}	Collector-emitter breakdown voltage	$V_{GE}=0V, I_C=250\text{ A}$	1200	-	-	V
I_{CES}	Collector-emitter leakage current	$V_{CE}=1200V, V_{GE}=0V$	-	-	250	A
I_{GES}	Gate leakage current, forward	$V_{GE}=20V, V_{CE}=0V$	-	-	100	A
	Gate leakage current, reverse	$V_{GE}=-20V, V_{CE}=0V$	-	-	-100	A
$V_{GE(h)}$	Gate-emitter holding voltage	$V_{GE}=V_{CE}, I_C=1\text{ A}$	5.7	6.2	6.5	V
$V_{CE(a)}$	Collector-emitter avalanche voltage	$V_{GE}=15\text{ V}, I_C=15\text{ A}$	-	1.7	-	V
		$V_{GE}=15V, I_C=15A, T_j=175$	-	2.2	-	V

Dynamic characteristics

C_{ie}	Input capacitance	$V_{CE}=30V$ $V_{GE}=0V$ $f=1\text{ MHz}$	-	1250	-	F
C_e	Output capacitance		-	58	-	F
C_e	Reverse transfer capacitance		-	13	-	F
Q_g	Turn-on gate charge	$V_{CC}=960V$ $V_{GE}=15V$ $I_C=15A$	-	74	-	C





($T_j=25$ °C unless otherwise specified)

V_F	Diode forward voltage	$I_F=15A$	-	2.3	-	V
		$I_F=15A$ $T_j=175$	-	1.9	-	V
t	Diode reverse recovery time	$V_R=600V$ $I_F=15A$ $di_F/dt=-250A/\mu s$	-	223	-	
I	Diode peak reverse recovery current		-	8	-	A
Q	Diode reverse recovery charge		-	718	-	C
t	Diode reverse recovery time	$V_R=600V$ $I_F=15A$ $di_F/dt=-250A/\mu s$ $T_j=175$	-	396	-	
I	Diode peak reverse recovery current		-	11	-	A
Q	Diode reverse recovery charge		-	1700	-	C

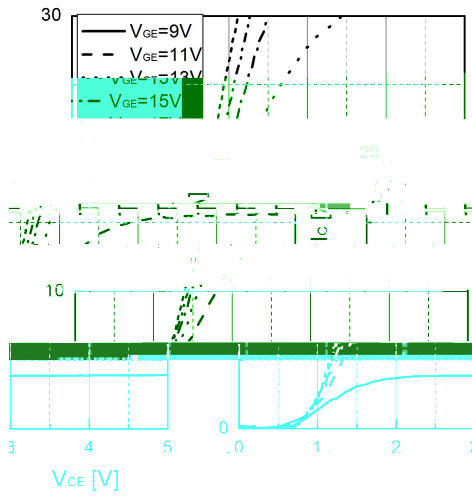


Fig 1. Typical characteristic ($T_j=25^\circ\text{C}$)

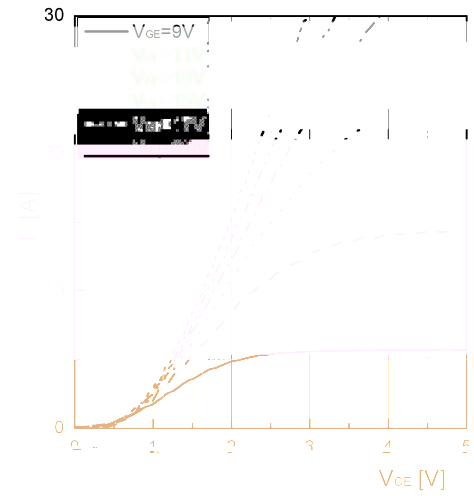


Fig 2. Typical characteristic ($T_j=175^\circ\text{C}$)

