JJMICROELECTRONICS

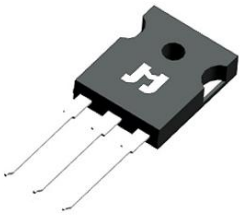
1200V 15A Trench and Field Stop IGBT

JJT15N120SE

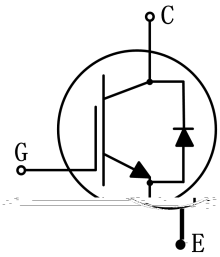
[redacted]

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

TO-247



- T e ch a d field- ech l g
- L c llec e i e a a i l age
- Ea a allel i chi g ca abili
- Sh ci c i i h a d i e 10
- High gged e e f a ce
- R HS c lia



[redacted]

- I

V_{CES}	C llec -e i e l age		1200	V

(T_j=25 le he i e ecified)

S a ic cha ac e i ic

BV_{CES}	C llec -e i e b eakd l age	V_{GE}=0V, I_C=250 A	1200	-	-	V
I_{CES}	C llec -e i e leakage c e	V_{CE}=1200V, V_{GE}=0V	-	-	250	A
I_{GES}	Ga e leakage c e , f a d	V_{GE}=20V, V_{CE}=0V	-	-	100	A
	Ga e leakage c e , e e e	V_{GE}=-20V, V_{CE}=0V	-	-	-100	A
$V_{GE(h)}$	Ga e-e i e h e h ld l age	V_{GE}=V_{CE}, I_C=1 A	5.7	6.2	6.5	V
$V_{CE(a)}$	C llec -e i e a a i l age	V_{GE}=15 V, I_C=15A	-	1.7	-	V
		V_{GE}=15V, I_C=15A, T_j=175	-	2.2	-	V

D a ic cha ac e i ic

C_{ie}	I ca aci a ce	V_{CE}=30V V_{GE}=0V f=1MH	-	1250	-	F
C_{e}	O ca aci a ce		-	58	-	F
C_{e}	Re e e a fe ca aci a ce		-	13	-	F
Q_g	T al ga e cha ge	V_{CC}=960V V_{GE}=15V I_C=15A	-	74	-	C

(T_j=25 le he i e ecified)

V_F	Di de f a d l age	I_F=15A	-	2.3	-	V
		I_F=15A T_j=175	-	1.9	-	V
t	Di de e e e ec e i e	V_R=600V I_F=15A di_F/dt=-250A/	-	223	-	
I	Di de eak e e e ec e c e		-	8	-	A
Q	Di de e e e ec e cha ge		-	718	-	C
t	Di de e e e ec e i e	V_R=600V I_F=15A di_F/dt=-250A/ T_j=175	-	396	-	
I	Di de eak e e e ec e c e		-	11	-	A
Q	Di de e e e ec e cha ge		-	1700	-	C

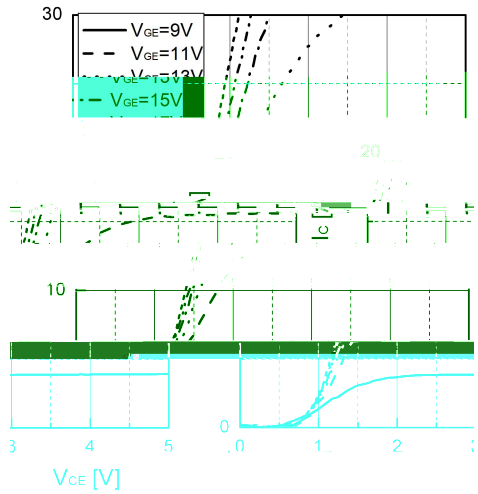


Fig 1. T ical cha ac e i ic (T_j=25)

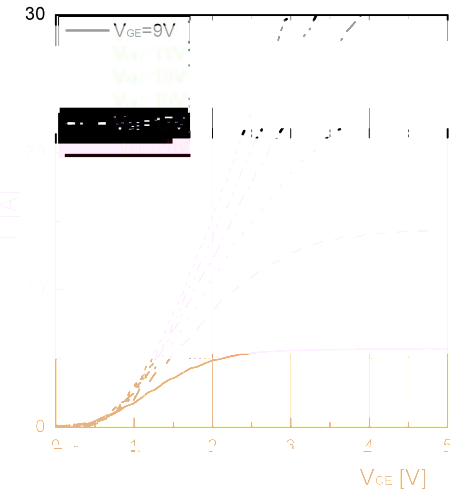


Fig 2. T ical cha ac e i ic(T_j=175)