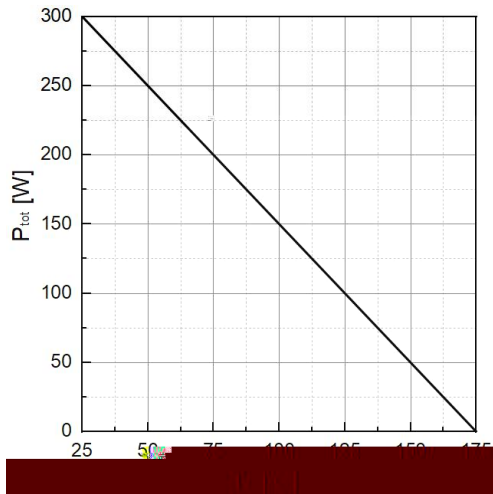


Fig 3. Power dissipation vs T_c

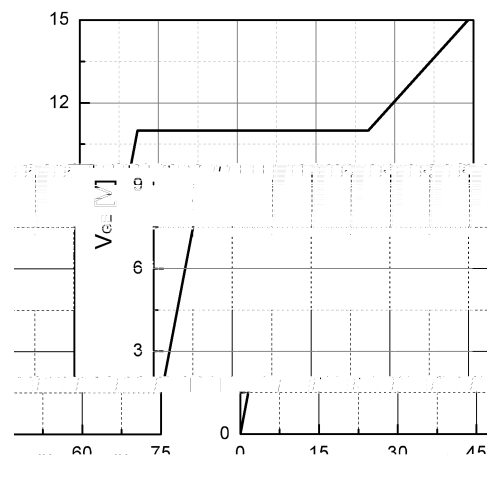


Fig 4. Typical Gate charge

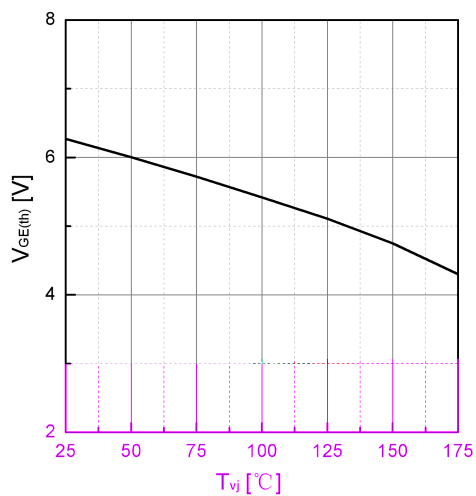


Fig 5. Typical $V_{GE(th)}$ vs T_j
($I_C=1\text{ A}$)

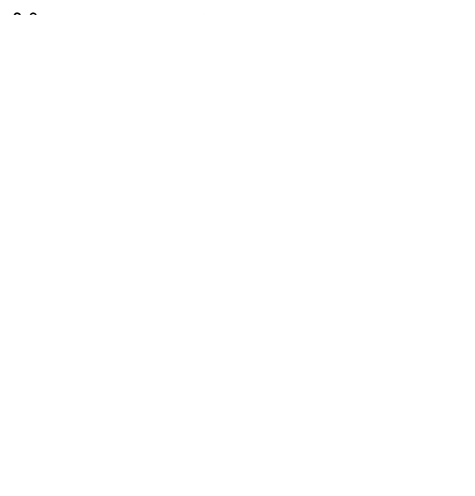


Fig 6. Typical V_F vs T_j

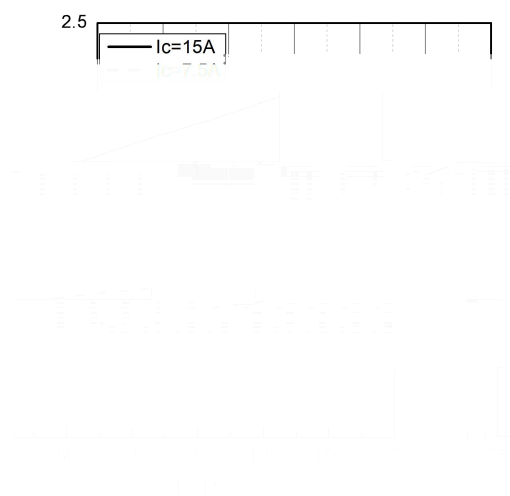
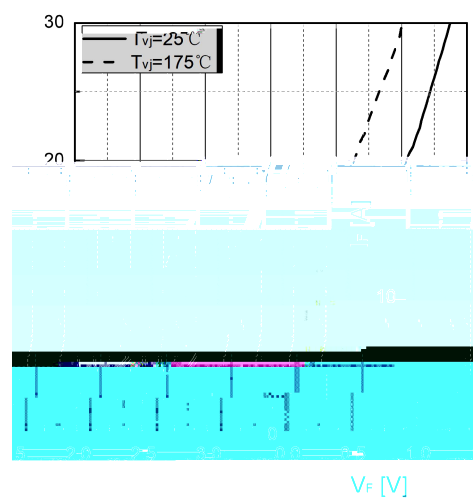


Fig 7. I_c vs V_{CE}



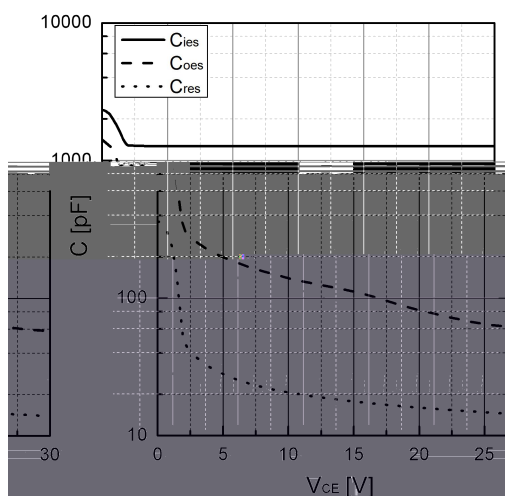


Fig 13. Typical capacitance characteristics of V_{CE}
($f=1\text{MHz}$, $V_{GE}=0\text{V}$)