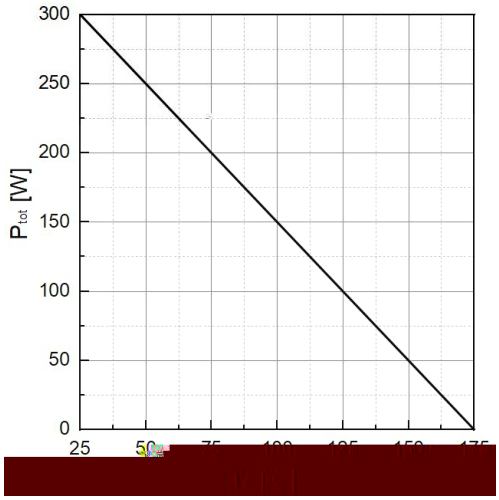


Fig 3. P e di i a i a a f c i f T_C

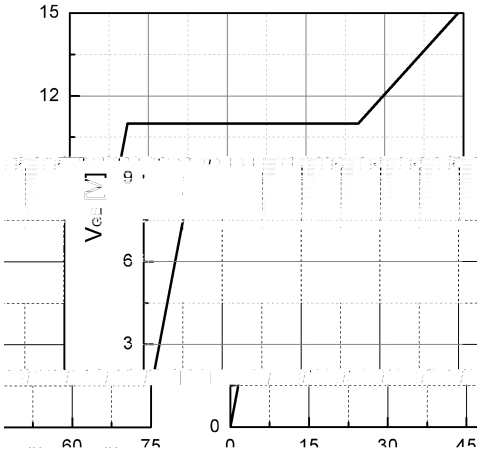


Fig 4. T ical Ga e cha ge

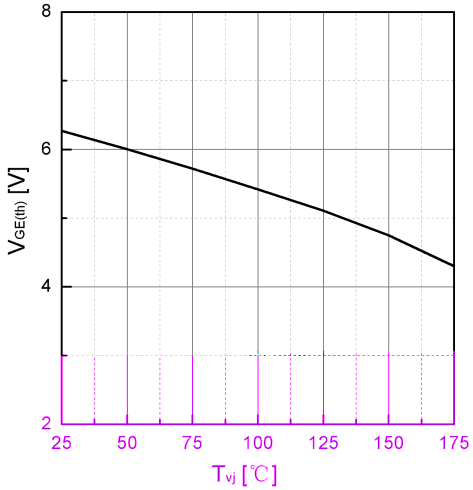


Fig 5. T ical $V_{GE(th)}$ a a f c i f T_j (I_C=1 A)

Fig 6. T ical V_F a a f c i f T_j

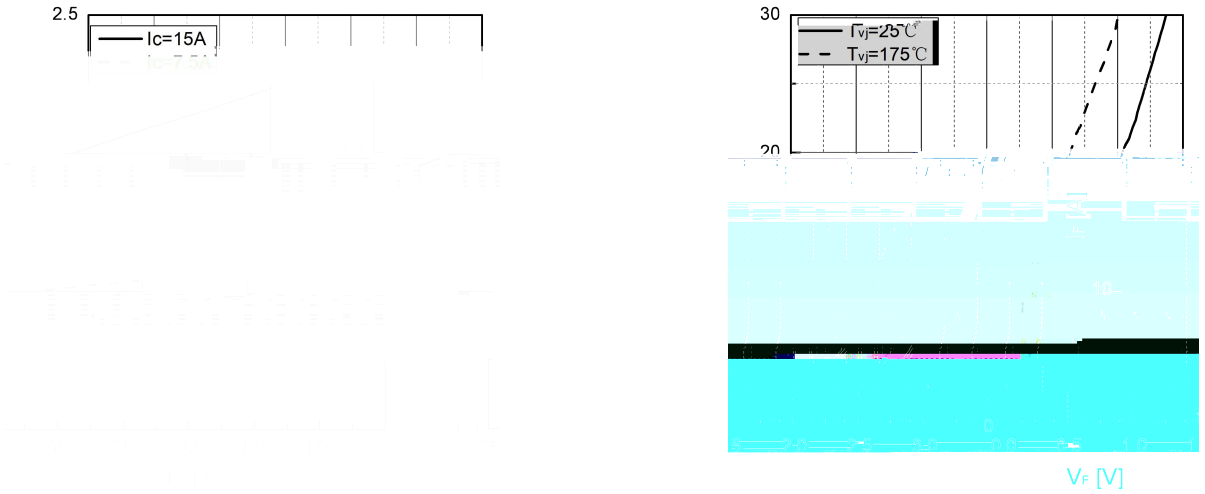


Fig 7. T ical" V_{CE} □ □

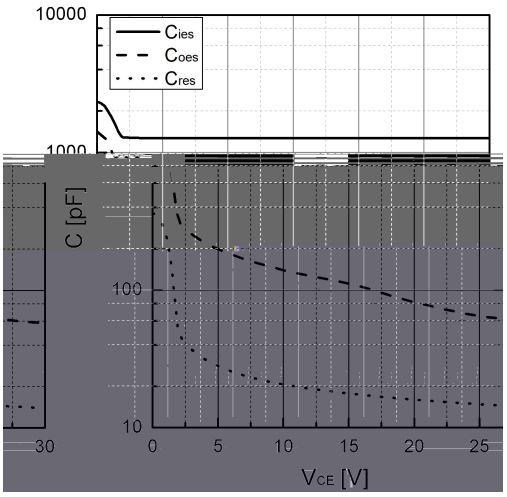


Fig 13. T ical ca aci a ce a a f c i f V_{CE} (f=1Mh , V_{GE}=0V)