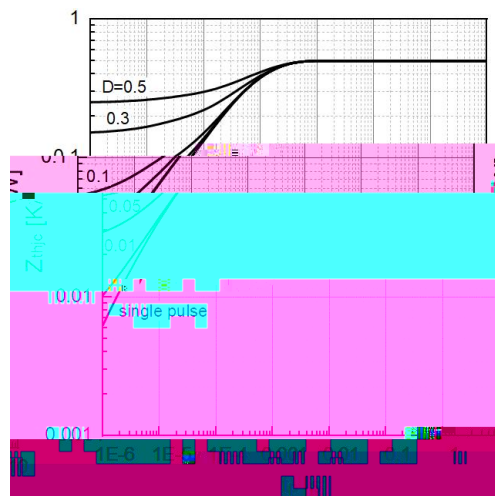
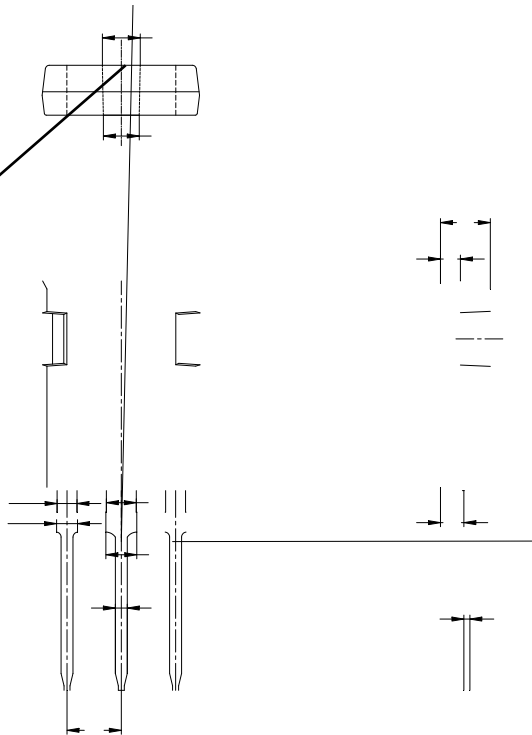


Fig 14. Typical thermal characteristics of IGBT



TO-247



Ref.	Di e i					
	Milli e e			I che		
	Mi .	T .	Ma .	Mi .	T .	Ma .
A	15.50	15.80	16.10	0.610	0.622	0.634
B	20.80	21.00	21.20	0.819	0.827	0.835
C	19.70	20.00	20.30	0.776	0.787	0.799
D	1.80	2.00	2.20	0.071	0.079	0.087
E	1.90	2.10'	2.30	0.075	0.083	0.091
F	1.00	1.20	1.40	0.039	0.047	0.055
G	5.25	-	5.65	0.207	-	0.222
H	4.80	5.00	5.20	0.189	0.197	0.205
J	1.90	2.00	2.10	0.075	0.079	0.083
K	2.20	2.35	2.50	0.087	0.093	0.098
L	0.41	0.60	0.79	0.016	0.024	0.031
M	2.80	3.00	3.20	0.110	0.118	0.126
N	2.90	3.10	3.30	0.114	0.122	0.130



Da e	Re i i	Cha ge
2023-12-12	Re 1.0	Relea e f he da a hee
2024-03-20	Re 1.1	U da e
2024-05-17	Re 1.2	U da e
2026-06-25	Re 1.3	U da e he al

PLEASE NOTE - Jia g JieJie Mic elec ic C ., L d ("JJM") e e e he igh a e d, c ec , dif a d e ha ce he d c a d/ hi d c e a a i e i h i ice. If i e d cha e hi d c , lea e bai he la e i f ai a ailable bef e laci g de . The ale f JJM d c i g e ed b JJM' e aili g e a d c di i a he i e f cha e a d cha e a e lel e ible f he elec i a d e f he d c i h liabili JJM' a l a lica i a i a ce c i a i . P cha e f JJM d c d e g a he cha e lice e, e e i lied, JJM' i ellec al e . A a a ie ided i h JJM d c a e ll a d id e ale le acc a ied b he i f ai e f h he ei i i e i e . The JJM a e a d l g a e egi e ed ade a k f Jia g JieJie Mic elec ic C ., L d. Thi d c e e ede all e i e i . 2026 JJM - All igh e e ed