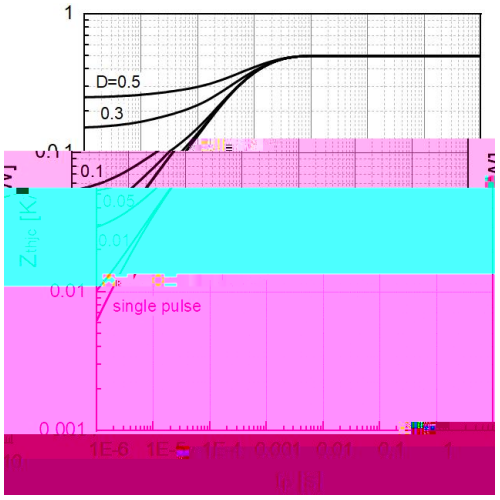


Fig 14. T a ie he al i eda ce f IGBT

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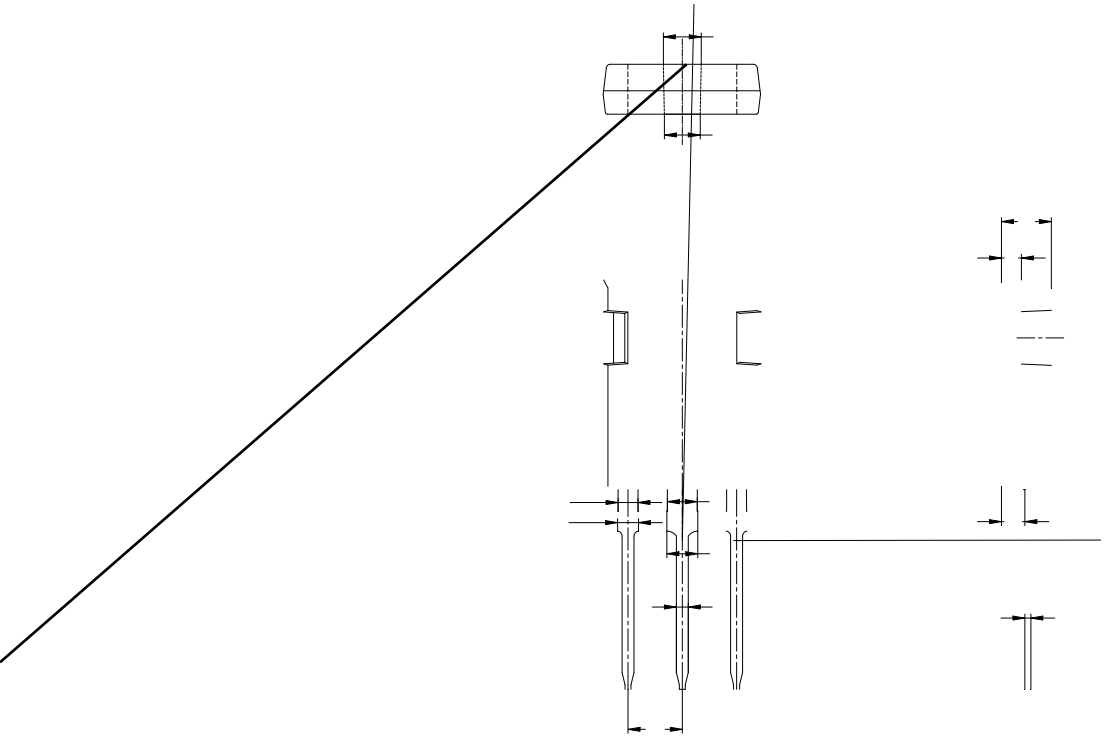

Ref.	Di e i					
	Milli e e			I che		
	Mi .	T .	Ma .	Mi .	T .	Ma .
A	15.50	15.80	16.10	0.610	0.622	0.634
B	20.80	21.00	21.20	0.819	0.827	0.835
C	19.70	20.00	20.30	0.776	0.787	0.799
D	1.80	2.00	2.20	0.071	0.079	0.087
E	1.90	2.10′	2.30	0.075	0.083	0.091
F	1.00	1.20	1.40	0.039	0.047	0.055
G	5.25	-	5.65	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